

# Carroll University

## Regional Accreditation

Accredited by The Higher Learning Commission and a member of the North Central Association. The commission's address, phone number and website are as follows: 30 N. La Salle St., Suite 2400, Chicago, Illinois, 60602-2504. Phone: 800.621.7440. Website: [www.ncahlc.org](http://www.ncahlc.org)



## Notice of Non-Discrimination Policy

Carroll University does not discriminate in any manner contrary to law or justice on the basis of race, color, sex, age, religion, sexual orientation, national origin, disability or veteran's status in administration of its educational, admission, financial aid, athletic or other university policies and programs nor in the employment of its faculty and staff.

## Carroll University Address and Phone Numbers

Carroll University, 100 N. East Ave., Waukesha, Wisconsin 53186

For general information, call 262.547.1211

To contact the Admission Office, call 262.524.7220 locally  
or toll-free at 1.800.CARROLL (1.800.227.7655)

FAX: 262.524.7139

Visits to Carroll University are encouraged. The Admission Office is open from 8 a.m. to 4:30 p.m., Monday through Friday. During the school year, the office is open from 9 a.m. to noon on Saturdays. Visits should be arranged in advance by calling or writing the admission office.

The offices of Admission, Part-Time Studies and Student Financial Services are located in Voorhees Hall, at the northwest corner of East and College Avenues.

# Note to Students

This catalog provides general information about Carroll University, and it summarizes important information about the University's policies, requirements for graduation, regulations and procedures. It is not intended to establish, nor does it establish, a contractual relationship with students. Rather, the Catalog is published to acquaint students with information that will be helpful to them during their university careers.

It is necessary in the general administration of the University to establish requirements and regulations governing the granting of degrees. Academic advisers, other faculty and academic staff members are available to aid students in understanding the requirements and regulations. It is the students' responsibility, however, to meet them. Students are encouraged to keep this Catalog as a reference, should questions arise.

Changes in curricular requirements may occur between catalog publications. Students will be informed of such changes. When this occurs, students may follow the requirements in effect at the time they entered or they may follow the changed requirements. However, the courses that students take to meet Liberal Studies Program (LSP) requirements must conform to the Catalog year in which the courses are taken. For other degree requirements, students must choose to follow one Catalog or the other; they may not pick and choose from the various requirements outlined in two or more Catalogs. Students must follow the curriculum requirements of any one Catalog in effect during their enrollment. Programs with additional accreditation standards may have different course requirements from the student's original Catalog. Progression standards are subject to change based on regulatory, licensing, and/or certification needs. Students returning to the University after an absence of one academic year or more must meet the degree requirements of the Catalog in effect upon their return or of a subsequent Catalog. Reasonable substitutions will be made for discontinued and changed courses.

The University reserves the right to make other necessary changes without further notice.

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# INTRODUCTION

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## Wisconsin's Oldest College

In 1841, settlers living in the Wisconsin Territory community of Prairieville established the academy that five years later would become Carroll College. Soon after its founding, Carroll affiliated with the Presbyterian Church and adopted the motto, "Christo et Litteris," which means "for Christ and Learning." The University's early patrons believed that higher education would serve as an instrument for civilizing the wilderness, spreading the Gospel and planting the roots of democracy deep in the prairie soil. They also sought to provide for the prosperity of their children and future generations. As Wisconsin's oldest institution of higher learning, Carroll is known today as the "Pioneer College." Carroll became Carroll University in 2008.

Throughout its history, the hallmarks of the Carroll educational experience have been teaching excellence and individualized attention. These values find expression in four important mission documents: The Mission Statement, the Four Pillars, the Statement of Educational Goals and the Carroll University Compact.

## Carroll University Mission Statement

*"We will provide a superior educational opportunity to our students, one grounded in the liberal arts tradition and focused on career preparation and lifelong learning.*

*We will demonstrate Christian values by our example.*

*We shall succeed in our mission when our graduates are prepared for careers of their choice and lives of fulfillment, service and accomplishment."*

## The Four Pillars

Today, the institution draws upon its rich liberal arts tradition to prepare students to achieve their full potential in our ever-changing society. The University's educational philosophy is sustained by the four pillars of integrated knowledge, lifelong skills, gateway experiences and enduring values.

**Integrated Knowledge** is the very foundation of a quality liberal arts program. The Carroll curriculum emphasizes breadth and depth of learning. Our purpose is to encourage students to recognize the interrelationships among ideas. We believe that students with this understanding will continue to learn, grow and succeed long after they leave the campus.

**Lifelong Skills** help students prepare for life and work in a world of rapid and constant change. We believe that graduates will continue to evolve and contribute to their communities long after they earn their degrees. To that end, our mission is to help students learn to think critically and creatively, adapt to changing technologies, work efficiently and effectively, collaborate with others, and communicate clear, compelling ideas.

**Enduring Values** help students to consider always the impact of their actions on the world around them. We believe that effective leaders draw their inspiration from strong personal value systems. Our goal, therefore, is to offer students multiple opportunities to make decisions and then to reflect upon their consequences.

**Gateway Experiences** occur both upon entering and upon leaving Carroll University. We believe that our educational responsibility extends beyond the classroom into every aspect of our students' lives. That is why we place a special emphasis on preparing incoming students for university life and on helping graduates make successful transitions into their first jobs, or graduate and professional schools.

The four pillars undergird all that we do at Carroll University. They are integral to our undergraduate curriculum and guide our post-baccalaureate and graduate programs. In other words, they provide the broad inspiration for the Carroll experience and the many relationships we nurture with other organizations and institutions.

### Statement of Educational Goals

*An education at Carroll University offers a student alternatives from which to choose a worthwhile personal, professional and civic life. It promotes intellectual growth which culminates in the capacity for serious and creative thinking. Based on a core of studies in the liberal arts and sciences complemented by career preparation and co-curricular programs, a Carroll education encourages growth in international and cultural awareness, social responsibility, moral sensitivity and spiritual reflection.*

*A Carroll education begins with the acquisition of fundamental skills and bodies of knowledge. These skills include critical inquiry, effective communication, aesthetic understanding, quantitative reasoning and the capacities to gather and assimilate information and to identify and solve problems. The core of basic studies brings coherence and order to the task of learning about oneself and one's culture. It provides students with the opportunity to know the literature, philosophy, art and institutions of the world, as well as its history, science and technology.*

*The most essential consequence of a Carroll education is that students develop their capacity and desire to continue learning. This is best achieved through a curriculum which demonstrates the value of individual and group efforts in interdisciplinary and multidisciplinary settings while it provides students with those bodies of knowledge vital for further learning. They are then prepared for discovery, creation and application of knowledge and aesthetic forms.*

*Our goal is to provide an educational foundation which enables graduates to participate effectively and confidently in a diverse and changing world. Persons with a Carroll education have opportunities for fulfillment and happiness and are liberated in a true and meaningful sense.*

### **The Carroll University Compact**

Carroll University is a community for learning. As individuals, we come to the campus from different homes and cultures. We bring with us our distinctive perspectives, traditions and experiences. Here we become participants in a community dedicated to the pursuit of academic excellence, personal fulfillment and spiritual meaning. Choosing to join such a community obligates each member to consider thoughtfully the values espoused by the larger group. We therefore invite you to contemplate these ideals and strive toward their realization. We ask that you enter into a voluntary compact with the other members of the community that is Carroll University to live and work according to these values.

**I will value the human diversity and dignity of all people and will respect their ideas, opinions and traditions.** This ideal requires openness of mind, a willingness to affirm the differences that exist among us, and a desire to develop shared understanding. Dedication to this ideal is inconsistent with behaviors that compromise or demean individuals and groups.

**I will practice personal academic integrity.** This ideal requires a commitment to honesty, a regard for the rights and feelings of others, and the courage to speak one's convictions. It obligates each member of the community to support the creation of a positive learning and living environment and is inconsistent with cheating in classes, games or sports; lying, excuse-making or plagiarizing; and infidelity, coercion or disloyalty in personal relationships.

**I will care for the physical environment of the campus and its neighborhood setting.** This ideal requires stewardship of the resources allocated to us and a commitment to upholding the natural ecology of the campus and the larger community of Waukesha. Devotion to this ideal is inconsistent with all forms of theft, vandalism and misappropriation; wastefulness or destruction; and violation of the rights of others to live, learn and work in a clean and healthy environment.

**I will support and enhance the development of others.** This ideal requires a commitment to creation of an empowering learning and working environment, where collaboration, trust and cooperation are favored over suspicion and excessive competition. Dedication to this ideal is inconsistent with blaming or inhibiting the growth of others.

**I will encourage creativity, artistic expression and excellence in all areas of our lives.** This ideal requires the understanding that beauty and boldness are inherent to the human spirit. A commitment to this ideal is inconsistent with devaluing the work, performance or expressions of another person.

**I will seek to understand my purpose in the world.** This ideal requires the development of a global vision, an understanding that one is a citizen of the international community. Dedication to this ideal is inconsistent with parochialism, bigotry and selfish use or allocation of shared resources.

I will dedicate myself to exploration of personal values and the spiritual quest for meaning. This ideal requires the willingness to explore one's inner life through reflection, study and inquiry.

### The Carroll Advantage

Since its establishment in 1846, the well-being of the University and the surrounding community of Waukesha have been linked. The city, at the center of one of the state's fastest-growing counties, boasts a population of more than 68,000 residents. Waukesha is located in one of Wisconsin's most beautiful areas at the doorstep of the Kettle Moraine. The University, which occupies a 50-acre campus in the center of the city, benefits from a setting that offers proximity to Milwaukee (15 miles east), Madison (60 miles west), and Chicago (100 miles south). We draw upon the advantages of our location to offer students access to a wide range of internship and career opportunities.

Faculty commitment to individualized attention and student learning are the hallmarks of the Carroll experience. We know that learning occurs when gifted faculty and staff engage dedicated, talented students in our classrooms, laboratories, the Learning Commons, athletics and arts facilities, residence halls and campus organizations. Our students come to the campus from diverse backgrounds and bring with them a rich array of talent, ambition and perspectives. On campus, they meet the University's faculty and staff, who are experts in their fields and are dedicated to helping students reach their full potential as professionals and as human beings. Together, our students, faculty and staff create the high-energy community for learning known as Carroll University.

# ACADEMIC PROGRAM AND POLICIES

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The Carroll academic program draws its inspiration from the University's rich liberal arts and sciences tradition. As Wisconsin's oldest institution of higher learning, Carroll continues to fulfill its mission of preparing graduates for lives of achievement, meaning, service and fulfillment by providing a student-centered educational program that promotes breadth of knowledge and responsible intellectual inquiry.

The purpose of this portion of the catalog is to provide clear information about the University's requirements and academic policies. It is the responsibility of all students to be knowledgeable about the curriculum requirements and academic policies of their particular catalog.

## The Curriculum

The curriculum for all undergraduates at Carroll consists of 1) coursework associated with the University's General Education Program, 2) completion of a course of study leading to one or more majors (and often a minor) including support courses, and 3) elective courses that complete the undergraduate's educational experience. Carroll students earn the baccalaureate degree appropriate to their major field of study and are required to fulfill the degree requirements specified by the various academic programs and detailed in subsequent sections of this catalog. Graduates of the University must fulfill the requirements of a major and its associated degree requirements, the general graduation requirements and a minimum of 128 credit hours.

## General Graduation Requirements

1. Students must earn a minimum of 128 credits, with the last 32 credits completed while enrolled at Carroll.
2. To graduate, students must earn a minimum 2.0 cumulative grade point average and a minimum 2.0 Carroll University grade point average.
3. An Application for Graduation form must be filed with the registrar's office one year before the expected date of graduation. Forms are available online and at the Registrar's Office. After the application is filed, a degree audit is sent to the student indicating remaining requirements to be completed.
4. As part of the General Education curriculum, all degree candidates must complete one of the approved courses in each of the seven Liberal Studies Program areas. Only two courses from the student's major, including required support courses, may satisfy LSP requirements, and only two courses from the student's minor may satisfy LSP requirements. The courses that students take to meet LSP requirements must conform to the catalog year in which the courses are taken. It is the responsibility of the student

to make sure he or she completes one course from each area. Each LSP course may satisfy only one LSP area. See below.

5. Because mathematical literacy is relevant to both liberal learning and the practical demands of contemporary society, all students must demonstrate a knowledge of and proficiency in mathematics. Mathematics 106 or higher is required for all students pursuing a Bachelor of Arts degree or a Bachelor of Music Education degree. Mathematics 112 is required for all students pursuing a Bachelor of Science in Nursing degree. Students pursuing the Bachelor of Science degree are required to complete either Mathematics 112, or Mathematics 140 or higher. This requirement can also be met by Advanced Placement credit in statistics or calculus.

6. Each discipline offers its own Senior Capstone to serve as a bridge to graduate study and/or career. See below.

7. Each year the academic community gathers to consider contemporary issues and enduring questions, to honor individual and collective achievement, and to celebrate shared vision and values. Attendance at two of the University's Convocations is required of all full-time students each year.

### **The General Education Program**

The General Education Program includes the First Year Program, the Liberal Studies Program, the Senior Capstone Experience, and the Convocation Program. Through its General Education Program, Carroll prepares graduates to reach their full potential as educated citizens in dynamic and diverse communities. Carroll's program draws on the tradition of liberal studies, which has been a cornerstone of higher learning for nearly 2,500 years, by requiring students to explore a wide range of academic disciplines, examine the modes of inquiry appropriate to each, and develop the essential skills and habits of lifelong learners.

#### **First Year Program**

This gateway experience transitions students from high school to university by introducing students to the skills needed for academic achievement. The First Year Program consists of a First Year Seminar and the Writing Seminar.

##### **First Year Seminar (FYS 100)**

The First Year Seminar (FYS) initiates students into the academic life of Carroll University. FYS courses offer intellectually rigorous topics that engage students in responsible inquiry. FYS strengthens a range of skills needed for academic achievement including effective written and oral expression, the ability to work with others to solve problems, the productive use of library resources, and basic information literacy.

##### **Writing Seminar (ENG 170)**

The Writing Seminar focuses on improving students' ability to make the essential connection between critical thinking and effective written communication.

## ACADEMIC PROGRAM AND POLICIES

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Writing Seminar offers students further opportunities and strategies for discovering and communicating ideas through the creation of focused, well-structured, and well-developed essays.

### Liberal Studies Program

The Liberal Studies Program (LSP) anchors every student's course of study, regardless of major, because it cultivates attitudes and imparts common knowledge and intellectual concepts that university-educated persons should possess. In addition, the Liberal Studies Program helps students improve their ability to think critically, communicate effectively, and appreciate the contemporary relevance of diverse academic disciplines.

To ensure exposure to a variety of disciplines and the bodies of knowledge they represent, undergraduates complete a minimum of one approved course in each of the seven areas listed below.<sup>1</sup>

#### I. Understanding the Scientific Way of Knowing

Courses focus on how we gather new information about our world and lives through the use of the scientific method. Courses emphasize involvement in the scientific way of knowing through hypothesis posing and testing via qualitative and quantitative methods.

BIO 120: General Biology I

BIO 125: General Biology II

BIO 131: Human Genetics

CHE 101: General Chemistry

CHE 102: Biological Chemistry

CHE 104: Forensic Science

CHE 106: Drug Discovery

CHE 109: Principles of Chemistry I

CHE 110: Principles of Chemistry II

COM 150: Research Methodology

ECO 212: Applied Statistics for Business

ENV 105: Introductory Physical Geography

ENV 120/ENV 120H: Conservation and Environmental Improvement

NCEP 305/BIO 385: Reefs, Rainforests and Ruins of Belize

PHI 105: Introduction to Logic

PHY 101: Introductory Physics

PHY 102: Introductory Physics

PHY 105: Astronomy

PHY 203: General Physics

PHY 204: General Physics

SOC 311: Methods of Social Research

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<sup>1</sup>. Course descriptions listed in this catalog that satisfy a Liberal Studies Program area requirement are noted by the designation L1, L2, etc. Courses that satisfy more than one LSP area requirement have both designations but can satisfy only one LSP requirement.

## II. Understanding the Natural World

Courses examine the physical and/or biological worlds by focusing on important information about the natural world and human life. Each course addresses the impact of scientific knowledge on contemporary issues and has a laboratory component that focuses on learning the scientific method through using it.

BIO 100: Introductory Human Biology

BIO 120: General Biology I

BIO 125: General Biology II

BIO 131: Human Genetics

BIO 200H: Human Biology; Health and Disease

CHE 101: General Chemistry

CHE 102: Biological Chemistry

CHE 104: Forensic Science

CHE 106: Drug Discovery

CHE 109: Principles of Chemistry I

CHE 110: Principles of Chemistry II

ENV 105: Introductory Physical Geography

ENV 120/ENV 120H: Conservation and Environmental Improvement

NCEP 305/BIO 385: Reefs, Rainforests and Ruins of Belize

PHY 101: Introductory Physics

PHY 102: Introductory Physics

PHY 203: General Physics

PHY 204: General Physics

PSY 250H: Brain, Mind and Behavior: An Evolutionary Synthesis

## III. Understanding Human Behavior

Courses focus on the relationship between persons and their society. Concepts from the behavioral and social sciences are used to examine social, political, economic, or psychological issues.

BUS 265: Human Resource Management

COM 101: Principles of Communication

COM 250: Society and Mass Media

ECO 110: Introduction to Economics

ECO 124: Principles of Economics I-Microeconomics

ECO 225: Principles of Economics II-Macroeconomics

ENG 222H: Playing Crazy: Cultural Constructions of Madness

HSC 103: Personal and Community Health

PBH 101: Introduction to Public Health

POL 141: Introduction to American Politics

POL 255: Contemporary Global Politics

POL 335: Public Administration

PSY 101: Introductory Psychology

PSY 316: Thinking, Problem Solving, and Cognition

SOC 101: Introduction to Sociology

SOC 102: Sociology of Social Problems

SOC 110: Cultural Anthropology

SOC 305: Marriage and Family in Contemporary Society

### IV. Encountering the Cultures of The World - Past and Present

Courses focus on non-western cultural traditions to better understand and appreciate differences among people. Students examine the history of these cultures and relate them to present circumstances. Direct experiences are encouraged.

BUS 250: Culture and Diversity in Organizations

COM 207: Intercultural Communication

ENG 162: Gender and Literature

ENG 164: American Indian Literature and Cultures

ENG 165: Readings in Race and Gender

ENG 210: African American Literature

ENG 226: Africa: Literature and Culture of Its Many Nations

ENG 255/255H: Postcolonial Literature

ENV 138: Cultural Geography

ENV 160: World Regional Geography

HIS 108: Understanding Our Contemporary World

HIS 110: The History of Modern China

HIS 224H: The World Since 1945

NCE 322: The Historical Evolution of Culture, Trade and Economics  
within the British Isles

PHI/REL 308: Philosophy of Religion

POL 101: Our Flattening World: An Introduction to Global Studies

POL 201: Politics of the World's Nations

POL 301: Politics of Developed Nations

REL 106: Understanding Religion

REL 200: Religions of the Contemporary World

REL 210: Suffering and Hope

REL 306: Asian Religions

SOC 110: Cultural Anthropology

### V. Understanding the Aesthetic Mode of Knowing

Courses focus on understanding of the fine arts in order to develop aesthetic awareness, creativity and respect for artistic expression. The "arts" are understood in their cultural context and where possible related to other artistic expression.

ART 103: Prehistoric to Renaissance: Art History Survey

ART 104: Renaissance to Early Modernism: Art History Survey

ART 106: Drawing and Composition

ART 107: Beginning Design 2D and 3D

ART 209: Photography I

ART 225: Ceramics I

ART 300: Early Modernism to Present: Art History Survey

ENG 208: Creative Nonfiction Writinng: The Documentary Impulse

ENG 211: Introduction to Literary Study I: Poetry

ENG 212: Introduction to Literary Study II: Short Fiction and Drama

MUS 151: History of Jazz

MUS 156: Listening to Classical Music

MUS 157: Beethoven

MUS 158: Rock Music: Roots and History

MUS 231H: Fin de Siècle: Birth of the Modern Age in Paris and Vienna  
MUS 312: Music History II: Classic and Romantic Periods  
THE 101: Introduction to Theatre Arts  
THE 215: European Theatre History and Literature to 1750  
THE 216: Global Theatre History and Literature from 1750

**VI. Critical Encounters with Great Ideas of Western Culture**

Courses focus on the history of Western culture, with special emphasis on influential ideas and great literature. Students use historical evidence to make intellectually responsible decisions and have experiences enabling them to freely develop their personal identity.

ECO 105: History of Economic Thought  
HIS 103: Roots of the Western World  
HIS 104: Europe and the Modern World  
HIS 105: America to 1877  
HIS 106: America since 1877  
HIS 112: Introduction to Latin American History  
PHI 101: Introduction to Philosophy  
PHI 207: History and Philosophy of Science  
PHI 320: Ancient and Mediaeval Philosophy  
PHI 321: Modern and Contemporary Philosophy  
POL 210H: The Origins of Democratic Thinking  
POL 275: Political Theory  
POL 276: Democracy and Globalization  
PPE 101: Introduction to Philosophy, Politics and Economics  
REL 102: Introduction to the Hebrew Bible  
REL 230: Foundations of Christianity  
REL 231: Christianity in the Modern World  
REL 316: Judaism, Christianity, and Islam

**VII. Perspectives We Live By: Decisions We Make**

Courses focus on issues of moral and ethical responsibility, engage central issues of belief, and encourage students to develop their own spiritual and ethical identity.

BIO 324: Bioethics  
BUS 260: Ethics in Business, Government, and Society  
ENG 164: American Indian Literature and Cultures  
ENG 210: African American Literature  
ENG 222H: Playing Crazy: Cultural Constructions of Madness  
ENG 226: Africa: Literature and Culture of Its Many Nations  
ENG 255/255H: Postcolonial Literature  
ENV 292: Environmental Ethics and Applications  
PHI 206/206H: Ethics  
REL 103: Introduction to the New Testament  
REL 201: Jesus of Nazareth  
REL 202: Religious Traditions in America  
REL 215: Women in Religion  
REL 310: Power, Politics, and Pluralism in Biblical Interpretation

### Senior Capstone Experience

Each student completes a Senior Capstone that is part of both the major and the General Education requirements. The Capstone helps students prepare for transition to the workplace or graduate school and involves a major project that allows students to integrate knowledge in the major discipline and to exercise academic skills acquired through the general education program. Students must complete a Senior Capstone in each of their majors.

### Majors

In order to be eligible for a Bachelor of Arts, Bachelor of Science or Bachelor of Music Education degree, a student must complete one major and earn a minimum 2.00 grade point average (Carroll and transfer credit) in all courses attempted for the major.<sup>1</sup> Generally majors require no more than 64 credits within a program (exclusive of credit for internships).<sup>2</sup> This regulation does not prevent a student from earning more than 64 credits, which would then permit the student to earn additional course credit in the major. The requirements for satisfying a specific major may be found under each program listing in the course descriptions section of this catalog. When a student has decided on a major field, he/she should consult with a faculty member in that program and make the necessary arrangements with the Registrar's Office to have that faculty member serve as his/her adviser. A student who elects to complete a second major should have an adviser from that program also. Students declaring more than one major must declare one major as the primary major.<sup>3</sup> This declaration must be specified when a student applies for graduation.

The primary major will determine which degree is earned (B.S., B.A., B.S.N., or B.M.E.). One course may count toward two majors as long as the majors are in different programs. If a student has more than one major, however, each major must have 32 credits unique to each major. The student also may select a minor. A student may also count the same course in the major toward a minor as long as the minor is in a different program. The major must have a minimum of 32 unique credits in the major, and the minor must have 16 unique credits. In programs that have multiple emphases, a student may declare only one emphasis. A transfer student is expected to complete in residence at Carroll at least one-fourth of the number of credits required for the stated major field(s) of study.

### Minors

Students may also decide to select one or more minors from a broad range of fields. While a minor typically requires fewer credits than a major, it provides students with a coherent course of study in the field. Descriptions and course requirements are listed in the program sections. At least one-fourth of the total credits required must be taken at Carroll with a minimum of a 2.00 grade point average. A student may not select a major and minor in the same discipline. A course in the minor may also count toward another minor as long as each minor has 16 unique credits.

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<sup>1</sup>. Some majors that must meet outside standards for accreditation may require a higher GPA.

<sup>2</sup>. Required supporting courses are included within the 64-credit limit. Majors within professional programs may exceed 64 credits.

<sup>3</sup>. Specific programs designate major support courses that are required for primary majors only.

### **Individually-Designed Major**

A student interested in designing such a major will, in consultation with an adviser qualified and willing to assist, work out a program of study based primarily on regularly-taught courses at Carroll. The degree requirements of either the Bachelor of Arts or Bachelor of Science will be incorporated into this plan. The entire plan must be submitted to the Academic Steering Committee for review. It will reject any plan that creates staffing problems, violates the principle of the need for balance between concentration and breadth of study, or for any other reason is judged to be academically unsound. It will not impose a general rule about the number of courses in the major, except that no student will be permitted to take more than 40 credits within a program, except in professional programs. All proposals for individually-designed majors must be submitted to the Academic Steering Committee no later than one year prior to the intended date of graduation. A planning and approval form for the Individually-Designed Major is available in the Registrar's Office.

### **Electives**

Students also have the opportunity to complete elective courses to broaden their knowledge in areas outside the major. Electives are generally free of restrictions, other than prerequisites, and fulfill neither major nor general education requirements.

### **International and Off-Campus Study**

#### **Study Abroad and New Cultural Experiences Program (NCEP)**

The Office of International Education (OIE) provides Carroll students with opportunities to enhance the awareness of their own cultural conditioning, assumptions and perspectives by bringing them in contact with people who have backgrounds significantly different from their own. Two types of benefits result from such an experience: (1) Students develop a more vivid consciousness of the kinds of social, political, economic and religious forces that have contributed to the formation of their own self-concepts, and to the structure of American society as a whole; and (2) students develop a growing understanding of other cultures and customs.

OIE offers a variety of short-term study abroad options, with a worldwide geographic scope that spans all continents but Antarctica.

Carroll's NCEP (New Cultural Experiences Program) courses are developed and led by Carroll faculty; NCEP is Carroll's signature short-term study abroad program. A description of approved NCEP courses can be found on page 306 of this catalog.

Many semester and academic year study abroad opportunities exist for students who want longer, in-depth academic experiences in another country. Students who have earned 16 Carroll University credit hours, have sophomore standing and a cumulative grade point average of 3.0 or higher may apply for enrollment in study abroad. Most students study abroad during their junior or senior year. Students who are approved for study abroad must have a grade point average of at least 3.0 when the planned study abroad is to begin. Approved students will remain enrolled full time at Carroll

## **ACADEMIC PROGRAM AND POLICIES**

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University during the time they are abroad. A listing of exchange and affiliated study abroad programs can be found on page 303.

Additional information about each of the options, including costs, is available from the OIE.

### **Domestic Off-Campus Study Opportunities**

Carroll students also have the opportunity to participate in two Washington, D.C., based programs.

- The Washington Semester program at American University emphasizes course work with a four-credit internship in the public, private or nonprofit sectors of the capital. The student is responsible for paying tuition directly to American University.
- The Washington Center program includes a hands-on internship experience of at least 30 hours per week supplemented by enrollment in a single course in a semester.

Students should note that tuition in these programs may cost more than Carroll tuition, in which case the student would be responsible for the difference.

Additionally, students may explore international relations in depth by participating in a program based at the United Nations. The Wisconsin Universities program, conducted during a six-week summer term, concentrates the study of the U.N. in a two-week intensive course at the University of Wisconsin-Milwaukee followed by a four-week session in New York City. Students participating in this program earn six credits that may be transferred to Carroll.

Additional information about each of the options, including costs, is available from the Office of International Education.

### **Honors Program**

The mission of the Carroll University Honors Program is to encourage motivated and talented students to pursue a breadth and depth of knowledge within an enriched curriculum. The program creates an environment designed to challenge students' perspectives and to foster intellectual development. This interdisciplinary program offers intensive sections of courses distributed over the arts and sciences and culminates in the honors experience with a scholarly study within, or related to, the student's major. The Honors Program also provides special cultural and social activities on and off campus for all honors scholars.

Upon completion of normal Carroll University admission, all freshman applicants are considered for the Honors Program. Following a comprehensive review, the Honors Committee invites selected candidates to apply to the program. Late applicants, as well as transfer students and students currently enrolled at Carroll, are considered for the program on the basis of available openings.

Students participating in the Honors Program are expected to complete a six-course curriculum including an Honors First Year Seminar, an Honors Writing Seminar, three honors courses that may fulfill general education requirements and a one-credit senior

honors colloquium (a research project, independent study or creative work). To complete the program successfully, a student must attain an overall grade point average of at least 3.40 with grades of B or better in each honors course. For more information, please contact the Carroll University Scholars Center.

### **Alternative Methods of Obtaining Credit**

Carroll University recognizes that learning can occur in a variety of environments and through diverse experiences. At Carroll, there are several ways of obtaining credit for prior university-level learning in addition to satisfactory course completion. Students may earn up to 64 credits in a baccalaureate program through any combination of the following types of credit:

1. **Advanced Placement Credit** may be granted to students who are enrolled in a degree program at Carroll and obtain an appropriate score through Advanced Placement examinations. A copy of the current AP requirements is available from the Registrar or online. Qualified students may be granted credit following successful completion of a university-level course in secondary schools provided the course is submitted on a university transcript. A maximum of 48 credits may be obtained through advanced placement.

2. **The College Level Examination Program (CLEP)** grants credit to qualified students enrolled in a degree program at Carroll for up to seven courses (28 credits) on the General Examination when the qualifying level of the 75th percentile has been achieved in each test written. This credit will be divided in the following manner: English, four; mathematics, four; natural sciences, four; humanities, eight; and social sciences/history, eight. Credit for the General Examinations will count as elective credit toward graduation; some credits may meet liberal studies program requirements. Credit also may be granted for subject examinations when the scores are at the recommended qualifying level. No more than 48 credits of CLEP credit will be granted for the general and subject matter examinations combined. Additional information and registration forms are available from the Office of Part-Time Studies. This credit must be approved in advance.

3. **Credit by Examination** allows qualified students enrolled in a degree program at Carroll to take examinations for credit in selected courses. Such examinations are developed and administered by programs. In some instances, placement without credit might be recommended. Interested students may consult with program faculty about policies and procedures. Contact the Registrar's Office for the necessary form. A \$130 per credit fee is charged for each examination. A student who does not complete the examination with satisfactory results may not repeat the examination.

4. **The International Baccalaureate Diploma** is recognized by Carroll University for purposes of admission, course credit and advanced standing or placement. Sixteen credits will be granted to holders of the International Baccalaureate diploma. Additional credit may be granted when more than four higher-level examinations have been taken and scores of four or higher have been earned. For students in the program who have not earned the diploma, four credits will be granted for each higher-level

## ACADEMIC PROGRAM AND POLICIES

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examination when a score of four or higher is earned. These credits will be declared to meet core and liberal studies requirements when the subjects validated by examination appear to be reasonably comparable to the subjects taught at Carroll University. Otherwise, the credits will be regarded simply as elective credit toward a Carroll degree. The student must enroll as a degree-seeking student at Carroll.

5. **Credit for Prior Learning** is possible when university-level learning, which relates to a degree program offered by the University, has occurred outside the normal educational setting. Credit for prior learning may be given when verified by employment records and the American Council on Education guidebook and transcripts or when verified by a program for credit within that program. A maximum of 24 credits may be obtained through this method. Carroll University uses the course-equivalency method with the portfolio model for assessment of prior learning that is not easily measured via standardized testing or transfer procedures. Such competency is expected to be related to the student's present degree program. The evaluation of such credit requires consideration by faculty. Students are required to demonstrate their learning, competencies and skills. Evidence will usually consist of a portfolio. However, a performance test, an essay examination, or an interview with an internal or outside expert may also be required.

6. **Correspondence Courses**, up to 12 credits from an accredited institution, may be accepted in transfer and may be applied to a Carroll University degree. The course credit must be letter graded C or better. (D graded credit will not meet any graduation requirement.) Students must obtain written approval in advance from their adviser and the Registrar prior to registering for any correspondence or extension course. Forms are available in the Registrar's Office. A copy of the course description for each course to be taken must accompany the Transfer Credit Approval form when it is filed with the Registrar's Office. A maximum of eight semester hours of correspondence or extension course credit may be applied to major or minor requirements with the written approval of the appropriate area chair or divisional dean. It must be filed in the Registrar's Office. Any correspondence or extension work taken prior to matriculation at Carroll University will be reviewed by the appropriate area coordinator or divisional dean to determine its acceptance and application to graduation, major or minor requirements.

7. **D.A.N.T.E.S. (Defense Activity for Nontraditional Education Support)** course work will be considered on an individual case basis.

8. **P.O.N.S.I. (The National Program on Noncollegiate Sponsored Instruction)** credits will be evaluated on an individual basis.

9. **Proficiency Testing in Foreign Languages:** Students who have extensive background in a language other than English may be able to earn up to 16 credits in one language by demonstrating proficiency. The proficiency exam is intended for students with a more extensive background than high school foreign language study only. Carroll University grants credit to qualified degree-seeking Carroll students through the Proficiency Testing Program in Foreign Languages sponsored by New York University.

**10. Retroactive Credit for Modern Languages** allows students who are enrolled in a degree program to earn a maximum of 16 hours of credit in a modern language upon completion of one 300-level course with a grade of B or higher, or four, eight or twelve credits upon completion of 102, 201, or 202, respectively, with a grade of B or higher. This must be the student's first enrollment in an advanced university-level modern language course. Please see the Modern Languages and Literatures section for competency and test requirements.

**11. Retroactive Credit for Mathematics**

A student who takes Mathematics 161 and receives a grade of BC or above will receive retroactive credit for Mathematics 160, Calculus I, if Advanced Placement credit has not been awarded for the course. A student who takes Mathematics 207, Calculus III, and receives a grade of BC or above will receive retroactive credit for Mathematics 160 and Mathematics 161, if Advanced Placement credit has not been awarded for those courses.

**12. OCICU**

Carroll University has approved for degree credit several online courses offered through the Online Consortium of Independent Colleges and Universities (OCICU). Credits earned in an approved OCICU course are posted to a student's transcript as the equivalent Carroll University course. The courses offered by OCICU may carry a different number of credits from the equivalent Carroll course. OCICU courses have different add/drop policies, pricing, refund policies, and start and end dates. OCICU courses meet during six eight-week terms throughout the year. Only part-time students may take OCICU courses during the fall and spring terms. All students may enroll in OCICU courses in the summer. Information on all of Carroll University's Web-based courses is available online.

**Attendance**

The University expects students to be prompt and regular in attendance at all scheduled classes. Records of attendance are maintained by each individual professor, and official attention is given any student with excessive absences. Attendance at clinical experiences is mandatory for all health sciences majors.

**Credits**

The unit of credit is the semester hour. It is defined as one 50-minute class period per week (or its equivalent) for one semester. Thus a lecture-discussion course that meets four 50-minute periods a week ordinarily carries four semester credits. One credit is granted at the completion of a semester for each applied music lesson (one half-hour per week), ensemble or practicum course for which a student is registered.

**Course/Credit Load**

The University year is divided into two semesters, a winter session and three summer sessions. The first summer session runs for three weeks and the other two for six weeks each. A student's normal class load is 16 credits of academic work each semester, with a total of 128 credits required for graduation. Any student with a cumulative grade

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point average of 3.00 or higher may petition to take 20 or 21 credits at an additional charge. Under no circumstances may a student take more than 21 credits each semester. A student on academic probation may not register for more than 12 credits. A student who enrolls for fewer than 12 credits is classified as a part-time student. Students must register for all course work in the semester/term in which the work is done. A student may take a maximum of four credits for the winter session and the three-week summer session and eight credits for each six-week summer session, with not more than 20 credits total for the summer.

### Classification of Students

To be a sophomore, a student must have completed 28 credits; to be a junior, 60 credits; to be a senior, 92 credits.

### Grading System

A system of letter grades is used in courses for which degree credit may be earned. A 4.00 grade point system is used under which a student earns grade points for each credit completed.

Letter	Grade points	Description
A	4.00	Excellent
AB	3.50	Intermediate grade
B	3.00	Good
BC	2.50	Intermediate grade
C	2.00	Average
D	1.00	Low, merely passing
F	0.00	Failure
AU		Audit
I		Incomplete (See definition on next page.)
IP		In progress
NC		No credit allowed
NR		Grade not received
S		Satisfactory (A, A/B, B, B/C, C level)
U		Unsatisfactory (D or F level)
W		Withdrawal

### Grade Point Calculation

The grade point values when multiplied by the number of course credits give the total number of grade points earned for that particular course. In a four-credit course, for example, a grade of B yields 12 grade points; a grade of A yields 16 grade points. The grade point average is the ratio between total academic grade points and total academic hours: that is, the quotient obtained by dividing the total number of academic grade points earned by the total number of academic hours attempted. For example, a program of 16 academic credits in which 48 grade points are earned will yield a grade point average of 3.00 or an average of B (48 divided by 16 = 3.00).

### **Incomplete Grading**

A report of incomplete means that the student has been unable to complete the required work for a valid reason; it is not given for neglected work. In order to receive an incomplete, the student must initiate the request by submitting a properly completed form (available online and from the Registrar's Office) to the instructor prior to the end of the term. If the instructor agrees with the request, the completed form is signed by the student, the instructor and the department chair and is then submitted by the instructor to the Registrar. Upon receiving the form with all relevant information and appropriate signatures, the Registrar will post the incomplete grade to the student's transcript. An incomplete must be removed by the end of the eighth week of the next semester or it automatically becomes a failure. An extension of no more than one year may be granted only with written consent from the instructor and the department chair.

### **Academic Honesty**

Cheating on examinations, plagiarism, improper acknowledgment of proper sources in written material, and inaccurate claims of work done are serious offenses in an academic setting. These forms of unethical behavior will be subject to severe disciplinary action.

The Carroll University Policies and Procedures on Student Academic Integrity can be found in the Student Handbook (available on the University's Web site) under the section entitled Academic Policies and Procedures. Instructors indicate penalties for academic dishonesty in their course syllabi.

### **Adding or Dropping Courses**

A student may add a course only during the first week of the fall or spring semesters. For winter session, summer sessions, and other specially timed courses, refer to the published timetables for deadline dates to add courses. With the written consent of the instructor and the adviser, a student may drop a registered course through the eighth complete week of the fall or spring semester. For winter session, summer sessions, and other specially timed courses, refer to the published timetables for deadline dates to drop courses. The course will appear on the transcript as attempted credits; however, the grade will be a W (withdrawal) and will not affect the grade point average. It is the student's responsibility to complete the proper necessary paperwork; otherwise, the course grade will be recorded as an F.

### **Auditing Courses**

With the instructor's permission, students generally may audit all courses at Carroll, except for studio art courses, applied music, music ensembles and laboratories. The minimum requirement to receive an audit (AU) grade is regular attendance, but individual instructors may have higher requirements. No credit is received for these courses. There are no restrictions for taking the same course for credit at a later date. However, students may not receive credit through "credit by examination" after auditing a course. Students taking the course for credit have priority enrollment over students who wish to audit.

### **Independent Study**

Independent study is offered by most programs and is subject to the same general university regulations that govern any course offering. Such courses are taken for academic credit (one to four credits) with the appropriate grading from an assigned instructor. The format of study may vary and is formulated in consultation with the assigned instructor. An independent study may be taken only with consent of the instructor and the divisional dean and must be arranged with the instructor before registering. In general, a student may count a maximum of four independent study credits toward graduation. An approved Permit for Independent Study form, available at the Registrar's Office, and a syllabus must be presented at the time of registration.

### **Internships or Work-Oriented Experiences**

Students are urged to participate in a work-oriented gateway experience to prepare for their work in the world. Most work-oriented experience will be related to the student's major or minor field and generally will be taken during the senior year. Internships and work-oriented experiences are under the direct supervision of a member of the Carroll University faculty. Such courses are taken for academic credit with the appropriate grading (letter grades or S/U) from an assigned instructor. Each program will determine whether an internship or work-oriented experience will be offered. These courses are subject to the general regulations that govern any course offered, including registration within the time period allowed for an on-campus course. A student must have permission for an internship or work-oriented experience and present an approved Permit for Internship upon registration.

### **Repeating Coursework Graded D or F at Carroll University**

Any Carroll University credit earned with a D or F grade may be retaken at Carroll. Both the D or F grade and the repeated grade will be recorded on the Carroll University transcript, but only the last grade awarded will be used in the appropriate grade point calculations. A student may not replace a Carroll University-earned D or F with transfer credit. A student may not replace Carroll coursework graded higher than a D unless this provision is specifically allowed in program-specific policies.

### **Repeating Transfer Coursework Graded D or F**

Any transfer credit with an earned D or F may be retaken for credit with a similar course at Carroll University or at another accredited institution as approved by the Registrar. Upon matriculation at Carroll University, the student must obtain permission in advance from the Registrar to retake a transfer course graded D or F with a similar transfer course or with a Carroll University course. Both the D or F grade and the repeated grade will be recorded on the Carroll University transcript, but only the last grade awarded will be used in the appropriate grade point calculations. A student may not replace transfer coursework graded higher than a D unless this provision is specifically allowed in program-specific policies.

### **Satisfactory Grading Option for Juniors and Seniors**

Juniors and seniors have the choice of taking any or all elective courses on a satisfactory/unsatisfactory (S/U) basis. A student shall not be permitted to alter the decision

after the first four weeks of the semester. No student may take any course to complete a general education or liberal studies requirement on an S/U basis. No student may take any course within the major or minor fields, including required supporting courses, on an S/U basis, with one exception: internships or work-oriented experiences may count toward the major or minor even if taken S/U. Students are advised that graduate or professional schools often give less consideration to applicants whose records show this grade option. Satisfactory/unsatisfactory grades will not be included in computing the grade point average.

### **Transfer Credit Policy after Enrollment**

It is necessary to obtain permission in advance from the Carroll University Registrar's Office in order to have coursework from another institution accepted in transfer. All coursework must be graded C or better to be accepted as credit earned toward graduation. However, core distribution and/or liberal studies courses, major and minor requirements may be fulfilled with a D. Grade point deficiencies at Carroll University cannot be made up with transfer course credit. NOTE: Students are required to complete their final 32 hours at Carroll University.

Official transcripts of all coursework from every post-secondary institution attended must be sent immediately following completion of the course to the Carroll University Registrar's Office, 100 N. East Ave., Waukesha, WI 53186. Failure to have transcripts sent, even if the course cannot be accepted for credit, may result in the student being dismissed or the degree being rescinded.

### **Transcripts**

The Registrar's Office supplies official transcripts of records of those students who make a written request and who have no outstanding obligations to the university. In accordance with the Family Educational Rights and Privacy Act (1974), transcripts cannot be released without the express written consent of the student. The written transcript request should be mailed to the Registrar's Office, Carroll University, 100 N. East Ave., Waukesha, WI 53186.

### **Policy on Student Records**

Several information sources are maintained concerning each student at Carroll University: the admission file, the permanent academic record, the student personnel file, the placement file, the alumni file, the publicity file, and the financial aid file for students applying for aid. A student may review the applicable files, except for material provided in confidence, with a professional staff member under the provisions of the Family Educational Rights and Privacy Act of 1974 (FERPA) as amended.

FERPA<sup>1</sup> gives certain rights to parents regarding their children's educational records. These rights transfer to the student who has reached the age of 18 or is attending school beyond the high school level. Generally the school must have the student's written permission to release any educational information to anyone, including the stu-

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<sup>1</sup> Furnished by the United States Department of Education, fact sheet.

## ACADEMIC PROGRAM AND POLICIES

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dent's parents. The law does allow for the following exceptions: school employees who have a need to know; other schools to which a student is transferring; certain government officials to carry out lawful functions; accrediting organizations; persons who need to know in cases of health and safety concerns.

Schools may disclose "directory information" or information published in the student directory unless the student signs a Right to Privacy form each time a student registers. Carroll University has adopted a policy that will only allow the disclosure of directory information if the party asking for the information can identify himself/herself in writing (this Carroll University policy is within FERPA regulations, which allow individual institutions to determine their own policies concerning directory information).

FERPA also grants the student the right to review those records, files, etc., that are maintained by the University. The student must make an appointment with the University Registrar to do so. Students may challenge any information they believe to be inaccurate. If the University official does not agree to modify the information, the student may file a written appeal and has a right to a hearing.

### Students' Right to Know

**Campus Security Act of 1990:** Requires the disclosure of data on crimes committed on campus and campus safety policies and procedures. A copy of Carroll University's annual security report is available online.

**Equity in Athletics Disclosure Act:** Requires disclosure of data on participation rates and financing men's and women's sports in intercollegiate athletic programs at coeducational schools. It also requires data on revenues, total expenses and operating expenses of intercollegiate athletic programs. Data is available on request.

**Graduation Rate:** Current and prospective students have the right to request the institution's graduation rates. These rates are available in the Office of Admission and online at: <http://nces.ed.gov/collegenavigator/>.

### Academic Standing

#### Good Standing

All students are expected to maintain at least a C (2.00) overall grade point average in Carroll University course work. Any student who does not maintain at least a 2.00 cumulative average in Carroll course work is subject to academic action following a review by the Academic Steering Committee. Some programs, as noted in the program sections of this catalog, have higher standards for progression.

#### Probation

As soon as a student's Carroll University grade point average drops below 2.00, that student is placed on academic probation. For a student on academic probation, the class load is limited to 12 credits. A student cannot be removed from probation until a 2.00 grade point average is attained.

### **Suspension**

A student on probation for one or more semesters or a student who received no passing grades the previous semester will be suspended for one semester and the adjacent summer or be considered for dismissal. At the end of the suspension period, a student must apply for readmission. Upon suspension, a student may no longer live in on-campus housing or participate in university-related activities.

### **Dismissal**

A student suspended a second time will be dismissed at the close of the semester because of failure to achieve an acceptable level of academic work. Students who are dismissed will be withdrawn from any registered courses at the University and will not be eligible to return to Carroll University.

### **Health Sciences Programs**

Policies applying to academic standing, progression, and the appeals process for Health Sciences programs are presented on page 166 of this catalog.

### **Academic Appeals**

The Academic Steering Committee (ASC) acts as the appeal body for questions related to academic policy, probationary questions, exemptions, etc. An academic petition form (available online or from the Registrar's Office) must be completed and returned to the Registrar's Office to initiate the appeal process. The petition form should carefully explain the nature of the request and include the appropriate signatures. All appeal decisions by the Academic Steering Committee are final.

Course grade appeals and appeals of sanctions for academic dishonesty are heard by the Student/Faculty Ethics Committee. Appeals should be made through the Office of the Associate Dean of Academic Affairs. The procedure for appeals is found in the Student Handbook.

### **Returning Students**

Students returning to Carroll after the lapse of one or more semesters and students who have been suspended from the University and have become eligible to apply for readmission must do so through the Office of Admission. Each application is reviewed and applicants will be informed of the status of the application and, if applicable, the conditions of readmission.

### **Awarding of Diplomas**

Diplomas are awarded three times a year (May, August and December) to seniors who have completed all degree requirements. Commencement ceremonies are conducted in May each year.

Seniors who have all degree requirements completed but wish to defer graduation, and those with specific academic deficiencies, will be allowed to participate in Commencement as long as the deficiencies are within the following parameters:

## ACADEMIC PROGRAM AND POLICIES

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1. A need for one to four additional credits or completion of student teaching that is already in progress.
2. A deficiency of eight or fewer academic grade points.
3. Incomplete grades of from one to four credits.

Students may participate in only one Commencement. Notice of intent to participate in the May Commencement ceremony without the degree being awarded should be filed with the registrar's office at the time the application for graduation is submitted or by April 15. All students who choose not to receive their degree and those with academic deficiencies will receive their diplomas at the next issuance following completion of all required work.

### Additional Undergraduate Degree

With the recommendation of the divisional dean, a student already holding a baccalaureate degree from Carroll University or another institution may, under certain conditions, qualify for and be awarded an additional baccalaureate degree. Those conditions are as follows:

At least 32 credits beyond those used to achieve the initial degree must be undertaken and successfully completed at Carroll.

All of the university general education and liberal studies requirements in effect at the time of the enrollment for a second undergraduate degree must be met, either through transfer or in subsequent study at Carroll.

All of the program requirements for an additional major field of study must be met either through transfer or in subsequent study at Carroll.

### Honors

The **Dean's List** is determined twice each year at the end of the fall and spring semesters. It includes the names of all full-time degree candidates who earned at least a 3.50 grade point average the previous semester in a minimum of 12 credits with letter grades with the exception of junior- and senior-level nursing students who need seven of the 12 credits with letter grades. The names of students on the dean's list are sent to the student's local newspaper if all of the student's grades are available at the time of the list's release and if the student has authorized the release of this information. Achievement of the dean's list is noted on the student's transcript. Dean's list for part-time students will be determined after a student has earned 12 Carroll credits. Thereafter, a student who completes fewer than 12 credits per semester and earns at least a 3.500 GPA is designated as being on the dean's list for that semester.

**Phi Kappa Phi:** Carroll University invites students in the top 7.5% of the junior class and the top 10% of the senior class and graduate programs to join Phi Kappa Phi, the nation's oldest, largest, and most selective all-discipline honor society. Phi Kappa Phi gives its members a lifelong connection to a global network of academic and professional activities, including opportunities to apply for national scholarships.

**Delta Sigma Nu** is the university's honorary scholastic society. Students in the upper 10 percent of the senior class who have completed by graduation 64 letter-graded cred-

its at Carroll and a total of 100 letter-graded credits are elected to membership. The only exception is students on approved off-campus programs where letter grades are not given. Members of the junior class with an overall grade point average of 3.900 or higher who have completed 64 letter-graded credits at Carroll and have been enrolled at Carroll University for at least four semesters are elected to membership.

**Graduation honors** based on the cumulative grade point average (GPA)\* are awarded to those students who have completed all requirements for the degree: summa cum laude requires a GPA starting at 3.900; magna cum laude requires a GPA starting at 3.600; cum laude requires a GPA starting at 3.400. The complete record is considered, and there must be a minimum of 64 credits of letter grades. In order to be eligible for honors, a student must complete at Carroll, in letter-graded courses, one-half of the hours (currently 64) required for graduation. Students with transfer work must meet two criteria:

1. The student must have 64 letter-graded credits earned at Carroll.
2. Since a student with transfer work has a Carroll and an overall GPA, the lower of the two GPAs determines eligibility for honors and placement into one of the above three honors categories.

\*The GPA is not rounded up.

**Second degree graduation honors** will be awarded to students who have completed all requirements for the degree. There must be a minimum of 32 letter-graded credits completed at Carroll University. The entire undergraduate record is considered and, if there is transfer work, the lower of the Carroll or overall grade point average (GPA)\* determines eligibility for honors and placement into one of the three following categories: summa cum laude requires a GPA starting at 3.900; magna cum laude requires a GPA starting at 3.600; cum laude requires a GPA starting at 3.400.

\*The GPA is not rounded up.

### Academic Support

The University recognizes that the academic development of students is a top priority. Therefore, Carroll provides a wide variety of programs and services intended to help students achieve their full intellectual potential. Academic advisers meet regularly with students to select courses and to assess academic progress.

The Learning Commons, located on the lower level of the library, is the center for several academic support activities including the Writing Center, course-related tutoring, and the University's Supplementary Instruction Program.

DIVISION OF HUMANITIES AND SOCIAL SCIENCES  
**DEPARTMENT OF VISUAL AND  
PERFORMING ARTS**

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<b>Daniel M. Becker</b>	Assistant Professor of Graphic Communication
<b>Kristina G. Boerger</b>	Associate Professor of Music
<b>Scott M. Boyle</b>	Assistant Professor of Theatre Arts
<b>Amy A. Cropper</b>	Associate Professor of Art
<b>Peggy Thurston Farrell</b>	Assistant Professor of Art
<b>Larry D. Harper</b>	Professor of Music
<b>Hugo Hartig</b>	Professor of Music
<b>Philip L. Krejcarek</b>	Professor of Art and Photography and Department Chair
<b>Cecelia Mason-Kuenn</b>	Costume Shop Supervisor
<b>Jennifer A. Moon</b>	Assistant Professor of Photography and Digital Media
<b>Pacia Sallomi</b>	Associate Professor of Art
<b>James Zager</b>	Associate Professor of Theatre Arts

The Department of Visual and Performing Arts offers majors in art, book art, graphic communication, music, music education, photography and theatre arts, as well as minors in art, graphic design, music, photography, theatre arts, and web design.

### **ART MAJOR**

The art major offers several directions for the student who has an interest and talent in the visual expressive arts. Individualized advising helps the student choose a major with one of the following three emphases:

1. Fine arts which prepares students for careers in gallery/museum or arts administration, or for graduate work in studio art, art therapy, or art history.
2. Art education which prepares students for K-12 teaching certification.
3. Commercial art which prepares students for careers in graphic design and illustration.

All majors are encouraged to attend art exhibition openings and/or workshops and field trips sponsored or approved by the art faculty. All majors are required to create a sophomore portfolio and have a senior show and portfolio to be approved by the art faculty.

**Learning Outcomes for Art**

Upon graduation, the art student will be able to demonstrate:

1. Mastery of skills in his/her chosen area of emphasis.
2. Familiarity with the history of art and the ability to discuss it within the context of their work.
3. Ability to write articulately about art.
4. Ability to present self and work professionally.
5. Ability to develop a cohesive body of work.

**Core Courses (28 credits)**

Art 103, 104, Art History Surveys  
Art 106, Drawing and Composition  
Art 107, Beginning Design 2D and 3D  
Art 206, Intermediate and Life Drawing  
Art 300, Art History Survey  
Art 490, Capstone in Art

**Fine Arts Emphasis (28 credits)**

**Bachelor of Arts**

**Core Courses, plus**

Art 201, Painting I  
Art 209, Photography I or  
    Art 230, Printmaking I  
Art 220, Sculpture I  
Art 225, Ceramics I or  
    Art 235, Art Metals  
Art 306, Advanced and Life Drawing

Two additional courses in the same area at an advanced level:

Example: Art 320, Sculpture II and Art 340, Advanced Media Studies

In addition, Fine Arts students interested in gallery/museum, art therapy or arts administration should plan to take an internship in the field. Those interested in graduate work in studio art or art history should work to fit in extra studio or art history courses, respectively, as time allows.

**Required Support Courses (Required for primary majors only)**

Completion of a Modern Language through 202

**Art Education Emphasis\* (37 credits)**

**Bachelor of Science**

**Core Courses, plus**

Art 201, Painting I  
Art 209, Photography I  
Art 211, Gallery/Museum Experience (1 credit)  
Art 220, Sculpture I

## DEPARTMENT OF VISUAL AND PERFORMING ARTS

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Art 223, Creative Arts for Children (2 credits; does not count toward major)  
Art 225, Ceramics I  
Art 230, Printmaking I  
Art 235, Art Metals  
Art 258, Visual Communication  
Art 353, Methods of Teaching Secondary Art (2 credits; does not count toward major)  
One 4-credit elective course in art

### Required Support Courses

2 credits of Computer Science: 107 or higher  
Environmental Science 120, Conservation and Environmental Improvement  
Graphic Communication 106, Introduction to Communication Technology  
Mathematics 112, or Mathematics 140 or higher

\*Students preparing for teaching must meet state licensing requirements through enrollment in the Teacher Education Program.

### Commercial Art Emphasis (36 credits) Bachelor of Science

#### Core Courses, plus

Art 201, Painting I  
Art 209, Photography I  
Art 220, Sculpture I  
Art 230, Printmaking I  
Art 250, Electronic Imaging  
Art 258, Visual Communication  
Art 304, Illustration  
Art 480, Internship in Art  
Graphic Communication 320, Introduction to Multimedia Production

#### Required Support Courses

Business 101, Introduction to Business  
2 credits of Computer Science: 107 or higher  
Graphic Communication 106, Introduction to Communication Technology  
Mathematics 112, or Mathematics 140 or higher

In addition, students are encouraged to select from the following courses:

Communication 203, Advertising; Graphic Communication 200, Color and Typography; Graphic Communication 210, History of Graphic Design; Fine Arts 221, Legal Issues in the Fine Arts

### BOOK ART MAJOR (58 credits)

#### Bachelor of Art

The book art major is designed for students interested in preparing for careers in book publishing, as well as students interested in creating books as an art form.

Students in this major are required to attend the Florence University of the Arts during their junior year. They may elect to enroll for a summer, a semester, or an entire year. Those students attending all year can earn a Certificate in Publishing from Florence University of the Arts.

All book art majors are encouraged to attend art exhibition openings and/or workshops and field trips sponsored or approved by the art faculty. All majors are required to create a sophomore portfolio and have a senior show and portfolio to be approved by the art faculty.

### Learning Outcomes for Book Art

Upon graduation, the book art student will be able to:

1. Summarize key innovations in the history of book making and publishing and their importance in social and cultural changes.
2. Demonstrate the ways in which contemporary trends in book making and publishing are utilized, and apply this to his/her own work.
3. Utilize his/her understanding of the history of book making and publishing, as well as their knowledge of current trends, to examine the book publishing market and to formulate specific employment-related goals.
4. Speak effectively and articulately about the field of book art.
5. Write effectively and persuasively and edit critically to accepted publication standards.
6. Utilize skills in photography and design in the creation of books, and demonstrate skills in layout and pre-press used in publication or book creation.
7. Interact and communicate effectively in an international setting.
8. Think, work and move across cultural boundaries.

### Core Courses

Art 209, Photography

Art 250, Electronic Imaging

Art 258, Visual Communications

Art 340, Advanced Media Studies

Art 480, Internship (4 credits)

Art 490, Capstone

Fine Arts 230, Book History

Graphic Communication 106, Introduction to Communication Technology

Graphic Communication 200, Color and Typography

Graphic Communication 230, Digital Photography

Two of the following courses:

English 206, Fiction Writing

English 207, Poetry Writing

English 208, Nonfiction Writing

English 305, Advanced Expository Writing

### Required Support Courses

Completion of a Modern Language through 202

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Students will be to also be required to take 12 additional credits in the Book Publishing program at the Florence University of the Arts (FUA). The courses should be selected from the following FUA courses:

### CERTIFICATE IN PUBLISHING – Florence University of the Arts

#### Semester 1 – FALL

Italian Language – Beginning	3 credits
Introduction to Digital Photography	3 credits
Fundamentals of Publishing and Editing	3 credits
Creative Writing	3 credits
Introduction to Computer Graphics	3 credits
Lifestyle Magazine Project	6 credits

#### Semester 2 – SPRING

Italian Language – Intermediate	3 credits
Intermediate Digital Photography	3 credits
Professional Book Production	3 credits
Public Relations, Communications & Marketing	3 credits
Lifestyle Magazine Project II	6 credits
Special Project in Book Publishing	9 credits

Note: Italian is required each semester at FUA. These credits may not be included in the 12 credits abroad for the major.

## GRAPHIC COMMUNICATION MAJOR

### Bachelor of Science

Graphic Communication at Carroll University is an interdisciplinary major from the graphic communication, art, business, communication, and computer science programs. This major is offered in conjunction with a required 160-hour internship and a capstone experience in which students independently create real world projects. Two minors offered within graphic communication are aimed toward students who plan to major in other academic programs and acknowledge the integrated usefulness of graphic communication within their major area of study.

### Learning Outcomes for Graphic Communication

Upon graduation, the graphic communication student will be able to:

1. Measurably demonstrate and apply a high competency working knowledge of various digital software applications and hardware components.
2. Measurably demonstrate and apply industry-standard graphic design principles as they pertain to various digital media vehicles.
3. Apply learning outcome skill sets to produce digital media projects for the purpose of communication on behalf of client/audience objectives.
4. Create communication-based creative solutions to effectively broadcast specific messages that utilize typography, color, digital photography, images, digital video and print.

5. Utilizing historical documentation for reference, case studies for application, and examples of industry trends, students will apply their skill set to create messages that communicate across a variety of media.
6. Utilizing "real world" strategy, concept and application, students will implement their skill set of technology, understanding of design theory, identification with audience, and association with various delivery methods to produce graphic communication materials that best represent client goals.
7. Pay special attention to and evaluate software and hardware capabilities, lifespan, and usefulness, which will guide them to an understanding of the role of graphic design management.
8. Participate in the writing of creative briefs, apply the dynamics of communication practices, as well as investigate and understand the role of branding, marketing, and advertising.
9. Utilize website construction software and apply the appropriate skill set to develop online portfolios and client-based solutions.
10. Develop the ability to think critically, to problem solve, and to generate creative solutions.

The graphic communication program has numerous offerings which teach students the use of various tools needed in graphic communication in the 21st century. The art, business, computer science and communication programs use these tools to develop students' talents and the business program's courses cover the use of graphic communication in the world of organizations. Each course within the curriculum uses the technology of the 21st century to achieve its objectives.

There are four emphases within graphic communication:

- The *graphic design emphasis* is for students interested in using their artistic bridging technology and graphic communication skills across a variety of media (print, web, new media, etc.). They may work as graphic artists, as web page designers or as desktop publishing professionals. Students may also consider a second major or a minor in computer science.
- The *design management emphasis* is for students who wish to evolve their graphic communication skills into management positions or start their own company. Students wishing to excel in this area may consider a second major or minor in business.
- The *print management emphasis* is for students wishing to enter the print industry and is a collaborative program with Waukesha County Technical College. The print management emphasis is based upon both the actual operation of print presses as well as design/management/business concepts.
- The *web design emphasis* is for students who particularly wish to develop projects for placement on the World Wide Web. Students wishing to excel in this area may consider a second major or minor in business or computer science.

**Graphic Design Emphasis (74 credits)**

Graphic Communication 106, Introduction to Communication Technology (2 credits)  
Graphic Communication 150, Digital Toolbox: Photoshop and Illustrator I  
Graphic Communication 200, Color and Typography  
Graphic Communication 210, History of Graphic Design (2 credits)  
Graphic Communication 230, Digital Photography  
Graphic Communication 290, Digital Toolbox: Photoshop and Illustrator II  
Graphic Communication 295, 3D Digital Design  
Graphic Communication 320, Introduction to Multimedia Production  
Graphic Communication 330, Digital Video I  
Graphic Communication 340, Digital Video II  
Graphic Communication 360, Digital Flash Gaming  
Graphic Communication 450, Projects for Graphic Communication Majors  
Graphic Communication 480, Internship (4 credit hours required)

**Required Support Courses**

Accounting 105, Introduction to Accounting Basics (2 credits)  
Art 106, Drawing and Composition  
Art 107, 2D and 3D Design  
Art 206, Intermediate Drawing  
Business 101, Introduction to Business  
Business 301, Principles of Marketing  
Mathematics 112, Introduction to Statistics

**Design Management Emphasis (70 credits)**

Graphic Communication 106, Introduction to Communication Technology (2 credits)  
Graphic Communication 150, Digital Toolbox: Photoshop and Illustrator I  
Graphic Communication 200, Color and Typography  
Graphic Communication 320, Introduction to Multimedia Production  
Graphic Communication 450, Projects for Graphic Communication Majors  
Graphic Communication 480, Internship (4 credit hours required)

**Required Support Courses**

Accounting 105, Introduction to Accounting Basics (2 credits)  
Art 106, Drawing and Composition  
Art 107, 2D and 3D Design  
Art 206, Intermediate Drawing  
Business 101, Introduction to Business  
Business 301, Principles of Marketing  
Business 302, Principles of Management  
Business 320, Promotion Management  
Communication 203, Advertising  
Communication 227, Technical Writing in Organizations  
Computer Science 107, Problem Solving Using Information Technology  
Mathematics 112, Introduction to Statistics

**Print Management Emphasis (65 credits)**

Graphic Communication 106, Introduction to Communication Technology (2 credits)  
GRC 110 (WCTC204110) Print Media/Digital Publishing I  
GRC 120 (WCTC204120) Print Media II  
GRC 121 (WCTC204121) Digital Illustration  
GRC 122 (WCTC204122) Post Press/Distribution  
GRC 130 (WCTC204130) Print Media III  
GRC 135 (WCTC204139) Digital Workflows  
GRC 140 (WCTC204140) Estimating and Scheduling  
GRC 141 (WCTC204141) Production Coordination/Customer Service  
GRC 142 (WCTC204142) Color Management  
Graphic Communication 450, Projects for Graphic Communication Majors  
Graphic Communication 480, Internship (4 credit hours required)

**Required Support Courses**

Accounting 205, Financial Accounting  
Business 101, Introduction to Business  
Business 301, Principles of Marketing  
Business 302, Principles of Management  
Business 305, Principles of Operation Management  
Computer Science 107, Problem Solving Using Information Technology (2 credits)  
Computer Science 109, Technological Productivity (2 credits)  
Mathematics 112, Introduction to Statistics

**Web Design Emphasis (64 credits)**

Graphic Communication 106, Introduction to Communication Technology (2 credits)  
Graphic Communication 150, Digital Toolbox: Photoshop and Illustrator I  
Graphic Communication 200, Color and Typography  
Graphic Communication 320, Introduction to Multimedia Production  
Graphic Communication 330, Digital Video I or  
    Graphic Communication 295, 3D Digital Design  
Graphic Communication 360, Digital Flash Gaming  
Graphic Communication 450, Projects for Graphic Communication Majors  
Graphic Communication 480, Internship (4 credit hours required)

**Required Support Courses**

Art 106, Drawing and Composition  
Art 107, 2D and 3D Design  
Communication 370, Communication Technology and Society  
Computer Science 109, Technological Productivity (2 credits)  
Computer Science 110, Problem Solving through Programming  
Computer Science 220, Information Systems  
Computer Science 319, World Wide Web Programming  
Computer Science 351, Database Design  
Mathematics 112, Introduction to Statistics

**MUSIC MAJOR**

The music major offers both liberal arts and professional degrees as a preparation for a variety of careers, including music performance, music education, and music business. For the performance emphasis, two one-hour recitals are required in successive years, usually during the junior and senior year. The liberal arts emphasis requires a half-hour recital in the final semester of study. A proficiency in piano must be passed by students with the performance emphasis or bachelor of music education degree. This competency should be completed by the end of the sophomore year. Acceptance into the performance emphasis requires a special audition. Performance juries are required of all music majors and minors each semester.

Students planning to major in music are required to satisfactorily complete an audition for the music faculty, usually in the month of February preceding the freshman year.

Transfer students must take a music theory placement examination before registering for music courses.

Performing organizations are open to all students by audition. Qualified students may also receive ensemble credit by performing in the Waukesha Symphony, the Waukesha Choral Union, or the Waukesha Area Symphonic Band.

**Learning Outcomes for Music**

Students studying music will:

1. Be prepared to effectively contribute to the professional work of a musician in education, performance, and music business.
2. Understand and articulate the historical perspective of musical expression and the theoretical base upon which this expression rests.
3. Articulate and execute the skills, both as an individual and as part of an ensemble, necessary for achieving an aesthetic experience in music.

**Music Major - Performance Emphasis**

**Bachelor of Arts**

Music 111, 112, Music Theory I, II

Music 113, 114, 213, 214, Aural Skills I, II, III, IV

Music 211, Music Theory III

Music 212, Form and Analysis

Music 303, Conducting I

Music 307, Practical Keyboard Harmony

Music 311, 312, 313, Music History I, II, III

Eight semesters in a major ensemble

(Wind Symphony, Concert Choir, or Women's Ensemble)

(Piano performance majors may elect Music 190 as a major ensemble.)

Music 366, Voice Pedagogy or

two credits of Instrumental Techniques (Music 251, 252, 253, 254, 255, 256)

Music 430, Vocal Literature or

Music 405, Orchestration

Applied Music

Major instrument (fifteen credits, including Music 497, Capstone: Music Performance Emphasis)

Minor instrument (4 credits)

Music 470 and 471, Junior and Senior Recital

The following diction classes for the vocal performance major only:

Music 323 (English, German) Music 324 (French, Italian)

### Required Support Courses

Option 1

Completion of a Modern Language through 202 or

Option 2

English 255

History 103 or 104

Religious Studies 106

## Music Major - Liberal Arts Emphasis

### Bachelor of Arts

Music 111, 112, Music Theory I, II

Music 113, 114, 213, Aural Skills I, II, III

Music 211, Music Theory III

Music 303, Conducting I

Music 304 or 305, Conducting II, Choral or Instrumental

Music 311, 312, 313, Music History I, II, III

Applied Music (Nine credits including Music 499, Capstone: Liberal Arts Emphasis, in final semester)

Ensemble (eight semesters in Music 185, 187 or 188)

Music 471, Senior Recital

One credit of electives to be chosen from the following:

Music 105, 106, 107, Class Piano

Music 212, Form and Analysis

Music 214, Aural Skills IV

Music 310, Music Technology

Music 323, 324, Diction

Music 353, Choral Methods

Music 355, Instrumental Methods

Music 357, Choral Literature and Performance Practice

Music 358, Wind Literature and Performance Practice

Music 405, Orchestration

Music 430, Vocal Literature

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### Required Support Courses

#### Option 1

Completion of a Modern Language through 202 or

#### Option 2

English 255

History 103 or 104

Religious Studies 106

### Music Major - Business Emphasis

#### Bachelor of Science

Music 111, 112, Music Theory I, II

Music 113, 114, Aural Skills I, II

Music 120, Introduction to the Music Industry

Music 151, History of Jazz

Music 156, Listening to Classical Music or

Music 312, Music History II, Classic and Romantic periods

Music 158, Rock Music: Roots and History

Music 310, Music Technology

Music 480, Capstone: Music Business

Applied Music: seven semesters (at least one credit per semester on your major instrument/voice)

Ensemble: seven credits, one each semester

Two credits of music electives, excluding ensembles and applied lessons

### Required Support Courses

Accounting 205, Financial Accounting

Business 101, Introduction to Business

Business 301, Principles of Marketing

Business 302, Principles of Management

Computer Science 107, Problem Solving Using Information Technology

Fine Arts 221, Legal Issues in the Fine Arts

Mathematics 112, or Mathematics 140 or higher

## BACHELOR OF MUSIC EDUCATION

The bachelor of music education prepares students to a high level within the discipline of music, including performance, theory and history, and, at the same time, prepares future teachers for careers of distinction and leadership. The central philosophy of the degree is that music teachers can be most effective only by first becoming accomplished musicians themselves, capable of performing, conducting and analyzing at a sophisticated level.

Two half-hour recitals are required in successive years, usually during the junior and senior year. A voice competency is required of all instrumental music education majors. A proficiency in piano must be passed by all bachelor of music education majors. This competency should be completed by the end of the sophomore year.

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Students planning to major in music are required to satisfactorily complete an audition for the music faculty, usually in the month of February preceding the freshman year.

Transfer students must take a music theory placement examination before registering for music courses.

Performing organizations are open to all students by audition. Qualified students may also receive ensemble credit by performing in the Waukesha Symphony, the Waukesha Choral Union, or the Waukesha Area Symphonic Band.

Students in the BME degree program must meet all requirements of the secondary education minor (except EDU 100, EDU 209, EDU 265 and EDU 304), including the required core and Liberal Studies Program Area courses in education, and meet state licensing requirements through enrollment in the Teacher Education Program (TEP) at the University.

### Core Courses

Applied Lessons (13 credits)

Ensemble (7 semesters required)

Music 105, Class Piano I

Music 106, Class Piano II

Music 107, Class Piano III

Music 108, Class Piano IV

Music 111, Music Theory I

Music 112, Music Theory II

Music 113, 114, 213, 214 Aural Skills I, II, III, IV

Music 140, Foundations of Music Education

Music 141, Introduction to Education Workshop

Music 211, Music Theory III

Music 212, Form & Analysis

Music 241, Workshop: Education in a Multicultural Context

Music 303, Conducting I

Music 307, Practical Keyboard Harmony

Music 310, Music Technology

Music 311, 312, 313, Music History I, II, III

Music 470, Junior Recital

Music 471, Senior Recital

### Required Support Courses

Computer Science 107, Problem Solving Using Information Technology

Education 203, Educational Psychology

Education 261, Education of the Exceptional Child

Education 301, Democracy, Schools, and Society

Education 306, Literacy in Secondary School Content Areas (2-3 credits)

Education 311, Field Experience in Education II (1 credit)

Education 353, Special Methods in Teaching Secondary School Subjects

Education 409, 410, Student Teaching (12 credits)

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Mathematics 106, Mathematics for the Liberal Arts or  
any higher Mathematics course

One physical laboratory science course (Chemistry, Environmental Science,  
or Physics) from either LSP I or LSP II

One laboratory course in Biology for LSP I or LSP II (whichever is not taken from  
above requirement)

Politics 141, Introduction to American Politics (LSP III)

One English literature course from LSP IV and any course from LSP VII or  
one English literature course from LSP VII and any course from LSP IV

Any Art, Music, or Theatre Arts course from LSP V

Any American or European History from LSP VI

One core or LSP distribution course, or an elective course, must be a Non-Western  
course from the following:

Art 103, Prehistoric to Renaissance: Art History Survey (LSP V)

English 164, American Indian Literature and Cultures (LSP IV or LSP VII)

English 165, Readings in Race and Gender (LSP IV)

English 226, Africa: Literature and Culture of Its Many Nations (LSP IV or LSP VII)

English 255, Postcolonial Literature (LSP IV or LSP VII)

Environmental Science 138, Cultural Geography (LSP IV)

Environmental Science 160, World Regional Geography (LSP IV)

History 108, Understanding Our Contemporary World (LSP IV)

History 110, The History of Modern China (LSP IV)

Politics 201, Politics of the World's Nations (LSP IV)

Religious Studies 106, Understanding Religion (LSP IV)

Religious Studies 306, Asian Religions (LSP IV)

Sociology 110, Cultural Anthropology (LSP III or LSP IV)

A non-Western NCEP course approved by the Education Department

### Instrumental Emphasis

#### Core Courses and Required Support Courses plus

Music 117, Class Voice

Music 251, String Methods

Music 252, Percussion Methods

Music 253, Woodwind Methods I

Music 254, Woodwind Methods II

Music 255, Brass Methods I

Music 256, Brass Methods II

Music 305, Conducting II: Instrumental

Music 355, Instrumental Methods

Music 358, Wind Literature and Performance Practice

Music 405, Orchestration

### Choral Emphasis

#### Core Courses and Required Support Courses plus

Secondary Applied Instrument (3 credits)

Music 304, Conducting II: Choral

Music 323, Diction (English & German)  
Music 324, Diction (French & Italian)  
Music 353, Choral Methods  
Music 357, Choral Literature and Performance Practice  
Music 366, Voice Pedagogy  
Music 405, Orchestration

### **PHOTOGRAPHY MAJOR (56 credits)**

#### **Bachelor of Science**

Students seeking an in-depth study of photography as a fine art may choose the photography major.

All majors are encouraged to attend art exhibition openings and/or workshops and field trips sponsored or approved by the Department of Visual and Performing Arts. All majors are required to create a sophomore portfolio and have a senior show and portfolio to be approved by the art faculty.

#### **Learning Outcomes for Photography**

Upon graduation, the photography student will be able to demonstrate:

1. Proficiency in the use of a variety of cameras, including digital and video.
2. Mastery in the creation and analysis of photographic images.
3. Mastery in the development of film and printing and in the presentation of the final image.
4. Knowledge of the history of photography.
5. Proficiency in the use of software to edit and manipulate images.
6. Ability to write articulately about art.
7. Ability to develop a cohesive body of work.

#### **Core Courses**

Art 103 or 104, Art History Surveys  
Art 106, Drawing and Composition  
Art 107, Beginning Design 2D and 3D  
Art 209, Photography I  
Art 215, History of Photography  
Art 250, Electronic Imaging  
Art 258, Visual Communication  
Art 300, Art History Survey  
Art 309, Photography II – Fine Art  
Art 310, Photography II – Commercial  
Art 312, Video Art  
Art 340, Advanced Media Studies  
Art 480, Internship in Art  
Art 490, Capstone in Art

#### **Required Support Courses**

2 credits of Computer Science: 107 or higher  
Graphic Communication 106, Introduction to Communication Technology

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Graphic Communication 320, Introduction to Multimedia Production  
Mathematics 112, or Mathematics 140 or higher

In addition, students are encouraged to select from the following courses:  
Business 101, Introduction to Business; Communication 203, Advertising;  
Communication 246, Video Production; Communication 254, Photojournalism; Fine  
Arts 221, Legal Issues in the Fine Arts

### THEATRE ARTS MAJOR (48 credits)

The theatre arts major is intended to prepare students for continued engagement in the theatre arts, theatre education, or graduate studies. Through traditional classroom work, participation in fully produced mainstage productions, a multifaceted student theatre season, and in-depth community partnerships, we strive to train the artist of today for the theatre of tomorrow.

#### Learning Outcomes for Theatre Arts

Upon successful completion of major requirements students will be able to demonstrate:

1. An understanding of theatre history and literature in a global context.
2. The skills necessary to take part in the collaborative theatre process.
3. A deep appreciation of theatre as a vital art form serving a diverse community.

#### Core Courses

Theatre Arts 101, Introduction to Theatre Arts  
Theatre Arts 105, Introduction to Stagecraft  
Theatre Arts 108, Introduction to Acting  
Theatre Arts 120/121, Theatre Crew  
Theatre Arts 200, Theatre Workshops  
Theatre Arts 215, European Theatre History & Literature to 1750  
Theatre Arts 216, Global Theatre History & Literature from 1750

#### Advanced Theatre Courses

(minimum of three courses/12 credits chosen from the following)

Theatre Arts 301, Contemporary Acting Styles  
Theatre Arts 302, Period Acting Styles  
Theatre Arts 305, Principles of Technical Theatre  
Theatre Arts 306, Principles of Theatre Design  
Theatre Arts 307, Directing for the Stage  
Theatre Arts 308, Writing for the Stage  
Theatre Arts 380/480, Internship in Theatre Arts  
Theatre Arts 390/490, Theatre Projects  
Theatre Arts 460, Applied Theatre: Capstone Experience I (2 credits)  
Theatre Arts 461, Applied Theatre: Capstone Experience II (2 credits)

#### Required Support Courses

Completion of a Modern Language through 202

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Students applying the theatre arts major to licensing in theatre education must complete a secondary education minor.

### ART MINOR (24 credits)

Art 103 or 104, Art History Surveys  
Art 106, Drawing and Composition  
Art 107, Beginning Design 2D and 3D  
Three 4-credit elective courses in art

### FINE ARTS ADMINISTRATION MINOR (26 credits)

The fine arts program is the home of interdisciplinary courses and a minor that bring together the disciplines of Art, Music and Theatre. These courses and programs reflect the fact that the boundaries between the traditional fine arts disciplines have become blurred, and careers in the fine arts often draw upon an array of skills and a wider knowledge base than one might acquire in a single discipline. The Arts Administration minor is designed for students with a major in Art, Photography, Theatre or Music, although it may have a broader appeal and is open to any student who is interested.

#### Program goals

- To provide students with an understanding of the requirements and responsibilities of arts administrators/managers and allow them to explore the range of opportunities available to graduates with arts management skills
- To provide students with the knowledge and skills they need to identify and take advantage of the opportunities available in the field
- To help students make connections to arts organizations and venues in the community, and to help students find high caliber internships that offer work experience in the field

#### Learning Outcomes for Fine Arts Administration

Upon completion of the minor, students will be able to:

1. Demonstrate knowledge and understanding of arts organizations and venues, how they are managed, and their relevance within the larger community
2. Demonstrate awareness of the role and responsibilities of the manager within arts organizations and/or venues and within the larger cultural and social context
3. Explain and respond to the challenges faced by arts managers and arts organizations in the areas of organization, promotion, funding and legal issues

#### Courses required for the minor:

Accounting 105, Introduction to Accounting Basics  
Business 101, Introduction to Business  
Business 301, Principles of Marketing  
Fine Arts 120, Introduction to Arts Administration  
Fine Arts 221, Legal Issues in Arts Management

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One of the following:

- Art History Survey (ART 103, 104 or 300)
- Theatre History (THE 215, 216)
- Music History (MUS 156, 312)

One of the following:

- Business 204, Start-ups and New Venture Planning
- Business 320, Promotion Management
- Communication 208, Introduction to Public Relations

### **GRAPHIC DESIGN MINOR (20 credits)**

- Graphic Communication 106, Introduction to Communication Technology (2 credits)
- Graphic Communication 150, Digital Toolbox Photoshop and Illustrator 1
- Graphic Communication 200, Color and Typography
- Graphic Communication 210, History of Graphic Design (2 credits)
- Graphic Communication 230, Digital Photography or  
Graphic Communication 330, Digital Video
- Graphic Communication 320, Introduction to Multimedia

### **MUSIC MINOR (24-28 credits)**

- Music 111, 112, Music Theory I, II
- Music 113, 114, Aural Skills
- Music 156, Listening to Classical Music
- Applied Music (four credits)
- Ensemble: four semesters (at least one credit per semester)
- Four additional elective credits from the 200-400 level

### **PHOTOGRAPHY MINOR (24 credits)**

- Art 106, Drawing and Composition,  
or Art 107, Beginning Design 2D and 3D
- Art 209, Photography
- Art 215, History of Photography
- Art 250, Electronic Imaging
- Art 309, Photography II – Fine Arts or  
Art 310, Photography II – Commercial
- Art 340, Advanced Media Studies

### **THEATRE ARTS MINOR (20 credits)**

- Theatre Arts 101, Introduction to Theatre Arts
- Theatre Arts 105, Introduction to Stagecraft
- Theatre Arts 108, Introduction to Acting
- Theatre Arts 120/121, Theatre Crew (2-4 credits)
- Theatre Arts 200, Theatre Workshops (2-4 credits)
- Theatre Arts 300, Theatre Practicum (2 credits)

**WEB DESIGN MINOR (20 credits)**

Computer Science 109, Technological Productivity (2 credits)  
Graphic Communication 106, Introduction to Communication Technology (2 credits)  
Graphic Communication 150, Digital Toolbox Photoshop and Illustrator 1  
Graphic Communication 200, Color and Typography  
Graphic Communication 320, Introduction to Multimedia  
Graphic Communication 360, Digital Flash Gaming

**ART 103. Prehistoric to Renaissance: Art History Survey L5 4 credits**

A survey of painting, sculpture, architecture and other visual arts from approximately 15,000 BC through early Renaissance. Explores historical, philosophical and cultural influences on artistic practices in the development of civilizations. (*Fa*)

**ART 104. Renaissance to Early Modernism: Art History Survey L5 4 credits**

A survey of painting, sculpture, architecture and other visual arts from the 14th century through Impressionism (approximately 1880). Explores historical, philosophical and cultural influences on artistic practices in the development of western civilization. (*Sp*)

**ART 106. (101) Drawing and Composition L5 4 credits**

An introduction to drawing with emphasis on developing observational skills using a limited variety of materials. (Required course fee) (*Fa, Sp, Su*)

**Art 107. Beginning Design 2D and 3D L5 4 credits**

A multi-imagery approach to solving design problems as related to fine and commercial art. (Required course fee) (*Fa, Sp*)

**ART 201. Painting I 4 credits**

An introduction to the study of oil painting with an emphasis on technique, color, composition using a variety of supports including stretched canvas, wood, and paper. Subject matter will focus on issues of space, place and the still life. (Required course fee) (*Fa, Sp*) Prerequisite: ART 106 or consent of instructor.

**ART 206. (202) Intermediate and Life Drawing 4 credits**

This course continues development of composition ideas in drawing with an emphasis on drawing as a visual expression requiring thought, visual clarity and imagination. A minimum of one third of the course will be drawing from the nude model. (Required course fee) (*Fa, Sp*) Prerequisite: ART 106.

**ART 209. Photography I L5 4 credits**

The student learns basic skills in photography plus darkroom procedures and directs this knowledge toward creative expression with strong emphasis on design and composition. Adjustable 35mm film camera required. (Required course fee) (*Fa, Sp*)

**ART 211. Gallery/Museum Experience 1 credit**

Preparing gallery space, scheduling exhibitions and arranging and hanging shows. Working with the Carroll University permanent collection of Wisconsin artists gaining restoration experience in matting, framing and repairing. Enrollment recommended

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during semester of senior exhibition. May be repeated up to 4 credits. (*Fa, Sp*)  
Prerequisite: Art major/minor or consent of instructor.

**ART 215. History of Photography** 4 credits

Students will study the origins and traditions of photography in both artistic and technological terms. The course will trace the evolution of photography from its beginnings in 1839 to the present. Through reading, writing, research, and oral assignments, students will learn the major figures in photography and examine important critical, cultural and social issues. Primary emphasis will be placed on cultural and aesthetic concerns of key figures in the history of photography. (*Fa*)

**ART 220. (305) Sculpture I** 4 credits

An introduction to a variety of materials, shop equipment, and contemporary sculptors in order to expose students to the broad possibilities of sculptural expression. (Required course fee) (*Sp*) Prerequisite: ART 107.

**ART 223. Creative Arts for Children** 2 credits

Focus is on children's creative expression and integration of art with curricular needs in K-6 education. This course does not count toward an art major. (Required course fee) (*Fa, Sp, Su, Wn*) Prerequisite: EDU 203.

**ART 225. (110) Ceramics I** L5 4 credits

A serious exploration of clay as an artistic medium. This class introduces the beginner to a variety of techniques with an emphasis on hand-building. (Required course fee) (*Fa, Sp, Su*)

**ART 230. (303) Printmaking I** 4 credits

A study of drawing and composition applied to the making of multiples. The course introduces the media of relief serigraphy, and etching with some opportunity for the student to specialize. (Required course fee) (*Fa*) Prerequisites: ART 106 and ART 107 or consent of instructor.

**ART 235. (307) Art Metals** 4 credits

This course covers some fundamentals of jewelry and metalsmithing including basic hand-tool knowledge fabrication techniques, soldering, stone setting and an introduction to the history of jewelry and contemporary metalwork. (Required course fee) (*Fa, odd years*)

**ART 250. (311) Electronic Imaging** 4 credits

A study of the computer as a tool for the making and manipulation of images. Although this course includes graphic designing techniques on the computer, it emphasizes photography in an electronic context. (*Fa, Sp*)

**ART 258. Visual Communication** 4 credits

Studies design as applied in the commercial and graphic arts field, including lettering, layout, preparing art for printing and package design. Also offered as COM 258. (*Sp*) Prerequisite: GRC 106.

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### ART 291/391. Special Topics in Art

2-4 credits

Study of a special topic in art that is not covered in regular course offerings. This could be a studio or art history based course. The topic will be announced before registration.

### ART 298/398. Independent Study

4 credits

Independent study of selected areas already covered by a studio course. (Required course fee) (*Fa, Sp*) Prerequisite: Approval of divisional dean and consent of instructor.

### ART 300. Early Modernism to Present: Art History Survey L5 4 credits

A survey of painting, sculpture, architecture and other visual arts from Postimpressionism (approximately 1880's) to present. Explores historical, philosophical and cultural influences on artistic practices in the development of western civilization. (*Sp*) Prerequisite: Junior standing, ART 104 recommended.

### ART 301. Painting II

4 credits

Intermediate level study of oil painting with an emphasis on self-expression and continued skill development. Subject matter will focus on abstract issues as well as introduction to narrative ideas. (Required course fee) (*Sp*) Prerequisites: ART 201 or consent of instructor.

### ART 304. Illustration

4 credits

Studies designed to develop portfolio-quality illustration in graphic design. Manual and computer techniques are explored. (Required course fee) (*Fa, even years*) Prerequisites: ART 106, 206 and 258 or consent of instructor.

### ART 306. (302) Advanced and Life Drawing

4 credits

A continuation of ART 202 with more thematic development. A minimum of one third of the course will be drawing from the nude model. Taught simultaneously with ART 206. (Required course fee) (*Sp*) Prerequisite: ART 206.

### ART 309. Photography II – Fine Art

4 credits

Advanced photographic techniques in both black and white and color with further development of creative expression. Adjustable camera required. (Required course fee) (*Sp, odd years*) Prerequisite: ART 209.

### ART 310. Photography II – Commercial

4 credits

Advanced photographic techniques in both black and white, color and digital with emphasis in commercial photography. Adjustable camera required. (Required course fee) (*Sp, even years*) Prerequisite: ART 209.

### ART 312. Video Art

4 credits

This course provides an introduction to the basic practices of time-based media, including animation, with emphasis on narrative, planning of action, and sequencing of images. Also offered as GRC 391. (*Fa*)

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### ART 313. Travel Journals

4 credits

Students will read and discuss travel writing from the region of study as well as practice the writing and drawing skills necessary to record experiences and observations. As part of the course students will travel over Spring Break, or during May term, to the country of focus. Also offered as NCEP 313. (*Sp, odd years*) Prerequisite: Consent of instructor.

### ART 320. (405) Sculpture II

4 credits

This course is taught simultaneously with ART 220. Individually created problems in sculpture that focus on continued development of skills and on thematic development. (Required course fee) (*Sp*) Prerequisite: ART 220.

### ART 325. (210) Ceramics II

4 credits

Individually created problems in ceramics as well as advanced study in glazing and firing. (Required course fee) (*Sp*) Prerequisite: ART 225.

### ART 330. (403) Printmaking II

4 credits

This course is taught simultaneously with ART 230. Advanced study in graphics with opportunity for self-direction in a concentration on one or two media. (Required course fee) (*Fa*) Prerequisite: ART 230.

### ART 340. Advanced Media Studies

4 credits

This course is designed so that students who have had the beginning and intermediate courses in a specific medium can continue their study in this area with specific focus. Students are expected to develop a body of work in a series. (Required course fee) (*Sp*) Prerequisites: The beginning and intermediate course in the same medium, or consent of the instructor.

### ART 353. Methods of Teaching Secondary Art

2 credits

This course is not included in an art major or minor but is part of the professional education program. (*Fa*) Prerequisite: Admission to the Teacher Education Program.

### ART 401. Painting III

4 credits

This course continues development in painting technique from Painting II, focusing on experiments in composition, exploring painting as process, and contemporary painting issues. In this course you will be required to do research and create a series of paintings. (Required course fee) (*Sp*) Prerequisite: ART 301.

### ART 480. Internship in Art

4 credits

Supervised professional work experience. Written report required. Limited to two semesters (8 credits) which will apply toward degree. (*Fa, Sp, Su*) Prerequisite: Consent of instructor.

### ART 490. Capstone in Art

4 credits

Preparation for senior exhibitions through regular critiques and research into contemporary art issues. Professional development in writing and speaking about art as well as portfolio preparation. (*Fa*) Prerequisite: Senior standing.

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- FAR 120. Introduction to Fine Arts Administration** 4 credits  
An introduction to the theory and practice of arts administration. The course offers historical perspective for the position of the arts in the economy, education, and public policy in the United States and shares a basic framework for developing organizational vision, planning methods, fundraising, marketing approaches and fiscal management. Students are introduced to local arts organizations, their goals and challenges. (*Sp, even years*)  
Prerequisite: BUS 101.
- FAR 221. Legal Issues in the Fine Arts** 4 credits  
This course explores some of the pressing legal issues related to the arts in contemporary society, including intellectual property law (particularly copyright), employment law, contract law, agency law, licensing and cyberlaw, as well as nonprofit status, management and funding. Legal issues related to emerging media are considered, as are the broader ethical responsibilities of artists and arts organizations. (*Fa, even year*)
- FAR 230. Book History** 4 credits  
History of the Printed Book explores the history of communication through manuscript and printed format. From Egyptian papyrus scrolls in 1370BC to Asian folded books in 930 AD to Johannes Gutenberg's 15th century 42-line Bible, this course examines the critical moments in communication and book design, typography, color use, and construction. (*Sp, alternate years*)
- GRC 106. Introduction to Communication Technology** 2 credits  
This class provides an introduction to numerous computer applications (Adobe Creative Suite) used within the field of digital communication. Special emphasis will be placed on desktop publishing software, history of graphic design, inter-environment communications, graphics formats and file handling software. (*Fa, Sp, Su*)
- GRC 150. Digital Toolbox: Photoshop and Illustrator I** 4 credits  
This course introduces Graphic Communication students to the professional design tools used by current design industry. Students will learn the differences between the raster and vector applications and the uses of each, how to access/utilize various color systems (print and web), and prepare files for final production within print, web, and multimedia. (*Fa, Sp, Su*)
- GRC 200. Color and Typography** 4 credits  
Color and Typography will explore, in detail, two of the four primary elements in digital media: the implementation of color and use of typography. Use of additive, subtractive and Pantone colors will comprise the color portion of the course; examination into word/letterforms, typefaces, and comprehension studies will comprise the typography portion of the course. (*Sp*) Prerequisite: GRC 150.
- GRC 210. History of Graphic Design** 2 credits  
The history of Graphic Design begins with cave markings from approximately 200,000 years ago and continues through to today's digital technology processes. Students will investigate specific periods in graphic design history, explore historic methods in communication, and be introduced to the global influences in graphic design. (*Fa*)

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### **GRC 230. Digital Photography**

**4 credits**

Digital Photography is designed to develop a student's skills in digital photography and its uses within print and digital presentations. Throughout the course of the semester, students will learn the differences between film and digital cameras, digital photo editing techniques, aesthetic qualities of photography, and the tools associated with digital photography. Students will learn to digitally capture images among a variety of photographic situations. Students will also learn how to prepare images for print and onscreen presentation. (\$60 course fee) (*Sp*)

### **GRC 290. Digital Toolbox: Photoshop and Illustrator II**

**4 credits**

Students will build upon their skill set acquired in Digital Toolbox Photoshop and Illustrator I. Students will explore animation, web image development, paths and shapes creation, print file preparation, automation, and execution into other digital vehicles. Students will create a variety of projects that emphasize the importance of communication and audience. (*Sp*)

### **GRC 295. 3D Digital Design**

**4 credits**

3D Digital Design affords students the opportunity to create realistic environments, characters, and objects using state-of-the-art software. Students will learn to model, paint, sculpt, render and animate for environmental design, package design, gaming, product design, and industrial design. (*Fa*)

### **GRC 320. Introduction to Multimedia Production**

**4 credits**

This course is designed as a Graphic Communication course, emphasizing artistic production using web development software (Adobe Dreamweaver), including, but not limited to: animation, digital video, and creating multimedia presentations and artworks. Multimedia, for the purposes of this course, means utilizing more than one of the following media elements: sound, images, text, video, animation, and/or interactivity, in all projects. Emphasis will be on the marriage of sound design, sophisticated content and visual interest. (*Fa*) Prerequisite: ART 250, GRC 106, or GRC 150.

### **GRC 330. Digital Video I**

**4 credits**

Students will learn how to use storyboarding techniques to develop short video project, videotape indoor and outdoor scripted scenes, edit digital video using iMovie, enhance audio, upload video to their own websites, and create DVDs/VCDs. Students will learn to identify scenes and still images that work best in a video project. Students will develop short video projects for specific and general audiences alike. (*Fa*)

### **GRC 340. Digital Video II**

**4 credits**

Students will utilize skill sets learned in Digital Video 1 to create two documentaries utilizing Final Cut Pro Studio 2 (the industry standard in video production). Students will learn the elements of defining and writing storyboards and develop scene scripting for two one-hour documentaries that address public issues. Students will learn interviewing techniques, hone video production skills, and learn the latest trends/techniques in producing social awareness videos. (*Sp*)

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### **GRC 360. Digital Flash Gaming**

**4 credits**

Students will utilize skills learned in GRC 320 to create Adobe Flash games for creative marketing application and entertainment. In addition to creating flash games, students will learn how to upload files for general audience use. Students will be assigned specific marketing projects for their Adobe Flash games for use across a wide variety of digital vehicles. Other Flash projects may be assigned during the semester to expand the student's understanding of techniques and objectives. (*Sp*)

### **GRC 391/491. Special Topics**

**1-4 credits**

Study of a selected topic not covered in the regular curriculum. The topic will be announced prior to the beginning of the semester. Four credits maximum will apply toward degree. Prerequisite: Consent of instructor.

### **GRC 450. Capstone: Projects for Graphic Communication Majors**

**4 credits**

A seminar intended to consolidate and expand your experience and education as well as a foundation for continued research as you prepare to enter your chosen field. (*Sp*) Prerequisites: All program requirements completed.

### **GRC 480. Internship in Graphic Communication**

**1-12 credits**

Professional work experience in your field under the supervision of faculty and industry personnel. Course is repeatable to a maximum of 12 credits. Each four credits should have substantially different learning experiences. 160 hours of internship work experience is expected for every 4 credit hours attempted. (*Fa, Sp, Su*) Prerequisites: Junior or senior standing and director approval. Grading is *S/U*.

## Courses offered at Waukesha County Technical College

### **GRC 110 (WCTC204110). Print Media/Digital Publishing I**

**3 credits**

Study offset lithography, flexography, and digital printing. Compare and contrast the advantages and disadvantages of the printing methods of gravure, and screen-printing. Produce single, two- and four-color printed pieces. Acquire knowledge relating to CTP, the PMS system, screens, halftones, print careers, print economics and the four-color process.

### **GRC 120 (WCTC204120). Print Media II**

**3 credits**

Print single and multicolored projects using primarily Heidelberg Printmaster GTO2 color 20-inch presses. Study the common elements of all presses the feeder, registration, printing, and delivery systems. Learn basic press maintenance and problem solving, pressroom chemistry, and safety. Become familiar with paper of various kinds, weights, textures, and sizes, as well as various types of ink. Prerequisites: GRC 106.

### **GRC 121 (WCTC204121). Digital Illustration**

**3 credits**

Enhance ability to draw on the computer with Adobe Illustrator. Learn how to apply various filters and colors to objects; create masks around objects; use the transformation tools (rotate, scale, reflect, shear, blend); create compounds and make special dashed lines to create many special effects. Prerequisites: ART 250 and GRC 106.

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**GRC 122 (WCTC204122). Post Press/Distribution** 3 credits  
Explore current and emerging technologies for binding, finishing, and distributing printed materials. Learn the basic operations of commercial bindery and finishing equipment.

**GRC 130 (WCTC204130). Print Media III** 3 credits  
Use a computerized press console to set up and operate a Heidelberg SM742 color perfecting press. Reproduce high quality line and halftone copy in multiple colors on a Komori Sprint 262 color, a Heidelberg Printmaster GTO 525 color and other two-color presses. Discuss flexographic printing and platemaking.

**GRC 135 (WCTC204139). Digital Workflows** 3 credits  
Study computer integrated manufacturing technologies as applied to commercial printing production problems. Discuss preflighting, trapping, and imposition. Learn to properly prepare and analyze digital files for output to eliminate problems that can occur during the printing production process. Prerequisites: 204121 Digital Illustration and 204131 ImageEditing/Photoshop.

**GRC 140 (WCTC204140). Estimating and Scheduling** 3 credits  
Examine the scope and functions of printing estimating. Estimate, cost, and price various printing services. Discuss topics including computers for production and management, developing a cost estimating system, estimating paper, ink electronic pre-press, press and finishing operations, and marketing and management issues. Analyze various operations within the printing industry. Prerequisites: 204139 Digital Workflows.

**GRC 141 (WCTC204141). Production Coordination/  
Customer Service** 3 credits  
Explore the commercial printing manufacturing process. Examine the role and function of the customer service representative, electronic workflows, and time requirements for production of commercially printed products that are within budget. Prerequisites: 204122 Post Press/Distribution, 204130 Print Media.

**GRC 142 (WCTC204142). Color Management** 3 credits  
Combine math, physics, and chemistry concepts with measurement and statistical process control methods to appraise, control, and improve color reproduction. Learn to use and work with densitometers, spectrodensitometers, spectrophotometers, tone reproduction control software, and color measurement software.

**MUS 105, 106\*, 107\*, 108\*. Class Piano** 1 credit  
Fundamental piano skills to establish basic piano proficiency. May be taken a maximum of four semesters. (Does not count toward major or minor.) \*106, 107 and 108 need consent of instructor. (105 & 107-Fa; 106 & 108-Sp)

**MUS 111. Music Theory I** 3 credits  
Study of the basic fundamentals of music, including rhythm and meter, keys, scales, intervals and triads. (Fa)

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**MUS 112. Music Theory II** **3 credits**  
Study of basic partwriting, development of theoretical and analytical skills. (*Sp*)  
Prerequisite: MUS 111.

**MUS 113, 114, 213, 214. Aural Skills I, II, III, IV** **1 credit**  
These courses complement the Music Theory sequence: 113 corresponds to MUS 111; 114 corresponds to MUS 112; 213 corresponds to MUS 211; and 214 corresponds to MUS 212. The goal of these courses is to develop the aural skills necessary for success in the performing or teaching fields of music. The writing of dictated rhythms, melodies, and harmonies, and the sight-singing of rhythms and melodies are the central activities of each course. Prerequisites and corequisites: the corresponding Music Theory course is a corequisite or prerequisite for each Aural Skills course, and the Aural Skills courses must be taken in numerical order.

**MUS 117. Class Voice** **1 credit**  
Class lessons to learn basic vocal skills. May be taken a maximum of two semesters.  
(*Fa, even years*)

**MUS 120. Introduction to the Music Industry** **4 credits**  
This course introduces students to the most prominent career tracks in the music industry. Students learn business skills and knowledge essential for establishing a professional music career within a variety of business-related fields, including arts management, recording industry, retail business, and arts organizations. (*Sp, even years*)

**MUS 140. Foundations of Music Education** **2 credits**  
The purpose of this course in Music Education is to introduce students to the profession in a way that will give them focus and motivation in the rest of their academic work. By understanding the role that music will play in the transformation of education in the future, students will become clear about why they are undertaking the curriculum of music study designed to result in mastery of the discipline. Students will gain a working knowledge of the Department of Public Instruction's Wisconsin Model Standards for Teacher Development and Licensure as well as the K-12 Standards in Music. Particular emphasis will be given to the role of schools within the society, curriculum development, assessment strategies, pedagogy, financial and legal aspects of schooling and governance in the public schools. (*Sp*)

**MUS 141. Workshop: Introduction to Education** **0 credits**  
This one-day (8-hour) workshop is designed to introduce students to the philosophy and requirements of the Carroll University Teacher Education Program and the Wisconsin Department of Public Instruction (DPI). The Workshop provides students with a working knowledge of the Wisconsin Model Standards for Teacher Development and Licensure and the Guiding Principles of Carroll University's Education Department. It also introduces students to topics that connect schooling and society including the social context of schooling and teaching, curriculum, financial and legal aspects of schooling, and governance in schools. It also promotes selfreflection, critical thinking and the development of a teaching philosophy. (*Sp*)

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**MUS 151. History of Jazz**

L5 4 credits

Origins and evolution of jazz to the present, emphasizing various performance styles and improvisational techniques. (*Sp, even years*)

**MUS 156. Listening to Classical Music**

L5 4 credits

This course is intended as an introductory course and focuses on the development of perceptive listening skills and a broad understanding of Western concert literature. (*Fa*)

**MUS 157. Beethoven**

L5 4 credits

Designed for the general student, the course examines the life, stylistic development and importance of Beethoven within the context of the times in which he lived. (*Sp, odd years*)

**MUS 158. Rock Music: Roots and History**

L5 4 credits

Designed for the general student, the objective of this course is to understand the origins, development, and significance of one of the most popular musical forms in the modern world. (*Sp*)

**MUS 161. Violin**

1-2 credits

(*Fa, Sp*)

**MUS 162. Viola**

1-2 credits

(*Fa, Sp*)

**MUS 163. Cello**

1-2 credits

(*Fa, Sp*)

**MUS 164. Bass**

1-2 credits

(*Fa, Sp*)

**MUS 165. Guitar**

1-2 credits

(*Fa, Sp*)

**MUS 166. Harp**

1-2 credits

(*Fa, Sp*)

**MUS 167. Piano**

1-2 credits

(*Fa, Sp*)

**MUS 168. Organ**

1-2 credits

(*Fa, Sp*)

**MUS 169. Voice**

1-2 credits

(*Fa, Sp*)

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MUS 170. Flute (Fa, Sp)	1-2 credits
MUS 171. Oboe (Fa, Sp)	1-2 credits
MUS 172. Clarinet (Fa, Sp)	1-2 credits
MUS 173. Bassoon (Fa, Sp)	1-2 credits
MUS 174. Saxophone (Fa, Sp)	1-2 credits
MUS 175. Horn (Fa, Sp)	1-2 credits
MUS 176. Trumpet (Fa, Sp)	1-2 credits
MUS 177. Trombone (Fa, Sp)	1-2 credits
MUS 178. Tuba (Fa, Sp)	1-2 credits
MUS 179. Percussion (Fa, Sp)	1-2 credits
MUS 185. Concert Choir Prerequisite: Placement audition and approval of conductor. (Fa, Sp)	1 credit
MUS 186. Vocal Collective Prerequisite: Placement audition and approval of conductor. (Fa, Sp)	1 credit
MUS 187. Women's Ensemble Prerequisite: Placement audition and approval of conductor. (Fa, Sp)	1 credit
MUS 188. Wind Symphony Prerequisite: Placement audition and approval of conductor. (Fa, Sp)	1 credit
MUS 189. Jazz Ensemble Prerequisite: Placement audition and approval of conductor. (Fa, Sp)	1 credit

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### MUS 190. Chamber Music

1 credit

Section A-Brass, Section B-Strings, Section C-Flute Choir, Section D-Woodwinds, Section E-Piano, Section F-Handbell Choir. Prerequisite: Placement audition and approval of conductor. Prerequisite: Permission of conductor. (*Fa, Sp*)

### MUS 191. Chamber Orchestra

1 credit

Prerequisite: Permission of the conductor. (*Fa, Sp*)

### MUS 192. The Carroll Chorale

1 credit

Prerequisite: Permission of the conductor. (*Fa, Sp*)

### MUS 193. Choral Union (community chorus)

1 credit

Prerequisite: Placement audition and approval of music faculty. (*Fa, Sp*)

### MUS 194. Waukesha Area Symphonic Band

1 credit

Prerequisite: Permission of the conductor (*Fa, Sp*)

### MUS 211. Music Theory III

3 credits

A continuation of MUS 112, this course presents chromatic harmony with particular emphasis on how it is used by composers in selected music literature. (*Fa*) Prerequisite: MUS 112.

### MUS 212. Form and Analysis

3 credits

This course involves detailed harmonic and formal analysis of representative works from the Baroque through the present. (*Sp*) Prerequisites: MUS 211 or consent of instructor.

### MUS 231H. Fin de Siècle: Birth of the Modern Age in Paris and Vienna

L5

4 credits

This interdisciplinary honors course traces the fine arts between 1885 and 1914. While concentrating on music and visual arts, the course also presents an intellectual, literary, and social portrait of Europe. (*Sp, even years*)

### MUS 241. Workshop: Education in a Multicultural Context

0 credits

This one-day (8-hour) workshop is designed to satisfy the current DPI requirements for education in cultural diversity for K-12 certification in the state of Wisconsin. The Workshop on Education in a Multicultural Context provides students with an overview of multicultural education as it stands within our current society and educational system. It specifically focuses on how issues of race, ethnicity and gender impact choices made in the classroom. The workshop engages students in critical thinking about the theoretical, conceptual, and political opinions that fuel and influence the debate over multicultural education. (*Sp, odd years*)

### MUS 251. String Methods

1 credit

Development of basic performance skills, maintenance methods, and materials for the teaching of strings in the public schools. Violin, viola, cello, and bass will be covered. (*Every third year beginning in Fa10*)

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- MUS 252. Percussion Methods** 1 credit  
Development of basic performance skills, maintenance methods, and materials for the teaching of percussion in the public schools. Snare and bass drums, timpani, drum set, all mallet instruments and auxiliary percussion will be covered. (*Every third year beginning in Sp11*)
- MUS 253, 254. Woodwind Methods I & II** 1 credit  
This course is designed to provide students with the skills necessary to teach the woodwind instruments in large and small group settings in the public schools. Students will learn to perform on each of the major woodwind instruments. Woodwind Methods I will cover flute and the single reed instruments (clarinet and saxophone) whereas Woodwind Methods II will cover the more complicated double reed instruments (bassoon and oboe). Instruments will be provided for students' use during the course. (*253-every third year beginning in Fa11; 254-every third year beginning in Sp12*)
- MUS 255, 256. Brass Methods I & II** 1 credit  
This two-course sequence is designed to provide students with the skills necessary to teach the brass instruments in large and small group settings in the public schools. Students will learn to perform on each of the major brass instruments. Brass Methods I will cover the high brass (trumpet and horn) whereas Brass Methods II will cover the lower brass (trombone, euphonium and tuba). Instruments will be provided for students' use during the course. (*255-every third year beginning in Fa12; 256-every third year beginning in Sp13*)
- MUS 291/391. Topics in Music** 2-4 credits
- MUS 298/398. Independent Study in Music** 1-4 credits  
Prerequisite: Junior standing, approval of the divisional dean and consent of instructor.
- MUS 303. Conducting I** 2 credits  
Fundamentals of conducting including baton technique, score reading and rehearsal procedures. (*Sp, even years*) Prerequisite: MUS 211 and MUS 213.
- MUS 304. Conduction II: Choral** 2 credits  
(*Fa, even years*) Prerequisite: MUS 303.
- MUS 305. Conducting II: Instrumental** 2 credits  
(*Fa, even years*) Prerequisite: MUS 303.
- MUS 307. Practical Keyboard Harmony** 1 credit  
Practical keyboard facility, including harmonic progressions, modulation, figured bass realization, transposition and score reading. (*Fa*) Prerequisite: MUS 211.
- MUS 310. Music Technology** 2 credits  
An overview of educational music software with hands-on experience. Integrating and planning software lessons into the existing music curriculum will be stressed. Both

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Mac and Windows are used. (Music education majors may use this course as a substitute course for EDU 265.) (*Sp*)

**MUS 311. Music History I: Early Music through the Baroque Period** 4 credits

Surveys Western music from Antiquity through the Baroque period, with particular emphasis on music literature and identification of stylistic characteristics of each period. (*Fa, even years*)

**MUS 312. Music History II: Classic and Romantic Periods** L5 4 credits

Designed for the music major as well as the general student, this course traces the development of Western music from the Classical period through the Romantic period (1750-1900). Ability to read music required. (*Sp, odd years*) Prerequisite: ENG 170.

**MUS 313. Music History III: The 20th Century** 2 credits

This course continues with the study of music history begun in MUS 311 and 312, concentrating on 20th century style characteristics, major composers, "isms," forms, techniques, terminology, and actual music from 1900 until the present. Study of the social, philosophical, and political background against which all this music unfolded will also be a focus of the course. (*Fa, odd years*)

**MUS 323, 324. Diction** 1 credit

Develops a basic understanding of the International Phonetic Alphabet as applied to the mastery of foreign language pronunciation for singing. 323 is English and German diction and is a prerequisite for MUS 324; 324 is French and Italian diction. (323-*Fa, even years*; 324-*Sp, odd years*)

**MUS 350. Materials and Techniques of Elementary Music** 2 credits

Fundamental music skills, methods and materials for the elementary classroom teacher. (*Fa, Sp, Su*)

**MUS 353. Choral Methods** 4 credits

Organization and administration of choral music curricula. Observation and participation in the classroom. Investigation of historical and contemporary philosophies of choral music education. (*Fa, odd years*) Prerequisite: Admission to the Teacher Education Program.

**MUS 354. General Music in the Schools** 2 credits

Organization and administration of general music curricula in grades K-12. Survey and application of European and American trends in teaching methodology and materials. Observation and participation in the classroom. (*Sp, odd years*) Prerequisite: Admission to the Teacher Education Program.

**MUS 355. Instrumental Methods** 4 credits

Explores methods and materials used in teaching instrumental music in grades K-12. Observation and participation in the classroom. (*Fa, odd years*) Prerequisite: Admission to the Teacher Education Program.

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- MUS 357. Choral Literature and Performance Practice** 2 credits  
This course provides students with broad knowledge of representative repertoire for all levels and sizes of ensembles from the 5th-grade choir to the professional ensemble. The course will introduce students to a viable philosophy of music and establish why the choice of quality repertoire in educational settings is of critical importance to the success of music teaching. Traditional interpretations of core repertoire will be studied through various recordings. (*Sp, odd years*) Prerequisite: MUS 211.
- MUS 358. Wind Literature and Performance Practice** 2 credits  
This course provides students with broad knowledge of representative repertoire for all levels and sizes of ensembles from the 5th-grade band to the professional wind ensemble. The course will introduce students to a viable philosophy of music and establish why the choice of quality repertoire in educational settings is of critical importance to the success of music teaching. Traditional interpretations of core repertoire will be studied through various recordings. (*Sp, odd years*) Prerequisite: MUS 211.
- MUS 359. Orff/Kodaly Methods** 4 credits  
This is a course designed to increase each student's knowledge and understanding of music teaching materials, methodologies, and techniques of teaching general music at the elementary school level using the methodologies of Orff and Kodaly. Systems of teaching developed by others, such as Dalcroze, will be studied and put into practice as well. (*Fa, odd years*) Prerequisite: MUS 354.
- MUS 366. Voice Pedagogy** 2 credits  
The study of voice production and how to recognize and solve vocal problems. Students have the opportunity to teach voice lessons under the guidance of the instructor. (*Fa, odd years*)
- MUS 405. Orchestration** 2 credits  
A study of modern orchestral and band instruments; practical application through scoring exercises for various ensembles. (*Sp, odd years*) Prerequisite: MUS 211.
- MUS 430. Vocal Literature** 2 credits  
A study of literature available for the voice, including the art song and oratorio and operatic literature beginning with the Baroque period. (*Sp, even years*) Prerequisite: MUS 211.
- MUS 470, 471. Junior Recital/Senior Recital** 1 credit  
This course is taken in conjunction with applied lessons in the semester in which the student is presenting a junior (470) or senior (471) recital, resulting in an applied lesson worth three credits for those semesters. Additional rehearsals outside of regular lessons are required. An applied music fee will be charged in addition to full tuition for this course.
- MUS 480. Capstone: Music Business Emphasis** 3 credits  
The capstone course for the music business major. This course is usually taken at a business or arts organization.

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**MUS 497. Capstone: Music Performance Emphasis** 2 credits  
During the semester in which the senior recital is presented, students will enroll in 497 in lieu of the regular Applied Music number. Students will work with the applied teacher in the presentation of a public recital. This will include research and the development of the ability to communicate clearly in written program notes. Further, demonstration of a high level of mastery of the voice/instrument is expected. Corequisite: MUS 471. Prerequisite: senior standing. Regular applied music fee will be charged. Periodic group meetings with all capstone students are required.

**MUS 499. Capstone: Liberal Arts Emphasis** 2 credits  
During the semester in which the senior recital is presented, students will enroll in 499 in lieu of the regular Applied Music number. Students will work with the applied teacher in the presentation of a public recital. This will include research and the development of the ability to communicate clearly in written program notes. Further, demonstration of a high level of mastery of the voice/instrument is expected. Corequisite: MUS 471. Prerequisite: senior standing. Regular applied music fee will be charged. Periodic group meetings with all capstone students are required.

**THE 100. Theatre Participation** 1 credit  
Participation in either Mainstage or Studio Season theatre productions as an actor or technician. Course does not count toward the major or minor. (*Fa, Sp*)

**THE 101. Introduction to Theatre Arts** L5 4 credits  
Survey course focusing on the development of theatre, as well as an investigation of the literature and the practitioners of the art form. Course activity includes theatre performance field trips, reading of plays and oral and/or written theatre criticism. (Required course fee) (*Fa, Sp*)

**THE 105. Introduction to Stagecraft** 4 credits  
Survey course focusing on basic aspects of set construction, stage electrics, costume construction and the integration of these elements in theatrical design. (*Sp*)

**THE 108/108L. Introduction to Acting and Stage Makeup Lab** 4 credits  
Survey course focusing on fundamental acting techniques, the rehearsal process, and preparation for acting on the stage through improvisation, monologues and scene work. (Required course fee) (*Fa*)

**THE 120/121. Theatre Crew** 1 credit  
Student participation in running or preparing the technical aspects of Theatre Arts program Mainstage or Studio shows. (*Fa, Sp*)

**THE 200. Theatre Workshops** 2 credits  
Intensive practical work in various specialized topics within the Theatre Arts. Course may be repeated as topics will vary. (Required course fee) (*Fa, Sp*)

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**DEPARTMENT OF VISUAL AND PERFORMING ARTS**

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- THE 215. European Theatre History and Literature to 1750** L5 4 credits  
The traditions of the Euro-American theatre from origins to 1750 are investigated in terms of theatre conventions and drama of the various periods. (*Fa*)
- THE 216. Global Theatre History and Literature from 1750** L5 4 credits  
Concentration upon North American and European drama, Asian, Latin American and African theatre conventions and drama are presented. (*Sp*)
- THE 291/391. Special Studies/Topics in Theatre** 1-4 credits  
Study of a selected topic not covered in regular course offerings. The topic will be announced prior to registration. Four credits maximum will apply toward degree. (*Fa, Sp*)
- THE 296/396. Special Studies/Research in Theatre** 1-4 credits  
Advanced research allows individual students or groups of students to undertake special projects related to their program emphasis. Four credits maximum will apply toward degree. (*Fa, Sp*) Prerequisite: Approval of the divisional dean departmental chair and consent of instructor.
- THE 298/398. Independent Study in Theatre** 1-4 credits  
Independent study of selected areas under the supervision of one or more members of the faculty. Required for program honors. (*Fa, Sp*) Prerequisite: Approval of the divisional dean departmental chair and consent of the instructor.
- THE 300. Theatre Practicum** 1 credit  
Supervised production work in the areas of theatre administration, stage management, scenery, lighting, costuming or acting. (*Fa, Sp*)
- THE 301. Contemporary Acting Styles** 4 credits  
Explores advanced techniques of acting, voice, and movement for use in modern theatre genres. (*Sp, odd years*) Prerequisites: THE 108, THE 216 or consent of instructor.
- THE 302. Period Acting Styles** 4 credits  
Explores advanced acting, voice, and movement techniques for use in classic theatre genres. (*Sp, even years*) Prerequisites: THE 108, THE 215 or consent of instructor.
- THE 305. Principles of Technical Theatre** 4 credits  
Exploration of theories and practices and further advancement of skills employed in the areas of scene painting, scenic carpentry and rigging. (*Fa, odd years*) Prerequisites: THE 105, THE 216 or consent of instructor.
- THE 306. Principles of Theatre Design** 4 credits  
Exploration of theories and practices employed in the areas of scenic, lighting, costume and sound design. (*Fa, even years*) Prerequisites: THE 105, THE 216 or consent of instructor.

## DEPARTMENT OF VISUAL AND PERFORMING ARTS

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### **THE 307. Directing for the Stage**

**4 credits**

Practical course in directing for the stage, focusing on script analysis, script preparation, casting concerns, staging techniques, and design strategies, culminating in a directorial concept presentation based on a contemporary play. (*Fa, odd years*)  
Prerequisites: THE 101, THE 216 or consent of instructor.

### **THE 308. Writing for the Stage**

**4 credits**

Practical course in writing for the stage, including a study of basic dramatic structures and the analysis of weekly writing assignments, focusing on structure, style, and imagination, and culminating in a final term project of a one-act play. (*Fa, even years*)  
Prerequisites: THE 101, THE 216 or consent of instructor.

### **THE 380/480. Internship in Theatre Arts**

**1-4 credits**

Professional work experience under supervision of selected theatre faculty and professionals; written report required. Instructor approval required prior to registration. (*Fa, Sp, Su*)

### **THE 390/490. Theatre Projects**

**1-4 credits**

Special theatre production or tour experiences established by the program. Announcements of specific projects to be offered are made as they are developed.

### **THE 460/461. Applied Theatre: Capstone Experience**

**2 credits**

Under faculty supervision students will complete one or more projects in the areas of theatre management, directing, playwriting, dramaturgy, stage management, theatre design, technical direction, acting, theatre education and the business of theatre. (*Fa, Sp*) Prerequisite: Senior standing as a Theatre Arts major.

DIVISION OF HUMANITIES AND SOCIAL SCIENCES  
DEPARTMENT OF  
COMMUNICATION AND  
SOCIOLOGY

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Joseph M. Dailey	Associate Professor of Communication
Joseph J. Hemmer Jr.	Professor of Communication
Rebecca S. Imes	Assistant Professor of Communication
Barbara L. King	Associate Professor of Communication and Department Chair
Richard H. Coon	Associate Professor of Sociology
Timothy J. Fiedler	Associate Professor of Sociology
Mark Pioli	Visiting Assistant Professor of Sociology

The Department of Communication and Sociology offers majors in communication, criminal justice and sociology, as well as minors in criminal justice, liberal arts communication, secondary education speech communication, and sociology.

### COMMUNICATION MAJOR

The communication major offers four emphases to prepare students for careers in journalism, public relations, advertising, teaching, management, human resources and for advanced education in graduate school. The curriculum follows a sequence for student development. As freshmen, students learn the principles of, and have experiences in, various contexts of communication. They also become familiar with the methods of communication research (100-level courses). As sophomores, students become acquainted with specialized subject matters primarily through lecture/discussion classes (200-level courses). As juniors, students engage in critical thinking and improve writing skills (300-level courses). As seniors, students participate in advanced research and work-oriented experiences.

#### Learning Outcomes for Communication

Upon successful completion of major requirements, students are expected to demonstrate:

1. An understanding of the theories and principles of human communication that will facilitate their professional and personal effectiveness.
2. Skill in responsible and sensitive communication with diverse others.
3. The ability to conduct systematic inquiry skillfully.
4. The ability to develop and convey oral and written messages effectively.

## DEPARTMENT OF COMMUNICATION AND SOCIOLOGY

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### Core Courses

Communication 101, Principles of Communication  
Communication 150, Research Methodology  
Communication 207, Intercultural Communication  
Communication 499, Senior Capstone Seminar

### Journalism Emphasis Bachelor of Science

#### Core Courses, plus

Communication 137, News Writing and Reporting  
Communication 237, Advanced News Writing and Reporting  
Communication 250, Society and Mass Media  
Communication 328, Communication Ethics  
Communication 350, Communication Law  
Communication 380, Internship in Communication or  
Communication 396, Research in Communication

Two of the following:

Communication 254 or Graphic Communication 230  
Communication 275  
Communication 278

#### Required Support Courses (Required for primary majors only)

Computer Science 107 or higher  
Graphic Communication 106  
Mathematics 112, or Mathematics 140 or higher  
Politics 141

### Liberal Arts Emphasis Bachelor of Arts

#### Core Courses, plus

Three of the following:

Communication 317, Communication Criticism  
Communication 319, Communication Theory  
Communication 328, Communication Ethics  
Communication 350, Communication Law  
Communication 370, Communication Technology and Society

Three elective four-credit courses in communication

#### Required Support Courses (Required for primary majors only)

Option 1

Completion of a Modern Language through 202 or

Option 2

English 255  
History 103 or 104  
History 108 or Religious Studies 106

**Public Relations Emphasis**

**Bachelor of Science**

**Core Courses, plus**

Communication 137, News Writing and Reporting  
Communication 203, Advertising  
Communication 208, Introduction to Public Relations  
Communication 227, Technical Writing in Organizations  
Communication 350, Communication Law  
Communication 380, Internship in Communication or  
Communication 396, Research in Communication

One of the following:

Communication 317, Communication Criticism  
Communication 319, Communication Theory  
Communication 328, Communication Ethics  
Communication 370, Communication Technology and Society

**Required Support Courses (Required for primary majors only)**

Computer Science 107 or higher  
Graphic Communication 106  
Mathematics 112, or Mathematics 140 or higher  
One of the following: Art 107, Business 301, English 305, Politics 141, Psychology 228,  
or Sociology 217

**Relational Communication Emphasis**

**Bachelor of Science**

**Core Courses, plus**

Communication 200, Interpersonal Communication  
Communication 202, Small Group Communication  
Communication 227, Technical Writing in Organizations  
Communication 230, Organizational Communication  
Communication 250, Society and Mass Media  
Communication 290, Health Communication  
Communication 319, Communication Theory or  
Communication 317, Communication Criticism  
Communication 328, Communication Ethics or  
Communication 350, Communication Law  
Communication 380, Internship in Communication or  
Communication 396, Research in Communication

One of the following:

Communication 241, 317, 319, 328, 350

**Required Support Courses (Required for primary majors only)**

4 credits of Computer Science numbered 107 or above  
Mathematics 112

One of the following:

- Psychology 221
- Psychology 250H
- Sociology 213
- Sociology 217
- Sociology 305
- Sociology 318

## **CRIMINAL JUSTICE MAJOR**

### **Bachelor of Science**

The criminal justice major is designed to meet the needs of students considering a career in the criminal justice system, including law enforcement, law and the courts and corrections. The major has an interdisciplinary liberal arts focus, emphasizing social science knowledge as well as basic communication and intellectual skills. We offer courses that help students understand the structure and philosophy of the American criminal justice system including the dimensions and causes of crime and delinquency, theories of crime prevention and control, the history, nature and theories of law enforcement, the basis and operation of criminal courts, and the philosophies and practices of various correctional institutions and programs, including corrections in the community.

### **Learning Outcomes for Criminal Justice**

Students successfully completing the major are expected to:

1. Demonstrate an understanding of the structure, philosophy and administration of the criminal justice system.
2. Show a basic understanding of the history, development and practice of corrections.
3. Describe and apply criminological theory.
4. Display a basic understanding of criminal law and procedure.
5. Demonstrate knowledge of the history and practice of law enforcement.
6. Utilize and evaluate appropriate research and analytical methods in criminal justice.
7. Practice effective communication skills.

### **Core Courses**

Sociology 102, Sociology of Social Problems  
Sociology 103, Introduction to Criminal Justice  
Sociology 211, Juvenile Delinquency or  
Sociology 212, Criminology  
Sociology 230, Fundamentals of Interviewing  
Sociology 304, Introduction to Criminal Law or  
Sociology 307, Corrections in American Society  
Sociology 311, Methods of Social  
Research Sociology 481, Capstone: Internship in Criminal Justice

Four elective courses from the following:

- Communication 241, Communication and Conflict
- Communication 350, Communication Law
- History 305, Recent America
- Psychology 201, Abnormal Psychology or  
Psychology 221, Life Span Psychology
- Sociology 211, Juvenile Delinquency or  
Sociology 212, Criminology (whichever is not taken as a part of the core above)
- Sociology 213, Minority Groups in American Society
- Sociology 220, Police in Society
- Sociology 301, Social Change and the Future of Society
- Sociology 303, Criminal Procedure, Evidence and Investigation
- Sociology 304, Introduction to Criminal Law or  
Sociology 307, Corrections in American Society (whichever is not taken as a part of the core above)
- Politics 335, Public Administration

**Required Support Courses** (Required for primary majors only)

- 4 credits of computer science including Computer Science 107
- Mathematics 112, Introduction to Statistics
- Politics 141, Introduction to American Politics

## SOCIOLOGY MAJOR

### Bachelor of Science

The mission of the Sociology major is to prepare students to use sociological theory, methods and empirical evidence to critically examine the social world. Students will develop a sociological perspective grounded in social justice and sustainability. Primary to the mission of the major is the cultivation of a well-rounded understanding of the discipline of sociology that contributes to informed citizenship, lifelong learning, and an understanding of a diverse and changing social world.

### Learning Outcomes for Sociology

Upon successful completion of major requirements students will be able to:

1. Demonstrate an awareness of the scope and diversity of societal/cultural elements addressed by the field of sociology.
2. Use and apply sociological concepts, research methods and theoretical perspectives to make sense of their world.
3. Use the sociological imagination to recognize and describe how institutional patterns and social structural forces shape many aspects of individual life.

### Core Courses

- Sociology 101, Introduction to Sociology
- Sociology 308, Sociological Theory
- Sociology 311, Methods of Social Research
- Sociology 399, Capstone in Sociology
- Six elective courses in sociology

## **DEPARTMENT OF COMMUNICATION AND SOCIOLOGY**

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### **Required Support Courses** (Required for primary majors only)

4 credits of computer science including Computer Science 107

Mathematics 112, Introduction to Statistics

Communication 207, Intercultural Communication or

English 255, Postcolonial Literature or

Philosophy 207, History and Philosophy of Science

### **CRIMINAL JUSTICE MINOR**

Sociology 103, Introduction to Criminal Justice

Sociology 211, Juvenile Delinquency or

Sociology 212, Criminology

Three elective courses from among the following:

Sociology 211 or

Sociology 212 (whichever not taken from above)

Sociology 213, Minority Groups in American Society

Sociology 220, Police in Society

Sociology 303, Criminal Procedure, Evidence and Investigation

Sociology 304, Introduction to Criminal Law

Sociology 307, Corrections in American Society

### **LIBERAL ARTS COMMUNICATION MINOR**

Communication 101, Principles of Communication

One of the following:

Communication 317, 319, 328, 350, 370

Three elective four-credit courses in Communication

### **SECONDARY EDUCATION SPEECH COMMUNICATION MINOR**

Communication 101, Principles of Communication

Communication 111, Debate and Forensic Activities (one credit)

Communication 200, Interpersonal Communication or

Communication 202, Small Group Communication

Communication 250, Society and Mass Media

Communication 317, Communication Criticism

Communication 319, Communication Theory

One elective four-credit course in communication

### **SOCIOLOGY MINOR**

Sociology 101, Introduction to Sociology

Sociology 308, Sociological Theory or

Sociology 311, Methods of Social Research

Three elective courses in sociology

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**DEPARTMENT OF COMMUNICATION AND SOCIOLOGY**

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<b>COM 101. Principles of Communication</b>	<b>L3</b>	<b>4 credits</b>
Introduction to human communication process. Application of principles in relational, public and mass media contexts. <i>(Fa, Sp)</i>		
<b>COM 111. Debate and Forensic Activities</b>		<b>1 credit</b>
<i>(Fa)</i> Prerequisite: Consent of instructor.		
<b>COM 137. News Writing and Reporting</b>		<b>4 credits</b>
Basic writing and reporting for newspapers, magazines, the Internet, and other media. <i>(Fa, Sp)</i>		
<b>COM 150. Research Methodology</b>	<b>L1</b>	<b>4 credits</b>
Study of the principles of experimental, survey, textual and naturalistic methodologies. <i>(Fa, Sp)</i>		
<b>COM 200. Interpersonal Communication</b>		<b>4 credits</b>
Study of dyadic relationships. Topics include intimacy, uncertainty, disclosure, identity, competence, transactional paradigms and goals. <i>(Fa)</i>		
<b>COM 202. Small Group Communication</b>		<b>4 credits</b>
Study of small group process, models and theories. Participation in casual, cathartic, therapeutic, learning and decision-making groups. <i>(Fa, even years)</i>		
<b>COM 203. Advertising</b>		<b>4 credits</b>
Examines the components of an advertising campaign. Includes units on persuasion, market research, target analysis, creative strategy and media planning. <i>(Fa)</i>		
<b>COM 207. Intercultural Communication</b>	<b>L4</b>	<b>4 credits</b>
Identifies parameters which affect communication across cultures. <i>(Fa, Sp)</i>		
<b>COM 208. Introduction to Public Relations</b>		<b>4 credits</b>
Examines theory, scope, techniques, and influence of public relations in society. Includes units on public opinion, message preparation, media selection, and ethics. <i>(Sp)</i>		
<b>COM 227. Technical Writing in Organizations</b>		<b>4 credits</b>
Provides understanding of principles related to audience adaptation, format, style, research, and writing in various organizational settings. Includes extensive writing experience. <i>(Fa, Sp)</i>		
<b>COM 230. Organizational Communication</b>		<b>4 credits</b>
Examines theoretical history, structures, functions, systems, analysis and management of communication processes in complex organizations. <i>(Fa, odd years)</i>		
<b>COM 237. Advanced News Writing and Reporting</b>		<b>4 credits</b>
This course expands on existing skills, enabling students to research and write more specialized news stories for print and online media. The class will emphasize comput-		

## DEPARTMENT OF COMMUNICATION AND SOCIOLOGY

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er-assisted reporting, interviewing techniques, development of story ideas and self-editing. (*Sp*) Prerequisite: COM 137 or similar experience.

**COM 241. Communication and Conflict** 4 credits  
Study of interpersonal conflict processes. Emphasis on application of theory; analysis of ongoing conflict and management. (*Sp*)

**COM 246. Video Production** 4 credits  
Intensive experience in the process of television field production; focuses on single camera, field/remote production techniques. (*Fa, odd years*)

**COM 250. Society and Mass Media** L3 4 credits  
Surveys the history and influence of print, radio, film and television in society. Examines the political theories that relate to government control over the media. (*Sp*)

**COM 254. Photojournalism** 4 credits  
An introduction to digital photography with an emphasis on photography for print and online media. (*Fa, odd years*)

**COM 258. Visual Communication** 4 credits  
Studies basic graphic processes for print. Emphasizes principles of design and typography. Also offered as ART 258. (*Sp*) Prerequisite: Consent of instructor, GRC 106.

**COM 275. Feature Writing** 4 credits  
Planning and writing feature stories for newspapers and magazines. (*Fa, even years*) Prerequisite: COM 137 or similar experience with the consent of instructor.

**COM 278. Broadcast News Reporting** 4 credits  
Principles and techniques of broadcast news reporting, writing and editing. (*Sp, odd years*) Prerequisite: COM 137 or similar experience with the consent of instructor.

**COM 290. Health Communication** 4 credits  
Explore concepts and theories of communication and health. Examine interpersonal issues including clinician-patient, family, and social support as well as topics of mass communication including health communication campaigns and how the news/entertainment media present and affect health information. (*Sp, odd years*)

**COM 291/391. Topics in Communication** 4 credits  
Intensive investigation of special subject matter not covered in regular course offerings. Students may take more than one of these topics courses. Prerequisite (for 300-level): Junior standing or consent of instructor.

**COM 296/396. Research in Communication** 1-4 credits  
Supervised research of significant problem area within communication field. Prerequisites: Senior standing, approval of the divisional dean and consent of instructor.

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**DEPARTMENT OF COMMUNICATION AND SOCIOLOGY**

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- COM 298/398. Independent Study in Communication** 1-4 credits  
Prerequisite: Junior or senior standing, approval of the divisional dean and consent of instructor.
- COM 317. Communication Criticism** 4 credits  
Studies various approaches to criticism. Provides experience in criticism of diverse messages. (*Fa, odd years*) Prerequisite: Junior standing or consent of instructor.
- COM 319. Communication Theory** 4 credits  
Consideration of theoretical ideas about the psychology of communication, language, manipulation, information, communication effects and other subjects. (*Fa*) Prerequisite: Junior standing or consent of instructor.
- COM 328. Communication Ethics** 4 credits  
Considers a variety of frameworks for the evaluation of communication ethics. Students examine controversial issues and cases. (*Sp*) Prerequisite: Junior standing or consent of instructor.
- COM 350. Communication Law** 4 credits  
Examines First Amendment communication freedoms. Considers dissent, association, academic freedom, obscenity, defamation, privacy, copyright, news gathering, electronic media regulation and other topics. Uses moot-court format. (*Fa*) Prerequisite: Junior standing or consent of instructor.
- COM 370. Communication Technology and Society** 4 credits  
Considers personal, ethical, legal, social and other impacts of communicating in an information-technical based society. Involves an intensive research project culminating in a reviewed presentation. (*Sp*) Prerequisite: Junior standing or consent of instructor.
- COM 380/480. Internship in Communication** 1-4 credits  
Student intern experience. Prerequisite: Junior or senior standing; communication major and approval of adviser required prior to registration. S/U graded.
- COM 383/483. Prior Work Experience in Communication** 1-4 credits  
Professional work experience can substitute for required internship. S/U graded.
- COM 499. Senior Capstone Seminar** 4 credits  
Participation in advanced research and work-oriented experiences. (*Fa*) Prerequisite: COM 150 and senior standing.
- SOC 101. Introduction to Sociology** L3 4 credits  
An introduction to sociological concepts, explanations, and research findings to enable students to better understand the society in which they live and their place in that society. Topics include: culture, inequality, social relationships, deviance, membership in groups and social institutions such as education, religion and the family. (*Fa, Sp*)

## DEPARTMENT OF COMMUNICATION AND SOCIOLOGY

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### **SOC 102. Sociology of Social Problems**

L3

4 credits

A survey and analysis of major problem areas in contemporary American society, including areas such as drug use and abuse, family issues, poverty, crime, delinquency, environmental issues and war. (*Fa, Sp*)

### **SOC 103. Introduction to Criminal Justice**

4 credits

A survey of the history, structure, functions and operations of the primary components in the criminal justice system in the United States including law enforcement, courts and corrections. Includes an analysis of current issues such as discretion, sentencing practices, disparities in sentencing, and alternatives to incarceration. May not be counted toward a sociology major or minor. (*Fa, Sp*)

### **SOC 110. Cultural Anthropology**

L3, L4

4 credits

The study of literate and nonliterate cultures from throughout the world using basic anthropological concepts. Explores descriptive data from a variety of cultures and the general patterns that exist across cultures. Includes topics such as culture, language, subsistence, stratification, family, kinship, descent, religion, social control and cultural change. (*Fa, Sp, Su*)

### **SOC 202. Society and Ecology**

4 credits

This course examines the relationships between the cultural and structural patterns of society and the ecosystem. The course focuses on a critical examination of contemporary social systems and their relationships to the natural environment. It investigates the role culture plays in affecting human relationships with the earth and how the belief systems of a people shape their perspective regarding the role of humans in the natural world. Students identify and examine parameters of sustainable social systems. (*Sp*) Prerequisite: SOC 101 or 102.

### **SOC 211. Juvenile Delinquency**

4 credits

A general survey and analysis of juvenile delinquency. Includes explanations of juvenile delinquency as deviant behavior with an emphasis on the nature, extent and causes of delinquency. Explores factors such as social structure, school, family and peers that have a major impact on juveniles. Also explores the role of police courts and the nature and history of attempts to control, prevent and treat delinquents. (*Fa*) Prerequisite: SOC 101, 102 or 103.

### **SOC 212. Criminology**

4 credits

A general survey and analysis of crime. Explores criminological theory, societal values with respect to crime, criminal behavior systems and criminal processing systems including police, courts and correctional procedures. (*Sp*) Prerequisite: SOC 101, 102 or 103.

### **SOC 213. Minority Groups in American Society**

4 credits

Analysis of what minority groups are, how they are formed, persist and change. Includes the study of a variety of minority groups such as ethnic, racial, sexual and other minority groups and the relationships between minority groups and majority groups in society. (*Fa*) Prerequisite: SOC 101 or 102.

**SOC 217. Social Psychology**

**4 credits**

The study of how people are influenced by and relate to one another. Explores how membership in groups and organizations influences the thoughts, feelings, and actions of people. Includes topics such as socialization, attitudes, conformity, leadership, power, persuasion, aggression, attraction and collective behavior. (Sp) Prerequisite: One course in sociology or psychology.

**SOC 220. Police in Society**

**4 credits**

A study of the history, goals, organization, structure and role of police in American society. Addresses a range of critical issues facing police and society including police culture, discretion, ethics, use of force, legal boundaries, police work and community relations. This course is not a how-to training course for police officers. May not be counted toward a sociology major or minor. (Sp) Prerequisite: SOC 103.

**SOC 230. Fundamentals of Interviewing**

**4 credits**

Students will learn and practice techniques and skills to increase their effectiveness in interviewing. Included is the ability to effectively understand verbal and nonverbal communication. Students will learn how to structure an interview through the introductory, developmental and termination phases. Challenges posed by diverse interview subjects will be addressed. Special emphasis will be placed on active listening and practicing interviewing skills. May not be counted toward a sociology major or minor. (Fa) Prerequisite: SOC 103.

**SOC 291/391. Special Topics in Sociology**

**4 credits**

Study of a selected topic in sociology that is not covered in regular course offerings. Generally takes a lecture and discussion format. The topic will be announced prior to registration. Prerequisite: SOC 101 or 102.

**SOC 296/396. Reading and Research in Sociology**

**1-3 credits**

Research conducted under the supervision of a faculty member and designed to permit individual students or groups of students to research special areas in sociology related to their educational interests and goals. Prerequisites: Sociology major or minor, junior standing, approval of divisional dean and consent of instructor.

**SOC 298/398. Independent Study in Sociology**

**4 credits**

A course for students who have completed the necessary background courses in a specific area and wish to work with a faculty member to extend their study in that area. Students considering this course must get the approval of the divisional dean and consent of the instructor during the previous semester at least two weeks prior to registering for the course. Results of the study will be presented to the sociology faculty. Prerequisites: Sociology major, junior standing, approval of the divisional dean and consent of the instructor. (Fa, Sp, Su)

**SOC 301. Social Change and the Future of Society**

**4 credits**

A general examination of the topic of social change. This course studies the role of social change in the development of societies, the consequences of social change for

## DEPARTMENT OF COMMUNICATION AND SOCIOLOGY

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contemporary societies, and how change in various areas of society might affect life in the future. (*Fa, odd years*) Prerequisite: SOC 101 or 102.

**SOC 302. Work Life in a Changing World: 4 credits**

**Focus on Human Service Organizations**

Explores structures and processes within organizations and the meaning and conduct of work. Includes analysis of types of organizations, changes in occupations, work/family conflicts and how organizations have an impact on workers. (*Sp, even years*)

**SOC 303. Criminal Procedure, Evidence and Investigation 4 credits**

Introduces principles of evidence and techniques of investigation. Includes constitutional limitations on arrest, search and seizure, the exclusionary rule, interrogation and confessions. Identifies problems of evidence gathering and presentation as well as basic skills and procedures of criminal investigation. May not be counted toward a sociology major or minor. (*Fa*) Prerequisites: SOC 103, and 211 or 212.

**SOC 304. Introduction to Criminal Law 4 credits**

An examination of the nature, variety and sources of criminal law and the relationship of criminal law to theories of punishment and social control. Includes the classification of crimes, as well as the creation, organization and content of criminal law. May not be counted toward a sociology major or minor. (*Sp*) Prerequisites: SOC 103, and 211 or 212.

**SOC 305. Marriage and Family in Contemporary Society L3 4 credits**

The study of the changing nature of marriage and family life in the United States. An emphasis on processes and issues that challenge modern family life, including how the family interacts with other major social institutions. Topics include cohabitation, sexuality, mixed families, communication, parenting and divorce. (*Sp*) Prerequisite: Junior standing.

**SOC 307. Corrections in American Society 4 credits**

A study of the history, trend, purpose, organization and practice of corrections in American society. Includes jails, probation, intermediate sanctions, corrections in the community, prisons and supervision after release. Includes issues such as restorative justice, offender rights and incarceration of women, juveniles, special needs populations and members of minority groups. May not be counted toward a sociology major or minor. (*Fa*) Prerequisites: SOC 103; 211 or 212.

**SOC 308. Sociological Theory 4 credits**

An examination of the foundations and development of sociological theory from its beginning to the present. Explores the major theories and schools of thought and the relationship between theory and research through the works of important classical and contemporary sociological theorists. (*Sp*) Prerequisites: SOC 101 or 102 and junior standing.

**SOC 311. Methods of Social Research**

L1

4 credits

A study of the ways sociologists use data to explore, describe and explain human social life. The focus will be on learning, evaluating and applying the techniques and methodology used in generating, gathering and analyzing social scientific data. (*Fa, Sp*) Prerequisite: SOC 101 or 102.

**SOC 318. Sociology of Gender**

4 credits

This course explores the social construction of masculinity and femininity and how they are maintained or challenged in interaction. The course also considers patriarchy and how gender intersects with other systems of inequality, such as race and class. (*Fa, even years*)

**SOC 380. Internship in Applied Sociology**

4 credits

An opportunity for majors to work as a sociologist in a designated institution or agency under faculty supervision. Students considering this course must consult with their program adviser during the semester preceding the internship. (*Fa, Sp*) Prerequisites: Junior standing, SOC 311, and consent of the instructor.

**SOC 399. Capstone in Sociology**

4 credits

Students will review their education experience as sociology majors and explore career paths. Assignments include readings that recap sociology as a field of study and writings that consider the relevance of sociology to professional and social life. (*Sp*) Prerequisite: Senior standing.

**SOC 481. Capstone: Internship in Criminal Justice**

4 credits

The internship course serves as the capstone experience for the study of criminal justice. It provides an opportunity for criminal justice majors to work in a designated agency or institution under faculty and agency supervision. Includes seminar meetings during the term. Students considering this course for a given semester must consult the instructor during the preceding semester. (*Sp*) Prerequisites: SOC 311, Senior standing, criminal justice major, consent of internship instructor and a minimum of 2.5 grade point average in courses in the major.

DIVISION OF HUMANITIES AND SOCIAL SCIENCES  
DEPARTMENT OF ENGLISH &  
MODERN LANGUAGES

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BJ Best	Instructor of English
Elena M. De Costa	Associate Professor of Spanish
Kristen Deiter	Visiting Assistant Professor of English
Marie Fossier	Instructor of French
Lara Karpenko	Assistant Professor of English
Deirdre M. Keenan	Professor of English
Lori Duin Kelly	Professor of English and Department Chair
Michael Kula	Assistant Professor of English and Writer-in-Residence
Susan Nusser	Assistant Professor of English

The Department of English and Modern Languages offers majors in English, Spanish, and writing, and minors in English, French, German, Spanish, and writing.

**ENGLISH MAJOR (44 credits)**  
**Bachelor of Arts**

The goals of the English major are:

1. To provide students with a body of knowledge about literature that will allow them to recognize the interrelationship among ideas and provide them with the skills to be lifelong learners.
2. To teach students the critical reading, writing and thinking skills that enable them to develop a personal value system and that will inform their understanding of their impact on the world around them.

**Learning Outcomes for English**

Upon successful completion of major requirements students will be able to:

1. Develop strategies for originating and answering questions about literature.
2. Employ a variety of critical approaches to literature.
3. Use language specific to the discourses of poetry, drama and fiction.
4. Demonstrate their knowledge of literary canonicity as part of their preparation for citizenship in a diverse community.
5. Analyze and respond critically to literature using research and bibliographic materials appropriate to the discipline.

### Core Courses

- I. Foundations: students must complete the following two core courses.  
English 211, Introduction to Literary Study I: Poetry  
English 212, Introduction to Literary Study II: Short Fiction and Drama
- II. British and American Literature Survey: students must complete three of the following core literature surveys.  
English 240, British Literature I: Mediaeval to 1780  
English 241, British Literature II: 1780 to Contemporary  
English 242, American Literature I: 1620 to 1865  
English 243, American Literature II: 1865 to Contemporary
- III. Diversity/ World Literature: students must complete one of the following courses.  
English 162, Gender and Literature  
English 164, American Indian Literature and Cultures  
English 165, Readings in Race and Gender  
English 210, African American Literature  
English 226, Africa: Literature and Culture of its Many Nations  
English 255, Postcolonial Literature
- IV. Great Figures: students must complete one of the following courses.  
English 300, Great Authors  
English 301, Chaucer  
English 303, Milton and Moral Choice: His Age and Ours  
English 304, Shakespeare
- V. Upper Division Literature requirement: students must complete 3 literature courses at the upper-division level (“upper-division” is defined as any course numbered 300 and above.)
- VI. Senior capstone experience: English 499, advanced literature seminar

### Required Support Courses (Required for primary majors only)

Completion of a Modern Language through 202

Students seeking education certification must take the following courses:

English 219

English 240 or

English 304

English 305

## SPANISH MAJOR (38 credits)

### Bachelor of Arts

Within the framework of a liberal arts education, the Spanish major provides students with direct linguistic contact with a culture different from their own. A culture expresses itself primarily through its language and its literature, and to comprehend another's, one must be able to communicate with the peoples of that culture.

As a general rule, courses are conducted in the target language. All majors should spend a summer, semester or year abroad. Students may choose to study abroad during a summer, semester, or full academic year by applying to the Office of International

Education. Recent graduates have studied in Costa Rica, Ecuador, Guatemala, Mexico, and Spain.

### **Learning Outcomes for Spanish**

A student successfully completing a Spanish major at Carroll University:

1. Attains advanced-level speaking, listening, writing, reading proficiency through the required courses taken in the Spanish program.
2. Is able to communicate in written and spoken Spanish in a diversity of formal and informal situations with minimal linguistic errors.
3. Understands Spanish speakers from a variety of backgrounds and locales in diverse situations, as well as written materials in Spanish in a variety of formats.
4. Is knowledgeable regarding Hispanic culture, history, customs, major political and literary events and movements as well as contemporaneous social issues.
5. Participates in a wide range of academic, cultural, social, or community-service activities concerning the rich Hispanic presence in our surrounding communities.
6. Ideally, every student participates in study abroad experience, or when this is not feasible, participates in a department-approved immersion experience appropriate to an advanced level of proficiency in the target language.
7. Develops a knowledge base and a high level of critical thinking skills in an interdisciplinary context of historical, literary, political, social, and cultural frameworks of Spanish-speaking societies.
8. Applies the Spanish language to a diversity of professions and develops a vocabulary and discourse at an advanced level in at least one of the professions.

### **Core Courses**

Spanish 201, 202, Intermediate Spanish I, II

Spanish 301, 302, Conversation and Composition I, II

Spanish 305, Spanish for the Professions

Spanish 307, Latin American Civilization

Spanish 308, Hispanic Civilization

Spanish 318, Topics in Hispanic Cultures, Literature, History, Politics

Spanish 401, Advanced Conversation (2 cr.)

One elective course in Spanish (Usually satisfied with Spanish 480 or Spanish 498)

### **Capstone Experience**

Spanish 480 or

Spanish 498

### **Required Support Courses (Required for primary majors only)**

English 255

History 103, 104 or 112

Religious Studies 106

**WRITING MAJOR (40 credits)**  
**Bachelor of Arts**

**Learning Outcomes for Writing**

Upon successful completion of major requirements students will be able to:

1. Develop and demonstrate the ability to use their own unique writing process effectively.
2. Demonstrate the ability to create and revise texts in multiple genres, including fiction, poetry, and nonfiction.
3. Interpret advanced theoretical approaches to understanding the principles and practices of writing in genres of their specialization.
4. Evaluate how their own writing is situated within both literary traditions and larger cultural contexts.
5. Apply writing skills to professional careers related to writing and publishing.

**Courses:**

- I. English 206, Fiction Writing  
English 207, Poetry Writing  
English 208, Creative Nonfiction Writing
- II. One of the following:  
English 305, Advanced Exposition and the Rhetorical Tradition  
English 308, Advanced Creative Nonfiction
- III. One of the following:  
English 306, Advanced Fiction  
English 307, Advanced Poetry
- IV. At least one of the following that does not satisfy any other requirement:  
English 190, Introduction to Creative Writing  
English 209, Playwriting  
English 305, Advanced Exposition and the Rhetorical Tradition  
English 306, Advanced Fiction  
English 307, Advanced Poetry  
English 308, Advanced Creative Nonfiction  
English 497, Guided Senior Thesis  
Communication 227, Technical Writing in Organizations  
Communication 275, Feature Writing
- V. Two of the following:  
English 240, British Literature I: Mediaeval to 1780  
English 241, British Literature II: 1780 to Contemporary  
English 242, American Literature I: 1620 to 1865  
English 243, American Literature II: 1865 to Contemporary
- VI. Any additional 300-level English literature course
- VII. English 380, Internship
- VIII. English 496, Writing Capstone: Advanced Revision and Writing for Publication

**Required Support Courses (Required for primary majors only)**

Completion of a Modern Language through 202

**ENGLISH MINOR (24 credits)**

At least two 300-level courses in English.

Four additional English courses, no more than two of which may be at the 100-level.

**Note:** Students seeking certification must take the following courses:

English 164 or 165 or 210 or 255

English 211 or 212

English 219

English 240 or 304

English 242 or 243

English 305

**FRENCH MINOR (20 credits)**

A student successfully completing a French minor at Carroll University:

1. Attains intermediate/advanced to advanced-level speaking, listening, writing, reading proficiency.
2. Is able to express her/himself in written and spoken French in most everyday situations with mistakes that do not hinder meaning.
3. Understands French-speaking individuals in most everyday situations, as well as written materials in French covering topics in various genres.
4. Is knowledgeable with regard to histories, cultures, customs, major political and literary events and movements, and contemporary society and issues in countries where French is the dominant language.
5. Has participated throughout her/his studies in academic, cultural or social activities off-campus, in and beyond the Carroll University and Waukesha communities, ideally through study abroad or substantial immersion experience in the target language.

French 201, 202, Intermediate French I, II

French 301, Conversation and Composition

French 307, French Civilization

One elective course in French

**Note:** Students planning to use NCE 320, Paris: Art and Culture, for credit toward their French language minor need to work with the course instructor in the semester before they plan to take the course to develop a plan for ways to adapt their coursework to incorporate and demonstrate appropriate use of the language.

**GERMAN MINOR (20 credits)**

A student successfully completing a German minor at Carroll University:

1. Attains intermediate/advanced to advanced-level speaking, listening, writing, reading proficiency.
2. Is able to express her/himself in written and spoken German in most everyday situations with mistakes that do not hinder meaning.
3. Understands German-speaking individuals in most everyday situations, as well as written materials in German covering topics in various genres.

4. Is knowledgeable with regard to histories, cultures, customs, major political and literary events and movements, and contemporary society and issues in countries where German is the dominant language.
5. Has participated throughout her/his studies in academic, cultural or social activities off-campus, in and beyond the Carroll University and Waukesha communities, ideally through study abroad or substantial immersion experience in the target language.

German 201, 202, Intermediate German I, II  
German 301, Conversation and Composition  
German 318, Topics in German Culture and Literature  
One elective course in German

(Although not required, students are strongly encouraged to enroll in HIS 329, The German Experience.)

**Note:** Students taking HIS 329 or POL 329, The German Experience, and/or NCEP 321, Contemporary Germany: Its Culture, Economy, and Politics, and planning to use those courses for credit toward their German language minor need to work with the course instructor in the semester before they plan to take the course to develop a plan for ways to adapt their coursework to incorporate and demonstrate appropriate use of the language.

### SPANISH MINOR (22 credits)

Spanish 201, 202, Intermediate Spanish I, II  
Spanish 301, 302, Conversation and Composition I, II  
Spanish 307, Latin American Civilization or  
Spanish 308, Hispanic Civilization or  
Spanish 305, Spanish for the Professions (not available to teaching majors or minors) Spanish 401, Advanced Conversation (2 cr.)

### WRITING MINOR (24 credits)

- I. Three of the following foundational writing courses:
  - English 190, Introduction to Creative Writing
  - English 206, Fiction Writing
  - English 207, Poetry Writing
  - English 208, Nonfiction Writing
  - English 209, Playwriting
- II. One of the following advanced writing courses:
  - English 305, Advanced Exposition and the Rhetorical Tradition
  - English 306, Advanced Fiction
  - English 307, Advanced Poetry
  - English 308, Advanced Creative Nonfiction
- III. One of the following literature surveys:
  - English 240, British Literature I: Mediaeval to 1780
  - English 241, British Literature II: 1780 to Contemporary
  - English 242, American Literature I: 1620 to 1865
  - English 243, American Literature II: 1865 to Contemporary

IV. One additional 300-level English literature course

**Notes on Modern Languages**

To begin in any course other than 101 in Modern Languages, students need to take the placement test in French, German, or Spanish prior to the start of the semester. Placement tests will also be administered during the first weeks of classes, and placement can be changed. Any student who needs the placement test at other times should contact the program faculty to arrange a time for administration of the test. Please consult program faculty for guidance in registering for the first language course. Either placement into a course numbered 301 or higher in any of the three languages, or completion of a 202 course will demonstrate competency in that language and will satisfy the language requirement for the Bachelor of Arts degree.

A student enrolled at Carroll in a degree program, who has completed work in French, German, or Spanish language courses in high school and then enrolls in the appropriate course at Carroll (as determined by the program) and completes that course with a grade of B or higher will receive credit toward graduation for the previously completed work. This must be the student's first enrollment in an advanced university-level course. Special provisions are made for native and near-native speakers of French, German, and Spanish. (Please see page 21 of this catalog for an explanation of the method by which retroactive credits in any of the languages may be earned.)

Teaching majors and minors consist of the specific modern language courses listed below plus (1) an immersion experience, e.g., New Cultural Experiences Program [NCEP] or study abroad, (2) successful completion of a language competency exam in the semester prior to the semester of student teaching, and (3) the requirements in the Teacher Education Program.

**ENG 140. Introductory Language Skills for Liberal Studies** **4 credits**

An intensive review of the basic skills required by a Liberal Arts education – reading, writing and critical thinking. May not be counted toward an English major or minor. (Enrollment by assignment only.) (*Fa, Su*)

**ENG 162. Gender and Literature** **L4** **4 credits**

In this course, students will interrogate literature's role in shaping cultural constructions of gender; in addition, this course will acquaint students with the questions, critical conversations and controversies that dominate contemporary gender studies. (*Sp, Su*)

**ENG 164. American Indian Literature and Cultures** **L4, L7** **4 credits**

An introduction to the study of American Indian literature and cultures, representing select geographical locations, through literature, film, and primary sources.\* Students will examine the importance of storytelling in reflecting, maintaining, and shaping tribal cultures, identities, histories, and traditions. \*Course texts will represent a selection of geographically diverse American Indian cultures that will always include a Great Lakes Indian tribe to promote understanding of local cultural diversity. (*Sp*)

- ENG 165. Readings in Race and Gender** L4 4 credits  
An approach to gender issues using the perspective of race. This course uses seminal texts in minority and women's literature to explore the origins of sexism and racism in society, their similarities and differences, and their impact on individuals as depicted in narrative art. Formerly WST101. (*Fa*)
- ENG 170. Writing Seminar** 4 credits  
Required for all first year students. Through critical reading – and with special attention to language, audience, purpose and structures – students develop effective approaches to writing. May not be counted toward an English major or minor. (*Fa, Sp, Su*)
- ENG 170H. Writing Seminar** 4 credits  
Students develop effective approaches to writing to an advanced degree. May not be counted toward an English major or minor. (*Sp*)
- ENG 190. Introduction to Creative Writing** 4 credits  
In this workshop, students will learn the conventions of three major genres of creative writing – fiction, non-fiction and poetry – as they develop their own process of creating these texts. This course is designed as an ideal introduction to creative writing and the workshop format for those students who are curious about, yet perhaps unfamiliar with, the area. (*Fa, Sp*)
- ENG 206. Fiction Writing** 4 credits  
By studying master works of short fiction selected from contemporary authors and by participating in writing workshops, students will work to develop and refine their skills of writing fiction. (*Fa*)
- ENG 207. Poetry Writing** 4 credits  
In this workshop, students will learn the conventions of poetry writing by studying master works of poetry and writing their own poems. (*Fa*)
- ENG 208. Creative Nonfiction Writing:  
The Documentary Impulse** L5 4 credits  
Students in this workshop will read and analyze a range of nonfiction texts, including literary journalism, documentary film, personal essay, and literary memoir, and examine the impulse to document the truth that underlies nonfiction. Students in the course will produce both analytical work about the genre as well as their own, original non-fiction pieces. (*Sp*)
- ENG 209. Playwriting** 4 credits  
Students will read contemporary playwrights to familiarize themselves with the practices and principles of playwriting. Workshops will focus on mastering those principles by writing new, original plays. Selected scripts will be eligible to receive either a staged reading or a limited production with the theatre arts program. (*Sp, 2012*)

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**ENG 210. African American Literature** L4, L7 4 credits

Students will read and respond to a variety of African-American literature – novels, poems, plays, autobiographies, short stories, and commentaries. The goal is that students will be able to write thoughtfully about the ethics and aesthetics of these works, and will more fully appreciate and understand the relationship between literature, history, and cultural values. (*Fa, even years*)

**ENG 211. Introduction to Literary Study I: Poetry** L5 4 credits

By examining numerous classic and contemporary examples, students will consider how poems are constructed to achieve their meanings. Numerous poetic elements and forms of analysis will be defined and discussed, and students will have the opportunity to analyze poetry in discussions and in writing. (*Fa*)

**ENG 212. Introduction to Literary Study II:  
Short Fiction and Drama** L5 4 credits

This course teaches students to originate questions about literature and to formulate strategies to answer those questions. In addition to reading a wide variety of authors, students will have practice with using various methods of literary analysis. (*Sp*)

**ENG 219. Introduction to Linguistics** 4 credits

Students develop their own view on language policy, both in the classroom and in public arenas. Beginning with language production, students will piece together the fascinating story of human language development. In papers, discussions, and presentations, students will investigate social, psychological, and historical implications of language study. (*Fa, even years*)

**ENG 222H. Playing Crazy:  
Cultural Constructions of Madness** L3, L7 4 credits

An interdisciplinary exploration of the ways in which cultural institutions like the medical and legal establishments and organized religion shape our understanding of concepts like madness, eccentricity, and the normal. (*Fa, even years*)

**ENG 226. Africa:  
Literature and Culture of Its Many Nations** L4, L7 4 credits

This course is designed to develop an awareness and understanding of the varied voices contained in contemporary African literature. In addition to examining these works as artistic productions, the course situates the narratives within the historical and political circumstances that give rise to them. (*Fa, odd years*)

**ENG 240. British Literature I: Mediaeval to 1780** 4 credits

Course content focuses on major movements, authors, and texts in English Literature, beginning with the works of early Anglo-Saxon writers and continuing through the mid 18th century. (*Fa*)

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- ENG 241. British Literature II: 1780 to Contemporary** 4 credits  
Course content focuses on major movements, authors, and texts in English Literature, beginning with the works of the late 18th century and continuing through the present day. (*Sp*)
- ENG 242. American Literature I: 1620 to 1865** 4 credits  
Course content focuses on major movements, authors and texts from the early 1600's to the Civil War with particular attention to their contributions to defining American values and identities. (*Fa*)
- ENG 243. American Literature II: 1865 to Contemporary** 4 credits  
Course content focuses on major movements, authors, and texts in American Literature from the end of the Civil War to the present day. (*Sp*)
- ENG 255/255H. Postcolonial Literature** L4, L7 4 credits  
Literature of indigenous world cultures (non-Western-Eurocentric literature), to consider relationships between place and cultural identity, constructions of cultural difference, relationships between cultures, and operations of domination and resistance. The course also looks at the roles writers play in establishing or reestablishing cultural identity and addresses issues of ethics and morality in crossing cultures. (*Fa, Sp, Su*) (*255H: Fa, odd years*)
- ENG 298/398. Independent Study** 1-4 credits  
Prerequisites: Junior standing, approval of the divisional dean and consent of the instructor.
- ENG 300. Great Authors** 4 credits  
Intensive study of a body of work by an author deemed "great" by scholars and critics. This study will include relevant critical and biographical readings and discussion of what, ultimately, makes the author "great." (*Fa, odd years*) Prerequisite: Junior standing or consent of the instructor.
- ENG 301. Chaucer** 4 credits  
Intensive reading of the works of Geoffrey Chaucer, with special focus on the ways in which he both operated within and transcended the artistic conventions of his period. (*Sp, odd years*) Prerequisite: Junior standing or consent of the instructor.
- ENG 303. Milton and Moral Choice: His Age and Ours** 4 credits  
Study of John Milton's poetry and prose, supplemented by other seventeenth century writers, concentrating on issues of the nature of Good and Evil, Moral Choice, Free Will, Guilt and Innocence, Gender, Desire, War, and Censorship. Discussion focuses on how these issues represent some of the most pressing anxieties of Milton's time and our own. (*Fa, even years*) Prerequisite: Junior standing or consent of the instructor.
- ENG 304. Shakespeare** 4 credits  
Intensive study of representative histories, comedies, tragedies and late plays. (*Sp, even years*) Prerequisite: Junior standing or consent of the instructor.
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**ENG 305. Advanced Exposition and the Rhetorical Tradition** 4 credits  
Students will read and analyze rhetorical texts ranging from Classical authors like Aristotle, to Modern and Postmodern theorists like Burke and Foucault. Theories learned from these texts will be used to examine historically important American speeches. (*Fa, even years*)

**ENG 306. Advanced Fiction** 4 credits  
Students in this workshop will focus more specifically on the foundational skills they studied in ENG 206. Readings will focus on understanding and analyzing the conventions of fiction, such as dialog, narration, theme, language and character, and using that knowledge to write and revise short stories. (*Sp*) Prerequisite: ENG 206.

**ENG 307. Advanced Poetry** 4 credits  
Study of the theory and art of poetry. Extensive practice in writing both traditional and experimental poems. Student work will be discussed and analyzed in a writing workshop format. Students will also study the development of styles, forms, and theoretical concerns of American poetry from pre-1900 to the present day. (*Sp, odd years*) Prerequisite: ENG 207.

**ENG 308. Advanced Creative Nonfiction** 4 credits  
Students will build on their foundational knowledge of the nonfiction genre by focusing on one form. Reading in the genre will be more challenging, and students will be expected to analyze the components of nonfiction writing and apply those to their own pieces. (*Fa, odd years*) Prerequisite: ENG 208.

**ENG 309. Romantic and Victorian Literature** 4 credits  
Students will read major writers of the nineteenth century in their historical context with emphasis on major poetry and prose, including the novel, in relation to literary and cultural history. (*Sp, even years*) Prerequisite: Junior standing or consent of the instructor.

**ENG 312. Modernism and Postmodernism** 4 credits  
Students read major works of the modern and postmodern periods in relation to prevailing cultural constructions of self, art, and the nature of reality. Students will also consider the causes and consequences of the widening gulf between highbrow literature and popular fiction. (*Fa, odd years*) Prerequisite: Junior standing or consent of the instructor.

**ENG 313. Revising Italy: Travel Writing in the Italian Tradition** 4 credits  
In this course, students will spend the semester exploring readings in the tradition of the Italian travel narrative, including “classic” works by authors such as Twain and James, as well as more contemporary examples. Students will work to practice their own skills in writing travel essays, and at the completion of the semester-study portion of the course, we will travel to Italy for approximately three weeks and explore several distinct regions of the country (city, country and sea) and reflect on how our experiences there have been shaped by the major authors we have read during the semes-

ter. At the completion of the off-campus portion of the course, students will produce their own major travel essay.

**ENG 323. Renaissance English Literature** 4 credits

Verse, prose and drama of the Early Modern Period, including works by Behn, Donne, Herbert, Jonson, Marlowe, Marvell, Milton, Spenser, Sidney and others. The course studies sixteenth and seventeenth century literary traditions as they reflect and construct culture, as well as the ways the Early Modern Period anticipates and resists issues such as power, gender, love and faith in our time. (*Sp, even years*) Prerequisite: Junior standing or consent of the instructor.

**ENG 326. The Age of Exuberance: Restoration and Eighteenth Century British Literature** 4 credits

A study of the artistic and moral values of the important writers of literature from 1660-1800. Themes of the course include: the evolving attitudes toward the emotions, reason, and the imagination; the ideas of order and control; the art and effect of comedy; the impact of the new science and the emerging middle class; the changing definitions of man and nature. (*Sp, odd years*) Prerequisite: Junior standing or consent of the instructor.

**ENG 380/480. Internship in English** 4 credits

Work experience under professional supervision with opportunities to observe and question. Written report required. Only four credits may be applied toward completion of the major. Recommended as 10th course in the major. Prerequisite: Consent of the instructor.

**ENG 496. Writing Major Capstone: Senior Seminar** 4 credits

In this course students will demonstrate their knowledge of the literary tradition in which they are producing original work. Students will read primary and secondary material in their chosen genre and engage in seminar style discussions with the goal of both revising an existing original work and producing a literary analysis of that genre. (*Fa*) Prerequisite: Senior standing as a Writing major.

**ENG 497. Guided Senior Thesis** 4 credits

The thesis will be completed under the guidance of a selected faculty member. Students will create a unified thesis of revised and polished work that will be used for final assessment. Prerequisites: ENG 496 and consent of the instructor. (*Sp*)

**ENG 499. English Major Capstone: Advanced Literature Seminar** 4 credits

In the capstone, students are expected to demonstrate mastery of the five English Program Learning outcomes. Course will be conducted as an advanced literature seminar and students will read primary as well as secondary materials in order to understand and insert themselves into a contemporary critical discussion. At the end of the seminar, students will submit a senior thesis project which demonstrates scholarly research, critical engagement and literary analysis. (*Fa*) Prerequisite: Senior standing as an English major.

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### **FRE 101, 102. Elementary French I, II**

**4 credits each**

Introduction to French as a spoken and written language. Systematic acquisition of vocabulary and grammar, as well as basic phonetic elements to develop correct pronunciation. Written exercises, and regular practice in understanding and using spoken language. Initiation to French culture through elementary reading materials and discussion. Conducted primarily in French. (*101-Fa; 102-Sp*)

### **FRE 201, 202. Intermediate French I, II**

**4 credits each**

Review of basic phonetic elements and syntax as an aid to improvement and expansion of good pronunciation and composition. Informal conversation. Basic grammar structures reviewed. Introduction to French and Francophone cultures. Conducted in French. (*201-Fa; 202-Sp*) Prerequisites: FRE 102 for FRE 201, FRE 201 for FRE 202 or equivalent.

### **FRE 298/398. Independent Studies in French**

**2-4 credits**

Prerequisites: Junior standing and written consent of instructor required for registration. Written proposals of projects must have the prior approval of the divisional dean and consent of the instructor prior to registration. (*Fa, Sp*)

### **FRE 301. Conversation and Composition**

**4 credits**

Emphasis on active use of the language, and functional grammar review, including interaction in social and general conversations, vocabulary building, syntactic structures and sentence patterns. Constant focus on pronunciation and diction, with introduction to basic phonetic and linguistic principles. Reading of literary and cultural texts. Discussions of contemporary topics. Conducted in French. (*Fa*) Prerequisites: FRE 202 or equivalent.

### **FRE 307. French Civilization**

**4 credits**

Acquaints students with the major events of French history, including the various artistic, cultural and social elements which have contributed to making France what it is today, in order to better understand the French, their customs and their lifestyle. Oral and written reports. Conducted in French. (*Sp, alt. years*) Prerequisite: FRE 301 or consent of instructor.

### **FRE 318. Topics in French and Francophone Literatures**

**4 credits**

This course is designed to address questions of culture, history, politics, art and thought through the study of French language/literature. Students will discuss, analyze and develop their own critical approach and ideas around the texts in class and through oral, written and research reports and papers. Topics are drawn from the literature of French-speaking Europe, Africa, and the Caribbean. Conducted in French. May be repeated with change of topic. (*Sp, alt. years*) Prerequisites: FRE 301 or consent of the instructor.

### **GER 101, 102. Elementary German I, II**

**4 credits each**

Basic phonetic elements are introduced as an aid to developing good pronunciation. Regular practice in understanding and using the spoken language. Written exercises

and elementary reading materials aid in vocabulary building and discussion. Conducted primarily in German. (101-Fa; 102-Sp)

**GER 201, 202. Intermediate German I, II** 4 credits each  
Continued practice in comprehension, speaking, reading, and writing. Review of and elaboration in grammatical structures, composition, and vocabulary building serve as aids in the development of conversational ability. Growth in reading skills and cultural enrichment produced through readings on contemporary German life. Conducted in German. (201-Fa; 202-Sp) Prerequisites: GER 102 for GER 201, GER 201 for GER 202 or equivalent.

**GER 298/398. Independent Studies in German** 2-4 credits  
Prerequisites: Junior standing and consent of instructor. Written proposals of projects must have the prior approval of the divisional dean and consent of the instructor prior to registration. (Fa, Sp)

**GER 301. Conversation and Composition** 4 credits  
An advanced German language course, which provides continued practice in conversation and composition with emphasis on new vocabulary. This course includes functional grammar review. Readings and discussions of literary as well as non-literary texts introduce students to more complex topics in German life, history, and culture. Reinforcement of basic phonetic elements and syntax to further refine pronunciation and composition. Conducted in German. (Fa) Prerequisites: GER 202 or equivalent.

**GER 318. Topics in German Culture and Literature** 4 credits  
This course surveys specific time periods and/or movements in German cultural history, including art, architecture, music, and literature. Students develop their ideas and improve their written and spoken communication skills through essays, oral reports, and a research paper. May be repeated with change of topic. Conducted in German. (Sp) Prerequisites: GER 301 or consent of instructor.

**GER 498. Independent Directed Study** 2-4 credits  
Reading in a specific area of German literature, culture, or history. Weekly conferences conducted in German. Eight credits maximum will apply toward the degree. (Fa, Sp) Prerequisites: Junior standing and consent of instructor. Written proposals of projects must have the prior approval of the divisional dean and consent of the the instructor prior to registration.

**SPA 101, 102. Elementary Spanish I, II** 4 credits each  
A beginning course designed to introduce the student to the basic skills of understanding, speaking, reading and writing the Spanish language. Weekly out-of-class discussion sections. Conducted primarily in Spanish. (101-Fa, 102-Fa, Sp)

**SPA 201, 202. Intermediate Spanish I, II** 4 credits each  
Review of basic phonetic elements and syntax as an aid to improvement and expansion of good pronunciation and composition. Introduction to Hispanic cultures. Weekly

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out-of-class discussion sections. Conducted in Spanish. (201-Fa; 202-Sp) Prerequisites: SPA 102 for SPA 201, SPA 201 for SPA 202 or consent of the instructor.

### **SPA 290. Spanish for Health and Human Services**

**2 credits**

Focus on health and human service vocabulary, language skills for professional communication, and cross-cultural awareness in order to communicate effectively, both formally and informally. Students participate in hands-on, experiential learning opportunities in the community. Conducted in Spanish. (Sp) Prerequisites: SPA 202 or consent of instructor.

### **SPA 298/398. Independent Studies in Spanish**

**4 credits each**

Prerequisites: Junior standing and written consent of instructor required for registration. Written proposals of projects must have the prior approval of the divisional dean and consent of the instructor prior to registration. (Fa, Sp)

### **SPA 301. Conversation and Composition I**

**4 credits**

Practice in conversation and composition with emphasis on new and technical vocabulary. Functional grammar review. Reading, discussion and interpretation of more challenging literary texts. Reinforcement of basic linguistic elements such as phonetics and syntax as an aid to further refinement of the four language skills. Conducted in Spanish. (Fa) Prerequisites: SPA 202 or consent of instructor.

### **SPA 302. Conversation and Composition II**

**4 credits**

This course strengthens skills already learned in Spanish courses by integrating elements of print journalism interviewing, writing and editing. It also expands the cultural knowledge of the students by focusing on their writing on themes of cultural relevance. Conducted in Spanish. (Sp) Prerequisite: SPA 301 or consent of instructor.

### **SPA 305. Spanish for the Professions**

**4 credits**

This course introduces students to the vocabulary and discourse appropriate to the professions. It develops communicative skills for professional situations (speaking, listening, comprehension, reading, writing, translation, interpretation, and computer skills) and provides cultural and cross-cultural awareness. Students prepare oral and written reports. Conducted in Spanish. (Sp) Prerequisites: SPA 301 or consent of the instructor. SPA 302 recommended.

### **SPA 307. Latin American Civilization**

**4 credits**

Lectures and discussion on Latin American cultural history and trends, particularly as they relate to the arts, political thought, and economics. Conducted in Spanish. (Fa, alt. years) Prerequisites: SPA 302 or consent of instructor.

### **SPA 308. Hispanic Civilization**

**4 credits**

Lectures and discussion on Hispanic cultural trends, particularly as they relate to the arts, political thought, and economic conditions. Topics will focus on social movements in Spain or Spain's impact on Latin America, the Caribbean, and the United States. Conducted in Spanish. (Fa, alt. years) Prerequisites: SPA 302 or consent of instructor.

**SPA 318. Topics in Hispanic Cultures, Literature, History, Politics** 4 credits

Focuses on a particular aspect of Hispanic culture, literature, history, or politics. Students analyze and discuss literary and/or historical and (socio)political texts. Includes topics on Spain, Latin America, and/or the Caribbean. Conducted in Spanish. May be repeated with change of topic. (*Sp*) Prerequisites: SPA 307 or 308, or consent of instructor.

**SPA 401. Advanced Conversation** 2 credits

A panorama of customs, life styles, attitudes, and cultural achievements of the Spanish-speaking peoples today. Emphasis on informal conversation with individual interests and projects encouraged. Includes oral and written reports as well as grammar and syntax review. Conducted in Spanish. (*Sp*) Prerequisite: SPA 307 or 308, or consent of instructor. (May be taken twice.)

**SPA 480. Internship/Capstone Internship in Spanish** 2-4 credits

Applications of foreign language and culture using language skills in professional settings. This course may also serve as a culminating capstone experience. Facilitates transition from university to career or graduate school through the creation of a résumé and portfolio, as well as experience with employment interviews and/or submission of application to graduate school. *S/U* graded. (*Fa, Sp*) Prerequisites: SPA 307 or 308, 318 and senior standing.

**SPA 498. Independent Directed /Capstone Study** 2-4 credits

Intensive reading in a specific area of Spanish or Spanish-American literature or culture. Weekly conference conducted in Spanish. Eight credits maximum may apply toward degree. This course may also serve as a culminating capstone experience for seniors. Facilitates transition from university to career or graduate school through the creation of a résumé and portfolio, as well as experience with employment interviews and/or submission of application to graduate school. Written proposals of projects must have the prior approval of the divisional dean and consent of the instructor prior to registration. (*Fa, Sp*) Prerequisites: SPA 307 or 308, 318.

# DIVISION OF HUMANITIES AND SOCIAL SCIENCES

## HISPANIC HEALTH AND HUMAN SERVICE

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**Rebecca S. Imes**

Assistant Professor of Communication and  
HHHS Adviser

The Hispanic Health and Human Service (HHHS) minor is open to all students who are interested in combining knowledge and skills related to health and human services with an emphasis on serving Hispanic communities.

The interdisciplinary HHHS minor is an excellent companion minor for students who are pursuing careers in health (nursing, pre-med, physical therapy, health science, biology, chemistry) or human services (criminal justice, psychology, sociology, communication). It is also relevant to Spanish majors and minors who wish to acquire skills to work in health and human service fields.

The goals of the HHHS minor are to educate students who will:

1. Function competently in a professional capacity within a Hispanic/Latino health and human service delivery setting.
2. Recognize and respond to cultural characteristics that affect health and human service delivery in the Hispanic/Latino community.
3. Demonstrate ability to communicate effectively using Spanish terminology in reading, writing and speaking.

### **Hispanic Health and Human Service Minor (Major not offered)**

#### **Courses required for the Minor**

Spanish 201 and 202, Intermediate Spanish I, II

Communication 207, Intercultural Communication

Note: The research project that is a part of this course must focus on a specific Latino cultural group for this course to be accepted in this minor.

History 112, Introduction to Latin American History

Health Science 290, Cultural Influences in Hispanic Health Care

Spanish 290, Spanish for Health and Human Services

NCEP 318, Mexico: Culture, Health and Human Services (Upon approval by an HHHS adviser, an alternative experience may satisfy this NCEP requirement.)

DIVISION OF HUMANITIES AND SOCIAL SCIENCES  
**DEPARTMENT OF HISTORY,  
POLITICS, AND RELIGION**

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Lynne L. Bernier	Associate Professor of Politics
Daniel B. Braaten	Visiting Lecturer in Politics and Global Studies
Charles A. Byler	Professor of History
Jeff Fisher	Assistant Professor of Religious Studies
Lilly Goren	Associate Professor of Politics
James Grimshaw	Assistant Professor of Religious Studies
Kevin Guilfooy	Assistant Professor of Philosophy
Scott Hendrix	Assistant Professor of History
Laresh Jayasanker	Visiting Lecturer in History
Abigail M. Markwyn	Assistant Professor of History
Lelan E. McLemore	Professor of Politics
Kimberly A. Redding	Associate Professor of History and Department Chair
Melvin Vance	Instructor of Religious Studies

The Department of History, Politics, and Religion offers majors in European studies; global studies; history; philosophy, politics, and economics; politics, and religious studies. It also offers minors in European studies, global studies; history; philosophy; politics; and religious studies.

**EUROPEAN STUDIES MAJOR (36 credits)**  
**Bachelor of Arts**

The European studies major is an interdisciplinary major which prepares students to join an ever-increasingly international professional community to develop both a broad understanding of European culture and in-depth knowledge of a particular country/region through diverse coursework, study abroad and language study. The program's focus on contemporary culture also makes it an ideal second major or minor.

**Learning Outcomes for European Studies**

Upon completion of the European studies major, students will demonstrate the ability to:

1. Explain the recentness of European identity (and the historical developments preceding it).
2. Interact proficiently with a specific European culture (perform day to day tasks, conduct research in field of capstone, participate in informal discussion of current events and culture).

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3. Appreciate the European arts as expressions of cultural identity and context.
4. Demonstrate functional proficiency in English and one other European language.
5. Articulate how the past informs contemporary intercultural relationships and conflicts.
6. Engage in informed dialogue about political and social issues confronting contemporary
7. Europe.

### Core Courses

#### I. Breadth Component

History 103, Roots of the Western World

History 104, Europe and the Modern World

European Studies Program 200, Workshop in European Studies (1 credit each of 4 semesters)

Politics 201, Politics of the World's Nations

#### II. Depth Component

One of the following:

History 227, Tudor-Stuart England

History 254, Topics in Medieval European History

History 328, Modern British Experience

History/Politics 329, The German Experience

Politics 301, Politics of Developed Nations

European Studies Program 391, Special Topics

#### III. Cultural Component

Three approved courses, with no more than one from each group counting toward the major:

A. NCEP in Europe (or comparable independent study with approval of the European Studies Program coordinator)

B. Music 156, Listening to Classical Music; Music 157, Beethoven; Music 231H, Fin de Siècle: Birth of the Modern Age in Paris and Vienna; or relevant study abroad

C. English 301, Chaucer; English 309, Romantic and Victorian Literature; English 312, Modernism and Post Modernism; English 323, Renaissance English Literature; English 326, The Age of Exuberance: Restoration and Eighteenth Century British Literature; or relevant study abroad

D. Art 104, Renaissance to Early Modernism: Art History Survey; Art 300, Early Modernism to Present: Art History Survey

E. Theatre Arts 215, European Theatre History and Literature to 1750; or relevant study abroad

#### IV. Study Abroad (1 semester)<sup>1</sup>

#### V. European Studies Program 400, Senior Capstone

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<sup>1</sup> Three of the required courses will be taken during the semester abroad.

### Required Support Courses

I. Three of the following:

- Economics 124, Principles of Economics - Microeconomics
- Economics 225, Principles of Economics - Macroeconomics
- Philosophy 207, History and Philosophy of Science
- Philosophy 320, Ancient and Mediaeval Philosophy
- Philosophy 321, Modern and Contemporary Philosophy
- Politics 255, Contemporary Global Politics

(or approved alternatives taken during study abroad)

II. Minor in a European language other than English or demonstrated functional proficiency.<sup>2</sup>

## GLOBAL STUDIES MAJOR (44 credits)

### Bachelor of Arts

Global studies is an interdisciplinary major that gives students a global perspective on political and economic problems, preparing them for careers in government, business and nonprofit sector. Students are encouraged to become fluent in a modern foreign language, and the faculty works to arrange for students to spend a semester or year of study abroad.

### Learning Outcomes for Global Studies

Upon completing the global studies major students should:

1. View global challenges from a perspective that integrates political, historical, economic, cultural and normative perspectives.
2. Be able to articulate the primary theoretical frameworks used to understand the global arena.
3. Understand the role of important state and non-state actors (international and non-governmental groups and organizations) in the global arena.
4. Demonstrate strong communications skills (reading, writing and listening) as well as analytical and critical skills that enable them to dissect and solve complex problems effectively.
5. Demonstrate the capacity to conduct independent research (identify and develop a research question, design research strategies based on the application of quantitative and/or qualitative methodologies, access and interpret information from print and electronic sources, write and present a critical and analytical argument).

### Core Courses

Politics 101, Our Flattening World: An Introduction to Global Studies

Politics 200, Social Science Inquiry

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<sup>2</sup> “Demonstrated proficiency” means:

- A grade of C or better in a 300-level course.
- A letter of support from a foreign language instructor at a recognized educational institution.
- B2 level competency on TELC (The European Language Certificate) as established by CERF (Common European Framework of References for Languages: Learning, Teaching, Assessment).
- Level II UNICert competency.
- Equivalent score on a language placement exam (often associated with study abroad programs)

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Politics 201, Politics of the World's Nations  
Politics 255, Contemporary Global Politics  
Politics 276, Democracy and Globalization  
Politics 301, Politics of Developed Nations  
Politics 303, Politics of Developing Nations  
Politics 399, Capstone

Three of the following:

Economics 225, Principles of Economics II - Macroeconomics  
Environmental Science 160, World Regional Geography  
History 112, Introduction to Latin American History  
History 210, History of American Foreign Relations  
History 224H, The World Since 1945  
Politics 210H, The Origins of Democratic Thinking  
Politics 329, The German Experience  
Politics 382, Internship in Global Studies

**Required Support Courses** (Required for primary majors only)

Option 1

History 108 or 110 or 112  
Environmental Science 160, World Regional Geography  
English 255 or

Option 2

Completion of a Modern Language through 202

### **HISTORY MAJOR (36 credits)**

#### **Bachelor of Arts**

The nine-course history major serves students who not only seek an education in the liberal arts, but who also realize the value of history for understanding themselves and their world. Because the study of history enhances analytical, communicative and critical thinking skills, and because our courses often encourage an interdisciplinary approach, a history major prepares students for careers in research, public service, education and/or the private sector, while also offering a strong foundation for advanced study.

#### **Learning Outcomes for History**

Upon successful completion of major requirements students will be able to:

1. Employ tools of historical analysis such as cause and effect, sequence and change over time to explain past experiences and developments.
2. Define a historical question and use appropriate methodologies to develop and evaluate possible answers.
3. Find evidence and evaluate primary and secondary sources to form sustainable conclusions in a well-argued paper.
4. Articulate and/or resolve conflicting interpretations and explain the changing nature of historical inquiry.
5. Communicate original, convincing ideas in well-organized oral and written formats.

6. Identify and explain central themes and problems of the Western World.
7. Identify and explain central themes and problems of a non-western culture.

### Core Courses

- I. Three courses, with one course in each area, from the following:
  - A. History 103, Roots of the Western World  
History 104, Europe and the Modern World
  - B. History 105, America to 1877  
History 106, America since 1877
  - C. History 108, Understanding Our Contemporary World  
History 110, The History of Modern China  
History 112, Introduction to Latin American History
- II. History 200, Workshop for Historians
- III. Two courses at the 200 level from the following:
  - History 203, The American Civil War
  - History 210, History of American Foreign Relations
  - History 213, Women in American History
  - History 224H, The World since 1945
  - History 227, Tudor - Stuart England
  - History 254, Topics in Medieval European History
  - History 291, Topics in History
- IV. Two courses at the 300 level from the following:
  - History 301, The Forging of a Nation: The Colonial and Revolutionary Experience
  - History 305, Recent America
  - History 328, The Modern British Experience
  - History 329, The German Experience
  - History 391, Topics in HistoryAll 300-level classes are conceived as research courses in which the major focus will be on research methodology and utilization of primary sources to produce a work of serious scholarship.
- V. History 499, Capstone: Senior Seminar for Historians

### Required Support Courses (Required for primary majors only)

Completion of a Modern Language through 202

### Teacher Certification

The department recommends that students majoring in history who seek certification to teach at the early adolescence through adolescence (formerly 6-12) level should complete the requirements for the Broad Field Social Studies license. Please contact a history faculty member regarding these requirements.

The state of Wisconsin requires content area examinations (Praxis II) in order to receive certification to teach at the early adolescence through adolescence level and to adequately demonstrate competence. For this reason, students seeking to teach history at this level are urged to take History 103, 104, 105, 106 and 108.

**PHILOSOPHY, POLITICS AND ECONOMICS MAJOR (52 credits)**

**Bachelor of Arts**

The philosophy, politics and economics (PPE) major provides students with the opportunity to form an interdisciplinary integrated knowledge that combines foundational understanding of each discipline. In order to understand complex social phenomena one must approach them from several complementary disciplinary directions and analytical frameworks. The study of philosophy equips students with broad knowledge of the ideas and theories that shape society and culture, and the intellectual tools needed for ethical reflection. The study of politics acquaints students with the political structures that govern society and introduces the complexities involved in the choices political systems and regimes regularly make. Knowledge of economics is vital for explaining and understanding the social world. There is at least some truth to Marx's claim that all social phenomena are at their core economic. All three disciplines equip students with meta-tools such as the ability to think rigorously and logically, but each employs different methodologies. This is what makes the PPE major genuinely interdisciplinary: PPE students explore contemporary questions about distributive justice; the ethical significance of the competitive market economy; and the dynamic relationships between the economic, political and legal orders by employing and integrating the tools methods and perspectives of each discipline. The PPE major provides career-oriented liberal arts students with the Integrated Knowledge and Lifelong Skills necessary for success and leadership in a rapidly evolving world.

**Learning Outcomes for PPE**

1. Students will be able to identify and critically discuss in written and oral fashion government structures and decision making processes.
2. Students will be able to identify and critically discuss in written and oral fashion key concepts, figures, movements, and ideas in philosophy.
3. Students will be able to identify and critically discuss in written and oral fashion the function of market forces and the larger social issues related to economic forces and decision making.
4. Students will be able to identify and critically discuss in written and oral fashion the integration of the fundamental concepts and ideas of Philosophy, Politics, and Economics and the way these ideas shape fundamental societal issues of justice, citizenship, social order, wealth and poverty, globalization, freedom, et. al.
5. Students will be able to identify, analyze, and respond critically to relevant issues using appropriate research and bibliographic materials and facilities commonly employed in the fields of Philosophy, Politics, and Economics.

**Core Courses**

- I. All Philosophy, Politics and Economics majors must take:
  - A. Philosophy, Politics and Economics 101, Introduction to PPE
  - B. Philosophy  
Philosophy 101, Introduction to Philosophy

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Philosophy 320, Ancient and Mediaeval Philosophy or  
Philosophy 321, Modern and Contemporary Philosophy  
One additional Philosophy course at any level. (Pre-law students are encouraged to take Philosophy 105, Logic)

C. Politics

Politics 141, Introduction to American Politics or  
Politics 201, Politics of the World's Nations  
Politics 275, Political Theory  
One additional 300 level Politics course.

D. Economics

Economics 105, History of Economic Thought  
Economics 124, Microeconomics or  
Economics 225, Macroeconomics  
One additional 300 level course in Economics or one of the following:  
Business 290, Principles of Business Law; Business 304, Principles of Finance; Business 310, Employment and Labor Law; Business 361, International Business  
PPE 499, Capstone

II. All PPE majors will select a concentration in either Philosophy, Politics, or Economics Majors must complete two additional courses in either Philosophy, Politics, or Economics. At least one of these courses must be at the 300 level.

### Required Support Courses

Option 1

Completion of a modern language through 202 or

Option 2

History 103 or 104 and

Two from the following:

English 255; History 103 or 104 (whichever not taken above); History 108;  
Religion 106

## POLITICS MAJOR (44 credits)

### Bachelor of Arts

The major in politics prepares students for a lifetime of informed and active citizenship while teaching the skills necessary to succeed in our knowledge-based, globalized economy.

### Learning Outcomes for Politics

Politics majors at Carroll University will develop a general knowledge of the following:

1. Major institutions (e.g., legislatures, executives, judiciaries, bureaucracies) and processes (e.g., voting, policy-making) of American governments and of diverse national political systems.
2. The main theories used to understand the global arena as well as the impact of globalization on global and national politics.
3. The structure and functions of political theorizing as well as an overview of its history.

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4. Important processes and agencies within public organizations and the ethical dimensions of public service.
5. Students develop strong communication skills (reading, writing, listening) as well as analytical and critical skills, which enable them to dissect and solve complex problems effectively.
6. Students develop the capacity to conduct independent research (identify and develop a research question, design research strategies based on the application of quantitative and/or qualitative methodologies, access and interpret information from print and electronic sources, write and present a critical and analytical argument).
7. Students are strongly encouraged to develop an understanding of the world of work by completing an internship or by participating in an off-campus program that involves contact with governments or non-governmental organizations engaged in the public policy process.

### Core Courses

Politics 141, Introduction to American Politics

Politics 200, Social Science Inquiry

Politics 201, Politics of the World's Nations

Politics 255, Contemporary Global Politics

Politics 275, Political Theory

At least one of the following:

Politics 330, Congress and the Presidency

Politics 332, Public Policy

Politics 335, Public Administration

Politics 344, Constitutional Law and Politics

At least one of the following:

Politics 301, Politics of Developed Nations

Politics 303, Politics of Developing Nations

Politics 399, Capstone

Three additional Politics courses

### Required Support Courses (Required for primary majors only)

Option 1

History 103 or 104

Religious Studies 106

English 255 or

Option 2

Completion of a Modern Language through 202

## RELIGIOUS STUDIES MAJOR (36 credits)

### Bachelor of Arts

The religious studies major provides an in-depth study of Christian traditions and a basic understanding of religious traditions such as Judaism, Islam, Buddhism, Hinduism and Native American traditions. The major prepares students for ministry, graduate school, or leadership in the community

### Learning Outcomes for Religious Studies

Upon successful completion of major requirements students should be able to:

1. Articulate how religion has the power to shape individual lives and social values.
2. Critically read, evaluate, and write on the foundational texts and the significant ideas, concepts, and questions in the study of religion.
3. Demonstrate an in-depth knowledge of Christian traditions including critically reflecting on the Hebrew Bible, New Testament, and Christian history and theologies.
4. Show a basic understanding of a breadth of religious traditions including Judaism, Islam, Buddhism, Hinduism and Native American traditions.
5. Use library research tools specific to religious studies, and religious studies methodologies to construct papers, essays and class presentations.
6. Use these perspectives and skills to become a responsible citizen in a religiously plural world.
7. Identify, analyze, and compare understandings of the meaning of life, the human condition, and the nature of the good life in several religious traditions.

### Core Courses

A. Two introductory courses (100 level):

Religious Studies 106, Understanding Religion

Religious Studies 102, Introduction to the Hebrew Bible or

Religious Studies 103, Introduction to the New Testament

B. Six intermediate courses (200 and 300 level); at least two must be from 300 level:

Two in Christian Tradition

Choose one from:

Religious Studies 230, Foundations of Christianity

Religious Studies 231, Christianity in the Modern World

Choose one from:

Religious Studies 201, Jesus of Nazareth

Religious Studies 202, Religious Traditions in America

Religious Studies 210, Suffering and Hope

Religious Studies 291/391, Topics Courses

Religious Studies 310, Power, Politics and Pluralism in Biblical

Interpretation

Two in Religious Traditions

Religious Studies 215, Women in Religion

Religious Studies 306, Asian Religions

Religious Studies 316, Judaism, Christianity, and Islam

Two electives

Religious Studies courses, 200 level or above

Philosophy 206, Ethics

Philosophy 308, Philosophy of Religion

C. One advanced course (400 level)

Religious Studies 499, Capstone Seminar

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### **Required Support Courses (Required for primary majors only)**

#### Option 1

Completion of a Modern Language through 202 or

#### Option 2

English 255

English 305

History 103 or 104

Politics 201

### **EUROPEAN STUDIES MINOR (24 credits)**

#### I. Foundational Level

History 103, Roots of the Western World

History 104, Europe and the Modern World

European Studies Program 200, Workshop in European Studies (1 credit each of 4 semesters)

Politics 201, Politics of the World's Nations

#### II. Advanced Level

Two courses from among those listed under II and III (advanced and cultural components) in the European Studies Major. Students are advised to select either a political or a cultural focus, and choose advanced courses appropriately.

#### III. NCEP in Europe or equivalent educational experience

### **GLOBAL STUDIES MINOR (20 credits)**

Politics 101, Introduction to Global Studies

Politics 201, Politics of the World's Nations

Politics 255, Contemporary Global Politics

Politics 301, Politics of Developed Nations

Politics 303, Politics of Developing Nations

### **HISTORY MINOR (24 credits)**

#### I. Three courses, with one course in each area, from the following:

A. History 103, Roots of the Western World

History 104, Europe and the Modern World

B. History 105, America to 1877

History 106, America Since 1877

C. History 108, Understanding Our Contemporary World

History 110, The History of Modern China

History 112, Introduction to Latin American History

#### II. Three additional courses at the 200- and 300-course levels. One of those three courses must be a 300-level research course and not all of them may be taken in United States History.

**PHILOSOPHY MINOR (20 credits)**

Philosophy 101, Introduction to Philosophy

Philosophy 105, Introduction to Logic

Philosophy 206, Ethics

Two additional philosophy courses; at least one must be at the 300 level

**POLITICS MINOR (20 credits)**

Politics 141, Introduction to American Politics

Politics 201, Politics of the World's Nations

Three additional Politics courses

**RELIGIOUS STUDIES MINOR (20 credits)**

Two introductory courses (100 level)

Religious Studies 102, Introduction to the Hebrew Bible or

Religious Studies 103, Introduction to the New Testament

Religious Studies 106, Understanding Religion

One course in Christian Tradition

Religious Studies 201, Jesus of Nazareth

Religious Studies 202, Religious Traditions in America

Religious Studies 210, Suffering and Hope

Religious Studies 230, Foundations of Christianity

Religious Studies 231, Christianity in the Modern World

Religious Studies 291/391, Topics Courses

Religious Studies 310, Power, Politics and Pluralism in Biblical Interpretation

One in Religious Traditions

Religious Studies 215, Women in Religion

Religious Studies 306, Asian Religions

Religious Studies 316, Judaism, Christianity and Islam

One elective in Religion or Philosophy, 300 or above

**EUS 200. Workshop in European Studies**

**1 credit**

A discussion-based course exploring the interrelated nature of political, historical, social and artistic realms of human experience within the European context. Current events, cultural developments, and individual experience provide thematic foci. The course also provides a forum through which to prepare for and reflect upon the required study abroad component of the European Studies major and minor. 4 semesters required of all European Studies majors and minors. Open to other students with permission of the instructor. (*Fa, Sp*) Prerequisite: HIS 104 or POL 201.

**EUS 391. Topics in European Studies**

**4 credits**

This advanced course uses a comparative approach to explore contemporary topics impacting the European experience. A single theme (immigration, education, the arts, etc.) provides a common thread throughout the semester, while guided research in students' cultures and languages of study lead to a greater depth of understanding. (*Fa, even years*)

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### **EUS 400. European Studies Capstone**

**4 credits**

Intended to facilitate students' transition from university into the professional world, the Capstone requires a cross-disciplinary project dealing with some historical, social, scientific, political and/or artistic aspect of European thought. The project demonstrates a proficiency in at least two European languages and cultures, as well as a mature understanding of a topic relevant to those cultures/countries. A concrete transition plan to graduate study or career of choice is also required. (*Sp, even years*)

### **HIS 103. Roots of the Western World**

**L6**

**4 credits**

This survey course traces the Western experience from our classical heritage to the French Revolution. It examines the major political, social, economic and religious institutions which worked to shape the world we live in today. (*Fa, Sp*)

### **HIS 104. Europe and the Modern World**

**L6**

**4 credits**

This survey course complements HIS 103 by exploring ideas and events that have shaped European society and Europe's relations with other parts of the world since the French Revolution. (*Fa, Sp*)

### **HIS 105. America to 1877**

**L6**

**4 credits**

A survey of American History from settlement through the Civil War and Reconstruction. (*Fa, Sp*)

### **HIS 106. America since 1877**

**L6**

**4 credits**

A study of the American experience since Reconstruction. (*Fa, Sp*)

### **HIS 108. Understanding Our Contemporary World**

**L4**

**4 credits**

An examination of non-western societies from 1500, their development, their responses to the West, and their contributions to the making of the modern world. (*Fa*)

### **HIS 110. The History of Modern China**

**L4**

**4 credits**

This course examines Chinese history and culture with an emphasis on China in the 19th and 20th centuries. Specific attention is given to China's reformers and revolutionaries and their attempts to transform Chinese political, economic, and social institutions. (*Sp, even years*)

### **HIS 112. Introduction to Latin American History**

**L6**

**4 credits**

This survey of Latin America from preconquest to the present focuses on the historical roots of contemporary issues in Latin America such as poverty, race relations, cultural mixing, and international relations. The class draws in part on Latin American literature, arts, and cinema to facilitate this investigation. (*Sp*)

### **HIS 200. Workshop for Historians**

**4 credits**

This course prepares students for independent research in 300 level courses, the capstone, and beyond. Students discuss and apply tools, methods and interpretative approaches used in historical research. Students should plan to take this during their sophomore year, before enrolling in 300-level history courses. (*Sp, even years*)

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**HIS 203. The American Civil War**

4 credits

Examines the multiple origins of the American Civil War and the two cultures swept up in the conflict. Traces the political, social, diplomatic and military history of the war years. Prerequisite: HIS 105 or permission of the department chair.

**HIS 210. History of American Foreign Relations**

4 credits

An overview of the foreign relations of the United States from colonial times to the present, with an emphasis on the period since 1900. The course examines the ways in which economic developments, domestic concerns, and cultural attitudes have helped shape the foreign policies of the United States. (*Sp, even years*)

**HIS 213. Women in American History**

4 credits

This course investigates the history of women in the United States from the colonial era to the present, with particular emphasis on the ways in which race and class have shaped women's experiences. (*Fa, even years*)

**HIS 224H. The World since 1945**

L4

4 credits

A discussion-based study of themes and conflicts that have shaped global society since the end of World War II. Students use primary documents, autobiographies, oral histories and other sources of their own choosing to examine the Cold War, the developing world, genocide and other topics. (*Fa, even years*) Prerequisite: Honors student or permission of instructor.

**HIS 227. Tudor-Stuart England**

4 credits

A study of English life during a period of dramatic change. From 1485 to the Glorious Revolution of 1688, England was remarkably transformed by the triumph of Protestantism, capitalism, parliamentary government and successful expansion overseas. (*Fa, odd years*)

**HIS 254. Topics in Medieval European History**

4 credits

This reading seminar typically examines Western Europe during the Middle Ages. The period from 500 to 1500 is studied for its own sake as well as for its contributions to the making of the modern world. (*Fa, even years*)

**HIS 280. Internship in History**

2-4 credits

An opportunity for majors to earn elective credit for work experiences related to history. Examples of potential internships include: research work at local historical societies, museum experience at Old World Wisconsin, work in public history, in non-profit organizations, or with various government agencies. Other work-oriented experiences may be designed by the student with the approval of the instructor. Internship credits will apply toward the degree but not toward the history major. The work is S/U graded, requires the consent of the instructor, and has a prerequisite of junior or senior standing. (*Fa, Sp*)

**HIS 291/391. Topics in History**

2-4 credits

Intensive investigations of special subject matter. Recent topics include: World War II: Experiences and Legacies; America in the 1960s; Native American history; and

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Medieval Magic. Topics courses may be offered also at the 300 research course level. Students may take more than one of these topic courses. (*Fa, Sp*) Prerequisite (for 300-level): Junior standing or consent of the instructor.

### **HIS 298/398. Independent Study**

**2-4 credits**

Generally permitted only in areas where the student has some background. (*Fa, Sp*) Prerequisite: Approval of the divisional dean and consent of the instructor.

### **HIS 301. The Forging of a Nation: The Colonial and Revolutionary Experience**

**4 credits**

This course investigates the transformation of the English colonies in North America from the first encounters in the 1580s through the American Revolution, with particular emphasis on the social, political, and religious institutions that emerged out of the encounters between English colonists, Native Americans, and Africans. (*Sp, even years*) Prerequisite: Junior standing or consent of the instructor.

### **HIS 305. Recent America**

**4 credits**

This course examines the history of the United States since the end of World War II to the present. It explores in particular the important social, political, and cultural developments of the period. (*Sp, odd years*) Prerequisite: Junior standing or consent of the instructor.

### **HIS 328. The Modern British Experience**

**4 credits**

This course examines the British achievement in the 19th and 20th centuries. It investigates the basis for British world domination and the reasons for Britain's recent decline from that position of world leadership. Prerequisite: Junior standing or consent of the instructor.

### **HIS 329. The German Experience**

**4 credits**

A research-oriented course examining modern German history. Emphasis is placed on the process of unification, the Nazi era, the GDR and reunification. Also offered as POL 329. (*Fa, odd years*) Prerequisite: Junior standing or consent of the instructor. Students planning to take HIS 329 for their German language minor must contact the instructor (in the semester before they enroll in HIS 329) to develop a plan for adapting coursework to incorporate and demonstrate appropriate use of the language.

### **HIS 495. Kennan Seminar**

**1 credit**

This course provides our Kennan Scholars with the opportunity to discuss historical literature with history faculty in a small group setting. This is an S/U graded course. (*Fa, Sp*) Prerequisite: Open only to Kennan Scholars.

### **HIS 499. Capstone: Senior Seminar for Historians**

**4 credits**

This course requires students to produce a high-quality research paper based largely on primary sources and to formally present their work before other students and the history faculty. Students will also complete a portfolio including a representative sample of their previous written work in history courses, and prepare an intentional plan for

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their transition from Carroll to a career and/or further education. (Fa) Prerequisites: HIS 200 and one 300-level research course.

**PHI 101. Introduction to Philosophy** L6 4 credits  
A historical introduction to the major fields of Western philosophy including logic, metaphysics, epistemology, and ethics. This course helps students better understand the world by studying significant interpretations of self, the world, and morality that have been offered by thinkers, past and present. (Fa, Sp)

**PHI 105. Introduction to Logic** L1 4 credits  
A study of the principles and methods of logical reasoning. The class will focus primarily on formal mathematical deductive logic but will also include principles of inductive logic and Aristotelian syllogistic logic. (Fa)

**PHI 206/206H. Ethics** L7 4 credits  
An introductory investigation of alternative systems for determining and justifying ethical values. The course explores both theories of conduct (What should I do?) and theories of character (Who should I be?) through an exploration of the contemporary significance of theorists such as Aristotle, Kant, and Mill. (Fa, Sp, Su)

**PHI 207. History and Philosophy of Science** L6 4 credits  
A study of the philosophical foundations of science. The class will discuss the nature, purpose and methodologies of scientific inquiry starting with Aristotelian science and tracing the development to the modern period. The class will also discuss the nature of scientific proof, the evaluation of evidence for scientific claims, and the formation and evaluation of scientific theories. (Fa, odd years)

**PHI 298/398. Independent Study in Philosophy** 1-4 credits  
Qualified students will undertake an independent study project. Prerequisites: Junior or senior standing, approval of the divisional dean and consent of instructor.

**PHI 308. Philosophy of Religion** L4 4 credits  
This is an advanced introduction to the main issues in the philosophy of religion. Topics that may be covered are the rationality of religious belief, cognitive experience of the divine, the compossibility of divine attributes, the efficacy of prayer, the problem of evil, and other issues that arise in philosophical theology. Also offered as REL 308. (Sp, odd years)

**PHI 320. Ancient and Mediaeval Philosophy** L6 4 credits  
An advanced survey of philosophical thought from the Pre-Socratics to Late Scholasticism. The course will trace the development of western philosophical thought and the seminal ideas of western civilization as found in the work of the leading thinkers of the ancient and mediaeval world. (Fa, even years)

**PHI 321. Modern and Contemporary Philosophy** L6 4 credits  
An advanced survey of philosophical thought from the modern period beginning with Descartes through key 20th century and current philosophers. The course will trace

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the development of western philosophical thought and the seminal ideas of western civilization as found in the work of the leading thinkers since approximately 1600. (*Sp, even years*)

**POL 101. Our Flattening World: L4 4 credits**  
**An Introduction to Global Studies**

An introductory survey on the central themes, concepts, theories, issues and debates pertinent to the study of globalization. Topics include the forms and causes of globalization, global trade, environmental issues, migration and population issues, global health, global terrorism and global development and inequalities. (*Fa*)

**POL 141. Introduction to American Politics L3 4 credits**

A broad survey of American national politics and Wisconsin state government. Politics majors should take this course before taking any other course in politics. (*Fa, Sp, Su*)

**POL 200. Social Science Inquiry 4 credits**

This course is designed to introduce students to the application of quantitative and qualitative research methods within social science disciplines. Students will also be introduced to SPSS statistical software. The course will culminate with students developing and presenting their own empirical research design proposals. The content in this course is intended to assist students in the preparation of upper-level seminar research papers including Capstone.

**POL 201. (142) Politics of the World's Nations L4 4 credits**

A survey of political systems that introduces students to fundamental concepts and their applications in many nations. The course examines public institutions (legislatures, executives, courts) and political processes (voting, policy-making). (*Sp, Su*)

**POL 210H. The Origins of Democratic Thinking L6 4 credits**

An examination of democratic thinking in fifth century BC Athens through the study of some of its greatest literature. The course focuses on Thucydides' History of the Peloponnesian War and several works for the theater. For honors students. (*Sp, even years*)

**POL 230. Managing Nonprofit Organizations 2 credits**

A broad survey of the role of managers in nonprofit organizations. Topics include fund raising, board development, planning, financial management, personnel policies, and managing change. May not be counted toward a Politics major or minor.

**POL 231. Financial Management in Nonprofit Organizations 2 credits**

A survey of the major financial management concepts and techniques required for effective management of nonprofit organizations. Topics include fund accounting, budgeting, revenue forecasting, financial statements and reports, cashflow management, portfolio management, and capital financing. May not be counted toward a Politics major or minor.

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- POL 232. Resource Development in Nonprofit Organizations** 2 credits  
An examination of the types of organizations served by fund raising, the major sources of funds, and the fund raising manager's role in planning and implementing fund raising strategies. May not be counted toward a Politics major or minor.
- POL 233. The Law and Governance of Nonprofit Organizations** 2 credits  
This course examines laws affecting the operations of nonprofit organizations and the roles of boards of trustees in their governance. Topics include relations between trustee boards, professional managers, and program staff. May not be counted toward a Politics major or minor.
- POL 234. Critical Issues in Nonprofit Management** 1-4 credits  
This seminar deals with nonprofit management and policy issues of current or continuing interest. Changing topics may be drawn from any area of nonprofit management. Course may be repeated for credit. May not be counted toward a Politics major or minor.
- POL 255. Contemporary Global Politics** L3 4 credits  
This course provides an analysis of the dynamics of global politics and focuses on two general themes: 1) global conflict and cooperation and 2) the global political economy. Topics include state and non-state actors, the role of power and morality, the types and causes of war, foreign policy decision-making, just war tradition, humanitarian intervention, the democratic peace theory, global financial institutions, trade and international monetary policy, and the role of multinational corporations. (*Fa*)
- POL 275. Political Theory** L6 4 credits  
A broad survey of the concerns, problems and achievements of recent political thought. Topics include democratic theory, African-American political thought, Feminist political theory, and post modernism. (*Fa*) Prerequisite: sophomore standing or permission of instructor.
- POL 276. Democracy and Globalization** L6 4 credits  
This course provides an overview of the concerns, problems, and achievements of recent occidental political thought in addressing normative issues emerging from globalization and its impact on democratic governance. (*Sp*) Prerequisite: sophomore standing or permission of instructor.
- POL 280. Politics and Culture** 4 credits  
A topical introduction to the idea of politics and popular culture, especially as seen throughout the United States (and other western countries) during and after the Cold War. The emphasis is on viewing modern American politics, culture and history through mass media forms such as television, novels and especially Hollywood films. The class will examine concepts of the legitimacy of power, broadly considered, through a focus on the intersection of popular and political culture. (*Fa, odd years*)

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### **POL 291/391. Topics in Politics**

**4 credits**

Focused study of a topic of special concern to political scientists. Changing topics may be drawn from any area of politics. Course may be repeated for credit. Two-credit Topics in Politics courses may not be counted toward a politics or global studies major or minor.

### **POL 298/398. Independent Study in Politics**

**1-4 credits**

(*Fa, Sp, Su*) Prerequisite: Junior standing, approval of divisional dean and consent of instructor.

### **POL 301. Politics of Developed Nations**

**L4**

**4 credits**

A comparative treatment of political systems in several advanced democratic nations. The course focuses on the policy problems that governments of developed countries face as they attempt to regulate "post-industrial" economies and societies. (*Fa, odd years*) Prerequisite: POL 201 or consent of instructor.

### **POL 303. Politics of Developing Nations**

**4 credits**

Through an examination of the political systems in a number of non-western countries in Africa, Latin America, Asia and the Middle East, this course studies the problems of political development in an environment of domestic and international challenges. (*Fa, even years*) Prerequisite: POL 201 or consent of instructor.

### **POL 329. The German Experience**

**4 credits**

A research-oriented course examining modern German history. Emphasis is placed on the process of unification, the Nazi era, the GDR and reunification. Also offered as HIS 329. (*Fa, odd years*) Prerequisite: Junior standing or consent of the instructor. Students planning to take POL 329 for their German language minor must contact the instructor (in the semester before they enroll in POL 329) to develop a plan for adapting coursework to incorporate and demonstrate appropriate use of the language.

### **POL 330. Congress and the Presidency**

**4 credits**

This course provides an understanding of the relationship between Congress and the presidency. Students will explore the different institutional responsibilities attached to Congress and the presidency and the ways in which these institutions have developed historically, how they are organized, the particular powers of each branch, and the way they operate in the policy arena. (*Sp, even years*)

### **POL 332. Public Policy**

**4 credits**

This course focuses on the formulation, implementation and evaluation of public policy. Emphasis is given to the variety of ways public goals are pursued by governments and to the role of intergovernmental relations and nonprofit organizations in shaping public policy. (*Sp, odd years*)

### **POL 335. Public Administration**

**L3**

**4 credits**

A broad survey of the whole area of administrative politics and processes at the national, state and local levels while focusing on the work of public agencies and nonprofit organizations in implementing public policy. (*Sp, odd years*)

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**POL 344. Constitutional Law and Politics**

**4 credits**

A study of the interpretation of the United States Constitution by the Supreme Court; the role of politics on judicial interpretations and their influence in American government and society. (*Fa, even years*)

**POL 381. Internship in Politics**

**4 credits**

Prerequisites: Senior standing and at least a 2.5 grade point average in courses in the major. S/U graded. (*Fa, Sp, Su*)

**PPE 101. Introduction to Philosophy, Politics and Economics**      L6

**4 credits**

A discussion-based interdisciplinary course exploring the interrelated nature of fundamental ideas and methods used by philosophers, political scientists, and economists to study important socio-economic issues such as globalization, freedom and markets, citizenship and political power, and others. (*Sp*)

**PPE 499. Philosophy, Politics and Economics Capstone**

**4 credits**

The capstone course will have 4 components. 1) A major research paper: Each capstone student will propose and write a research paper on a topic approved by the capstone instructor. 2) Oral defense: each student will present and defend his or her research project to a panel of faculty in the major and other capstone students. 3) Comprehensive exam: each student will take an exam created by faculty in the major to test their mastery of the broad content of the major. 4) Transition plan: Students will be assisted in preparing a transition plan to career or graduate school as described in the capstone experience guidelines. Prerequisite: Senior standing as a PPE major. (*Sp*)

**REL 102. Introduction to the Hebrew Bible**

L6

**4 credits**

An introduction to the history, literature, and interpretation of the Hebrew Bible/Old Testament. The course includes a study of the historical and cultural traditions of the ancient Israelites and the use of archaeological, historical, and literary methods in studying the Hebrew Bible literature. (*Fa, Sp*)

**REL 103. Introduction to the New Testament**

L7

**4 credits**

An introduction to the history, literature, and interpretation of the New Testament. The course includes the study of the Jewish and Greco-Roman historical backgrounds of Jesus and the earliest church and the use of historical, sociological, and literary methods to examine the New Testament writings. (*Fa, Sp*)

**REL 106. Understanding Religion**

L4

**4 credits**

We can describe religion; we can compare our own experiences with one another; we can watch other people when they are being 'religious'; we can see films, listen to music, look at advertising and watch news reports to discover where religion shows up, but what does it take to actually define religion? To begin the task of defining religion in this course, we will consider what religious people do, including: creating rituals, reading sacred texts, making sacred spaces, using special language, behaving ethically and sometimes behaving violently. We will look at ideas and practices across religious traditions but this is not a course in religions of the world. Rather, it is an introduction to the big ideas and common practices that help define what religion is. (*Fa, Sp*)

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**REL 200. Religions of the Contemporary World** L4 4 credits  
This course is a survey of religions practiced around the world today, including "world" religions like Hinduism, Judaism, Buddhism, Christianity, Islam, Taoism, and Confucianism, but also touching on native and folk religions, Baha'i, Sikhism, and others. The approach is interdisciplinary, addressing historical development in addition to central beliefs and practices of a wide range of religions. Students will leave with a better sense of the variety of religious thought and practice, and of the importance of historical context in the formation and development of religions. The course also prepares the student for further study of particular religious traditions.

**REL 201. Jesus of Nazareth** L7 4 credits  
A study of Jesus in his first-century historical context as a Jew and in the different literary contexts of the New Testament (e.g. the Gospels, Paul, Revelation). The course will also include an examination of how Jesus is interpreted in today's global context (e.g. Africa, Latin America, Asia, and North America). (*Fa*)

**REL 202. Religious Traditions in America** L7 4 credits  
A variety of religious traditions has played and continues to play important roles in our communities, small and large. This course focuses on the origins of contemporary religious traditions in the US, their basic beliefs, and their impact on life. The course may include presentations by local representatives of traditional faiths as well as more recent developments, and may involve visits for participants' exposure to new religious experiences. (*Sp*)

**REL 210. Suffering and Hope** L4 4 credits  
An in-depth examination of the theme of suffering and hope through a survey of foundational primary texts and contemporary theologies in different cultural and religious traditions. Students will learn several major perspectives on suffering and hope, explore assumptions that are made regarding suffering, and examine the ethical implications of the different views of suffering. (*Fa, odd years*)

**REL 215. Women in Religion** L7 4 credits  
A reading of world religions through the lens of women's experience. In studying religions such as Hinduism, Islam, Buddhism, Christianity, and Native American traditions, we will not only discuss the essential teachings of the religion but we will consider how women have changed those teachings and the backlash against them for it. (*Fa, even years*)

**REL 230. Foundations of Christianity** L6 4 credits  
This course examines Christian teachings about God, Christ, and Salvation developed from 100 to 1650 C. E. The study of the concepts, practices, and experiences of this formative period of Christianity is background for a critical understanding of Christianity in our times. (*Fa*)

**REL 231. Christianity in the Modern World** L6 4 credits  
How has Christianity been involved in the life of the modern world from 1650 to the present? We will consider how Christians rethought their faith commitments while science and philosophy challenged their traditional assumptions. We will also examine

recent Christian theological and ethical responses to such topics as gender and sexuality, environmental concerns, poverty, global conflicts, and the relationships among religions. (*Sp*)

**REL 291/391. Topics in Religious Studies**

**4 credits**

A study of a selected topic in religious studies that is not covered in regular course offerings. Different topics in the fields of Bible, theology, history, ethics and current issues in culture and religion will be offered.

**REL 298/398. Independent Study**

**1-4 credits**

A course for students who are interested in working with a faculty member on a specific area of study. (*Fa, Sp*) Prerequisites: Junior standing, approval of divisional dean and consent of instructor.

**REL 306. Asian Religions**

**L4**

**4 credits**

In this course, students will explore the sacred literature, practices and cultures of Islam, Buddhism, Hinduism, Jainism, Sikhism, Confucianism, Taoism, and the religions of Japan. (*Fa, odd years*) Prerequisite: Junior standing or consent of the instructor.

**REL 308. Philosophy of Religion**

**L4**

**4 credits**

This is an advanced introduction to the main issues in the philosophy of religion. Topics that may be covered are the rationality of religious belief, cognitive experience of the divine, the compossibility of divine attributes, the efficacy of prayer, the problem of evil, and other issues that arise in philosophical theology. Also offered as PHI 308. (*Sp, odd years*)

**REL 310. Power, Politics, and Pluralism  
in Biblical Interpretation**

**L7**

**4 credits**

This class examines how the Bible has been interpreted to support certain positions regarding politics, class, race, gender, and sexual orientation. The class will explore how the Bible has been interpreted in global contexts and will focus in particular on how those in the United States have read and lived out the Bible through history. Topics may include slavery, roles of women, politics, same-sex relations, class relations, postcolonialism, anti-Semitism, end-time beliefs, and religious cults. (*Sp, odd years*)

**REL 316. Judaism, Christianity and Islam**

**L6**

**4 credits**

In this course students will explore the foundational texts, histories, beliefs, and practices of the three western monotheistic religions: Judaism, Christianity and Islam. An emphasis will be placed on learning each of the three traditions on their own as well as the variety of perspectives expressed within each tradition. A comparative study on several topics will also be included. Contemporary issues and conflicts involving these traditions will be explored. (*Sp, even years*)

**REL 362. New Testament Greek Tutorial**

**2 credits**

Independent study with instructor. Specifically offered for those planning to attend graduate school in religious studies. Does not count toward major or minor. *S/U* graded. (*Offered when requested*)

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### **REL 364. Hebrew Tutorial**

**2 credits**

Independent study with instructor. Specifically offered for those planning to attend graduate school in religious studies. Does not count toward major or minor. S/U graded. (*Offered when requested*)

### **REL 380/480. Internship in Religious Studies**

**1-4 credits**

An opportunity for students to work for local churches, social service agencies or other appropriate institutions under faculty supervision. The program provides practical experience supported by study and reading. The student may choose to participate in the program for a semester or a year. The work is S/U graded. Prerequisite: Consent of the instructor.

### **REL 499. Capstone: Senior Seminar**

**4 credits**

Seniors research and write a substantial research paper which demonstrates their competency in religious studies and their ability to incorporate general education skills. Students will also give an oral presentation of the paper to faculty and interested students. As part of the seminar, students are required to complete an intentional plan for their transition from undergraduate school to a career and/or to graduate/professional school. Prerequisite: Senior standing.

# DIVISION OF NATURAL AND HEALTH SCIENCES

# ACTUARIAL SCIENCES

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John Symms

Associate Professor of Mathematics

Broadly speaking, actuaries are professionals who analyze financial risks of future events. Trained in mathematics, statistics, economics and finance, actuaries quantify these risks by building and evaluating mathematical models. Such analyses are essential for the success of businesses in areas such as insurance, investment, and employee benefits. The Carroll University Actuarial Sciences Major gives students a broad and in-depth background in these core disciplines in preparation for entry into the actuarial sciences profession.

Carroll University has internship programs with Northwestern Mutual and the Assurant insurance companies. Each year, representatives from Northwestern Mutual and Assurant select interns from among Carroll University Actuarial Science majors for full-time (or part-time) paid internships. Selected student interns receive an authentic experience in the actuary profession while earning Carroll University credit. The full-time internships also include 100 hours of paid study time for the intern's next actuarial sciences exam.

### Learning Outcomes for Actuarial Science

Students majoring in actuarial science are expected to:

1. Develop an understanding of the actuarial profession, what actuaries do, and how they do it.
2. Develop a knowledge base and proficiency in the core subjects needed for entry into the profession.
3. Develop an appreciation for the linkages between these core subjects.
4. Develop the critical and analytical thinking skills necessary for success in the profession.
5. Develop the communication skills that are essential in the business environment.
6. Develop the learning skills necessary for continued success in the profession.

### Actuarial Sciences Major (76 credits)

Bachelor of Science

#### Required Major Courses

Accounting 205, Financial Accounting

Accounting 206, Managerial Accounting

Business 101, Introduction to Business

Business 304, Principles of Finance

## ACTUARIAL SCIENCE

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Economics 124, Principles of Economics I - Microeconomics  
Economics 225, Principles of Economics II - Macroeconomics  
Economics 212, Applied Statistics for Business  
Mathematics 112, Introduction to Statistics  
Mathematics 160, 161, 207, Calculus I, II and III  
Mathematics 208, Linear Algebra  
Actuarial Science 301, Financial Mathematics  
Actuarial Science 302, Probability  
Actuarial Science 401, Financial Economics or  
Actuarial Science 402, Life Contingencies

### **Required Support Courses: (Required for all majors)**

Computer Science 107, Problem Solving Using Information Technology  
Computer Science 110, Problem Solving through Programming  
Computer Science 211, Database, Web Creation and Networks

### **301. Financial Mathematics**

**4 credits**

Workshop-style course that develops fundamental concepts of financial mathematics and how those concepts are applied in calculating present and accumulated values for various streams of cash flows as a basis for future use in reserving, valuation, pricing, asset/liability management, investment income, capital budgeting and valuing contingent cash flows. Additionally, the course provides an introduction to financial instruments, including derivatives, and the concept of no-arbitrage as it relates to financial mathematics. (*Sp, even years*) Prerequisite: MAT 161.

### **302. Probability**

**4 credits**

This course develops fundamental probability tools for quantitatively assessing risk. Topics include general probability, univariate probability distributions (including binomial, negative binomial, geometric, hypergeometric, Poisson, uniform, exponential, gamma, and normal), and multivariate probability distributions (including the bivariate normal). Application of these tools to problems encountered in actuarial science is emphasized. (*Sp, odd years*) Prerequisite: MAT 207.

### **313. Time Series and Forecasting**

**2 credits**

Workshop-style course that develops fundamental concepts and skills in time series/forecasting. Topics include linear time series models; moving average; ARIMA models; estimation, data analysis and forecasting with time series models; Forecast errors and confidence intervals. This course meets VEE requirements for Time Series/Forecasting. Offered when there is sufficient student demand (at least seven students take the course) and when sufficient time is provided to secure staffing. Prerequisites: MAT 208, ECO 212, and ECO 225.

### **380/480. Internship in Actuarial Science**

**4-16 credits**

Professional work experience in the actuarial sciences under the supervision of faculty and professional actuaries. Course requirements will depend on the type of internship. S/U graded. (*Fa, Wn, Sp, Su*) Prerequisites: Junior or senior standing and approval of instructor are required prior to registration.

**401. Financial Economics**

**4 credits**

Workshop-style course that develops the theoretical basis of certain financial-economic models and the application of those models to insurance and other financial risks. Topics include interest rate models, rational valuation of derivatives securities, simulation, and risk management techniques. (*Fall, even years*) Prerequisite: ASC 301.

**402. Life Contingencies**

**4 credits**

Workshop-style course that develops theoretical basis of life contingencies and the application of those models to insurance and other financial risks. Topics include survival models, Markov Chain models, life insurances and annuities, and Poisson processes. (*Fall, odd years*) Prerequisite: ASC 302.

# DIVISION OF NATURAL AND HEALTH SCIENCES

## APPLIED PHYSICS/ ENGINEERING

### DUAL DEGREE PROGRAM

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**Damon A. Resnick**

Assistant Professor

**John Symms**

Associate Professor

Carroll University, the University of Wisconsin-Platteville and the University of Wisconsin-Milwaukee offer an interuniversity program that allows students to earn two degrees: a B.S. in Applied Physics from Carroll University, and a B.S. in Engineering from the UW-Platteville or UW-Milwaukee. There also an option to earn a B.S. in Applied Physics from Carroll University and an M.S. in Engineering from UW-Milwaukee. Usually taking 5 years to complete, the Carroll University portion of these 3-2 programs consists of an intensive integrated experience in general engineering, physical science, applied mathematics, computation, and liberal studies. Upon completing the 3 year program at Carroll University, students transfer to UW-Platteville for 2 years to complete an engineering degree in any one of the following disciplines: Civil Engineering, Electrical Engineering, Engineering Physics, Industrial Engineering, Mechanical Engineering, and Materials Science.

#### **Learning Outcomes for Applied Physics/Engineering**

1. Prepare students to successfully complete an intensive 2-year engineering curriculum at UW-Platteville or UW-Milwaukee.
2. Introduce students to the engineering profession, including engineering problem solving, judgment and practice.
3. Begin development of student awareness of the impact of their work on society, locally, nationally and globally.

#### **Courses taken at Carroll**

##### **Core**

Chemistry 109, 110, Principles of Inorganic and Analytic Chemistry

Computer Science 111, Introduction to Java

Engineering (GEN) 100, 101, Engineering Seminar I and II

Engineering (GEN) 105, Engineering Graphics

Engineering (GEN) 210, Statics and Dynamics

Mathematics 160, 161, 207, Calculus I, II and III

Mathematics 309, Differential Equations

Physics 203, 204, General Physics

Physics 301, Electricity and Magnetism

Physics 303, Modern Physics

Physics 304, Mechanics  
Physics 320, Thermodynamics  
Engineering (GEN) 320, Advanced Circuits and Electronics

Two of the following: (\*)  
Engineering (GEN) 310, Strengths of Materials  
Mathematics 208, Linear Algebra  
Mathematics 312, Probability and Statistics

(\*) Chosen according to the desired engineering field.

**100. Engineering Seminar I****1 credit**

New engineering students will be given opportunities to develop and improve problem-solving, computer literacy and study skills to maximize their chances for success in their university careers and prepare them for subsequent engineering courses. Topics include: making the transition from high school to university; time management; exploration of the engineering disciplines, learning styles, introduction to computer skills including spreadsheets, word processing and presentation software; engineering ethics; introduction to engineering methods. (*Fa*)

**101. Engineering Seminar II****1 credit**

New engineering students are given opportunities to explore the engineering programs through interdisciplinary projects. Emphasis will be placed on written and oral communication skills, data collection and analysis, computer application skills and group work. (Required course fee) (*Sp*) Prerequisite: GEN 100.

**105. Engineering Graphics****4 credits**

Problems relative to points, lines and planes in space; Cartesian coordinates; projection-plane theory; orthographic pictorials; dimensioning; auxiliary views; sections; extensive use of computer-aided design (AutoCAD and solid modeling) including 2D and 3D drawing, editing and enhancing; emphasis on development of the ability to communicate graphically; special emphasis on engineering and computer graphics applications. (*Fa*)

**210. Statics and Dynamics****4 credits**

Principles of statics and dynamics with applications in engineering. Topics include force/movement vectors, resultants, distributed loads, internal forces in beams, properties of areas, moments of inertia and the laws of friction, kinematics and kinetics of particles, rigid bodies in translation, rotation and general plane motion, Newton's laws, work-energy methods, linear and angular momentum. (*Sp 2010*) Prerequisite: PHY 203, and MAT 207 or concurrent registration in MAT 207.

**310. Strengths of Materials****4 credits**

Simple stress and strain; design and investigation of joints, beams, torsion members and columns; evaluation of shear, moment, slope and deflection of beams and combined stresses. (*Fa 2010*) Prerequisite: GEN 210.

### 320. Advanced Circuits and Electronics

2 credits

Expanding on topics covered in PHY 204 and 301, analog circuits are treated in greater detail, including steady-state AC circuits, transfer functions, transient current dynamics, circuit analysis, phasors, follower circuits, and operational and transistor amplifiers. Additional analog topics include diodes, transistors (bipolar junction and field-effect), elementary amplifier circuits, transistor limitations, comparators, and oscillators. Lectures and laboratories are expanded to include digital electronics, electronic devices and applications. Digital topics include digital circuits, digital logic, flip flops, counter, memory, A/D and D/A conversion. Additional topics may include arithmetic units and microprocessors. (Required course fee) (*Fa 2010*) Prerequisite: PHY 301.

### 380. Engineering Internship

4 credits

The internship provides an opportunity for the student to synthesize knowledge and skills from coursework in a professional setting, under the supervision of faculty and professional engineers. (*Fa, Sp, Su*) Prerequisite: Junior or Senior standing and approval of instructor.

# DIVISION OF NATURAL AND HEALTH SCIENCES

## ATHLETIC TRAINING

### EDUCATION PROGRAM

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<b>John P. Lichosik</b>	Athletic Training Education Program Director and Clinical Assistant Professor of Athletic Training
<b>Jamie Krzykowski</b>	Clinical Assistant Professor of Athletic Training and Exercise Science
<b>Thomas Pahnke</b>	Clinical Associate Professor of Athletic Training and Physical Therapy
<b>Steven M. Staab</b>	Head Athletic Trainer and Instructor

The athletic training program at Carroll University is accredited by the Commission on Accreditation of Athletic Training Education. (CAATE)

The aim of the athletic training program is to train qualified health care professionals at the baccalaureate level who are educated and experienced in the management of health care problems associated with physical activity across the life span as defined by the National Athletic Trainers' Association. Students are educated to work with athletic and physically active populations in a variety of settings including, but not limited to, secondary schools, universities, professional sports programs, sports medicine clinics, prevention and wellness settings, and industrial settings.

The graduate athletic trainer is competent in the delivery of athletic training. The graduate possesses the knowledge and skills needed for risk management and prevention of injuries associated with physical activity, the pathology of injuries and illnesses, assessment and evaluation, and acute care of injury and illnesses for the physically active. The graduate applies knowledge and skills concerning pharmacology, therapeutic modalities, therapeutic exercise, general medical conditions and disabilities, and nutritional aspects of injury and illness for the physically active population. The athletic trainer demonstrates the ability to carry out psychosocial intervention and referral, perform health care administration, and uphold professional development and responsibilities as outlined by the National Athletic Trainers' Association. To ensure that the program is reflective of the development of athletic trainers at the baccalaureate level in a changing health care environment, ongoing student, faculty, program, institutional, and professional assessments occur regularly.

To meet the education mission for service and scholarly activity, the program utilizes a variety of individuals including, but not limited to, academic and clinical athletic trainers; basic, behavioral, and social scientists; other health care professionals; athletes and coaches; and community members. The athletic training academic faculty is responsi-

## **ATHLETIC TRAINING EDUCATION PROGRAM**

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ble for design, implementation, and evaluation of the professional curriculum. In addition to the academic training of future athletic trainers, the program is committed to intra- and interdisciplinary service and scholarly activity in the delivery of athletic training.

### **Learning Outcomes for Athletic Training Education Program**

Upon graduation and entry into the field of athletic training, the individual:

1. Will possess the knowledge and skills of an entry-level athletic trainer in the six practice domains of athletic training set forth by the National Athletic Trainers' Association Board of Certification: Prevention of Injuries; Recognition, Evaluation & Assessment of Injuries; Immediate Care of Injuries; Treatment, Rehabilitation & Reconditioning of Injuries; Organization & Administration; and Professional Development & Responsibility.
2. Will have experience with multiple athletic training and health care settings including interactions with health care providers from various disciplines.
3. Will be able to think critically to effectively solve problems in a variety of dynamic athletic training environments.
4. Will understand the importance and process of becoming life-long learners in order to contribute to the field of athletic training.
5. Will be an effective communicator among health care providers, administrators, coaches, athletes, family, and community in their delivery of athletic training.
6. Will practice with professionalism and integrity and adhere to the professional code of ethics outlined by the National Athletic Trainers' Association.

### **Academic Progression Standards**

The academic progression standards for the athletic training education program are presented in the Health Sciences section of this catalog.

### **Admission Requirements**

The admission requirements for the athletic training education program are presented in the Admission section of the catalog.

### **Technical Standards for Admission to and Progression in the Athletic Training Education Program**

Successful participation in the Athletic Training Education Program requires that a student possess the ability to meet the requirements of the program. Though the program may modify certain course requirements in order to provide a handicapped person (handicapped is defined by the federal government pursuant to SS 504 of the Rehabilitation Act of 1973) with an equivalent opportunity to achieve results equal to those of a non-handicapped person, there are no substitutes for the following essential skills. The applicant must initially meet these requirements to gain admission to the program, and must also continue to meet them throughout participation in the program.

1. **Physical requirements:** The applicant/student must be willing and capable of performing physical assessments (e.g. range of motion, manual muscle testing, visual observations) of patients using various evaluative and therapeutic instruments and equipment. The applicant/student must also be able to perform athletic training skills (e.g. taping, splinting, ambulatory aid, rehabilitative and treatment techniques, activities of daily living). In addition, an applicant/student must successfully complete and maintain certification in first aid and cardiopulmonary resuscitation.
2. **Communication:** An applicant/student must be able to elicit information, describe changes in health, mood, and activity and perceive non-verbal communication. An applicant/student must be able to communicate effectively and efficiently with patients and all members of the health care team.
3. **Intellectual abilities:** Problem solving, a critical skill of athletic trainers, requires abilities in measurement, calculation, reasoning and analysis.
4. **Behavioral and social attributes:** The applicant/student must be able to tolerate physically active taxing workloads and to function effectively under stress, must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties inherent in athletic training care provided to people. The applicant/student must possess the qualities of integrity, concern for others, compassion, skills in interpersonal relationships and motivation for a career in health care.

The athletic training program can require that an applicant/student undergo a physical examination. A handicapped applicant/student shall not, on the basis of his or her handicap (except those which would preclude the essential skills outlined above) be excluded from participation in, denied benefits of, nor be subjected to discrimination in the athletic training program.

Policies for students with disabilities can be found in the Student Life section of the academic catalog.

### Caregiver Background and Criminal History Check

On October 1, 1998, the State of Wisconsin Department of Health and Family Services mandated that all persons who seek to be employed and/or licensed in the caregiver industry must fulfill the caregiver and background check requirements in Section 50.065 of the Wisconsin State Statute. Professional phase athletic training students are required to complete a background and criminal history check and abide by state regulations and university policies pertaining to any findings.

### Insurance

**Health:** Athletic Training Education Program students are required to have medical insurance. Those who are covered by a family or personal policy must provide the insuring company's name and the policy number on a waiver form that is sent to the student by the university business office. For students without their own coverage, a group insurance policy is available through the university. Athletic Training students

## **ATHLETIC TRAINING EDUCATION PROGRAM**

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are also required to have a personal health history and physical form completed and on file in the administrative area of the Health Sciences.

**Professional Liability:** Students are required to purchase on an annual basis professional liability insurance through a university-endorsed company.

### **Fees**

Students enrolled in the professional phase of the Athletic Training Education Program are assessed a program fee for course related supplies and equipment, assistance with membership dues in the National Athletic Trainer Association, and liability insurance. Select athletic training course in the preprofessional phase that require use of equipment and disposable supplies are assigned a course fee.

### **Curriculum**

Throughout the curriculum, subject matter progresses from the basic sciences to clinical sciences to professional content.

In coordination with academic coursework, learning over time occurs by interaction with clinical instructors through field experiences in traditional athletic training settings, other health care settings, and practice and athletic event coverage. Students can expect to travel to off site clinical rotations/laboratory sessions or field experiences in the professional phase of the program. Throughout the program, students are evaluated on the attainment of knowledge to include psychomotor, cognitive, and affective competencies as outlined by the National Athletic Trainers' Association Education Council. Outcomes are measured through ongoing self, peer, and clinical instructor assessments.

Ongoing program assessments include student evaluations and feedback, curriculum evaluations, institutional self study assessment and site visits by the Commission on Accreditation of Athletic Training Education (CAATE).

### **Athletic Training Major Bachelor of Science**

#### **Major Courses (40 credits)**

- Athletic Training 301, Assessment and Evaluation I (4 credits)
- Athletic Training 302, Assessment and Evaluation II (4 credits)
- Athletic Training 304, Therapeutic Modalities (4 credits)
- Athletic Training 311, Athletic Training Practicum I (1 credit)
- Athletic Training 312, Athletic Training Practicum II (1 credit)
- Athletic Training 403, Applied Exercise for Musculoskeletal Injuries (4 credits)
- Athletic Training 405, Administration of Athletic Training (2 credits)
- Athletic Training 407, Athletic Training Seminar III (2 credits)
- Athletic Training 411, Athletic Training Practicum III (1 credit)
- Athletic Training 499, Capstone Internship (14 credits)
- Health Sciences 300, Pharmacology (3 credits)

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## ATHLETIC TRAINING EDUCATION PROGRAM

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### Required Support Courses (51 credits)

Physics 101, Introductory Physics (4 credits)

Physics 102, Introductory Physics (4 credits)

Health Sciences 101, Introduction to Health Care Skills (1 credit) or equivalent of First Aid and CPR for the Professional Rescuer Certification with AED certification

Athletic Training 101, Athletic Training Seminar I (2 credits)

Athletic Training 102, Athletic Training Seminar II (2 credits)

Chemistry 101, General Chemistry (4 credits)

Chemistry 102, Biological Chemistry (4 credits)

Health Education 201, Nutrition (2 credits) or

Chemistry 208, Nutrition (3 credits)

Biology 130, Introduction to Human Anatomy and Physiology I (4 credits)

Biology 140, Introduction to Human Anatomy and Physiology II (4 credits)

Health Sciences 103, Personal and Community Health (4 credits)

Health Sciences 110, Basic Weight Training Instruction (1 credit)

Health Sciences 120, Fundamental Motor Development (4 credit)

Health Sciences 322, Kinesiology (4 credits)

Health Sciences 303, Exercise Physiology (4 credits)

Exercise Science 324, Exercise Science Laboratory (2 credits)

### General Education and Liberal Studies Courses (28 credits)

FYS 100, First Year Seminar (4 credits)

English 170, Writing Seminar (4 credits)

Psychology 101, Introduction to Psychology (4 credits, LSP III)

Communication 207, Intercultural Communication (4 credits, LSP IV)

LSP V, VI, VII

### Degree Support Courses (6 credits)

Mathematics 112, Introduction to Statistics (4 credits)

Computer Science 107, Problem Solving Using Information Technology (2 credits)

#### 101. Athletic Training Seminar I

2 credits

This course will provide an overview of basic athletic training theory and techniques that is useful for those involved with athletics and physical activity. The student will gain an understanding of basic anatomy and common injuries associated with physical activity. Other topic areas that will be addressed include: prevention and management of injury, emergency medical plans, blood borne pathogen precautions, nutritional issues, and legal matters and risk management. Overall, this course will introduce the student to the sports medicine team, their roles and responsibilities, and how they themselves are a contributing member of the sports medicine team. (Required course fee) (*Sp*)

#### 102. Athletic Training Seminar II

2 credits

This course will provide students with basic skills and knowledge used in the athletic training profession. It will include discussions regarding the role of preventative techniques, emergency management plan, injury treatment methods, components of a pre-participation exam, and wound management techniques. Competencies for injury pre-

## **ATHLETIC TRAINING EDUCATION PROGRAM**

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vention will be taught including developing an emergency plan, vision screenings, wound management, advanced taping techniques, wrapping techniques, and taking vital signs. (Required course fee) (*Fa*)

### **301. Assessment and Evaluation I**

**4 credits**

This course will provide students with the knowledge and skills for clinical and on-the-field musculoskeletal assessment and evaluation of the upper and lower extremities for physically active people. General topics for the course will include patient care, interviewing and history taking, determining subjective and objective findings, and applying assessment and evaluation skills for the upper and lower extremities. Specific injuries and conditions specific to each extremity will be discussed as well as emergency, management, referral and return to participation measures for the physically active. (*Fa*) Prerequisites: Professional phase of Athletic Training Program standing or consent of instructor.

### **302. Assessment and Evaluation II**

**4 credits**

This course provides students with the knowledge and skills for assessment and evaluation of the trunk and thorax, general medical conditions for systemic illnesses including viruses and skin conditions. Topics for the course include patient care, patient interviewing skills, history taking, subjective and objective findings, and assessment and evaluation skills using problem solving/scientific methods. (*Sp*) Prerequisites: Professional phase of Athletic Training Program standing or consent of instructor.

### **304. Therapeutic Modalities**

**4 credits**

This course applies assessment and evaluation skills to develop treatment plans and protocols for physically active people. Students will relate the findings of their assessment to determine treatment plans and goals. Students will gain knowledge and skills regarding the rationale for therapeutic modalities and their physiologic effects. Students will gain experience in the application of therapeutic modalities including cryotherapy, thermotherapy, diathermy, electrotherapy, ultrasound, traction, intermittent compression, EMG biofeedback, laser, continuous passive motion, and therapeutic massage. (*Sp*) Prerequisites: Professional phase of Athletic Training Program standing or consent of instructor.

### **311. Athletic Training Practicum I**

**1 credit**

Students will gain experience in the field of athletic training and be expected to apply and perform competencies previously taught in the curriculum. Students will gain experience working with high risk sports to include football, soccer, wrestling and basketball; equipment intensive sports including football at the youth, high school or university level; attend a surgical experience for the extremities and orthopedic round experience for the extremities. (*Fa*) Prerequisites: Professional phase of Athletic Training Program standing.

### **312. Athletic Training Practicum II**

**1 credit**

Students will gain experience in the field of athletic training and be expected to apply and perform competencies previously taught in the curriculum. Students will gain

experience working with upper/lower extremity sports to include baseball, softball, track, soccer, wrestling, and basketball; attend a surgical experience and orthopedic rounds for the spine; orthopedic treatment and rehabilitation experience; and general medicine experience. (*Sp*) Prerequisites: Professional phase of Athletic Training Program standing.

**403. Applied Exercise for Musculoskeletal Injuries** **4 credits**

The course will explore the foundation for rehabilitation and reconditioning of physically active populations. Pathology of tissue injury and repair will be discussed. Progressions for range of motion, strength, speed, power, neuromuscular control, proprioception and coordination, agility, cardiorespiratory endurance, and mobilization techniques will be explored. (*Fa*) Prerequisites: Professional phase of Athletic Training Program standing or consent of instructor.

**405. Administration of Athletic Training** **2 credits**

This course covers topics associated with the administration and management of an athletic training facility and staff. These topics will be covered through lecture, class discussion, group work, and assignments. Some of the topics that will be covered include: management theories and styles, human resources, finances, facility design, information management, insurance, legal aspects/risk management, ethics, pre-participation physicals, developing a referral system, drug testing programs, and organizational bodies that provide governance/guidance to the field of athletic training/health care. (*Fa*) Prerequisites: Professional phase of Athletic Training Program standing or consent of instructor.

**407. Athletic Training Seminar III** **2 credits**

This course will provide an overview of the domains of athletic training and the implications that clinical proficiencies have in athletic training and their role in the day to day management of an athletic training facility. This will serve as a forum to discuss and review skills and topics prevalent to the entry-level athletic trainer. This course also assists the student in becoming knowledgeable in the BOC exam process. (*Fa*) Prerequisites: Professional phase of Athletic Training Program standing.

**411. Athletic Training Practicum III** **1 credit**

Students will gain experience in the field of athletic training and be expected to apply and perform competencies previously taught in the curriculum. Students will gain experience working with fall/winter sports to include football, soccer, basketball, and cross country at the university and/or high school level; football game coverage; professional sports; outpatient rehabilitation clinic; health and fitness setting; industrial setting; general medicine; emergency settings. (*Fa*) Prerequisites: Professional phase of Athletic Training Program standing or consent of instructor.

**499. Capstone Internship** **14 credits**

Students will gain experience in the field of athletic training and perform competencies and display knowledge expected of the entry-level certified athletic trainer outlined by the National Athletic Trainers' Association. This internship experience is directly supervised by a certified athletic trainer or health care provider. Students will

## ATHLETIC TRAINING EDUCATION PROGRAM

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present a case study modeled after the Journal of Athletic Training's format for a case study and present to faculty and students. (*Sp, Fa*) Prerequisites: Professional phase of Athletic Training Program standing.

See Health Sciences in the Carroll University Catalog for descriptions of Health Sciences (HSC) courses in the Athletic Training Program curriculum.

Athletic Training Four-Year Curriculum Model		
Class Standing	Fall Semester	Spring Semester
Freshman	CHE 101 FYS 100 LSP V, VI, or VII LSP V, VI, or VII HSC 101 17 credits	CHE 102 ENG 170 LSP V, VI, or VII PHY 101 ATH 101 18 credits
Sophomore	PHY 102 BIO 130 COM 207 HSC 103 ATH 102 18 credits	PSY 101 BIO 140 HSC 110 HSC 120 CSC 107 15 credits
Junior	HSC 303 HSC 322 ATH 301 ATH 311 CHE 208 16 credits	MAT 112 HSC 324 ATH 302 ATH 304 ATH 312 HSC 300 18 credits
Senior	ATH 403 ATH 405 ATH 407 ATH 411	ATH 499

\*Students enroll in either CHE 208 or HED 201

# DIVISION OF NATURAL AND HEALTH SCIENCES

# BIOLOGY

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<b>Monika G. Baldrige</b>	Assistant Professor
<b>Susan M. Hanson</b>	Instructor
<b>Cynthia J. Horst</b>	Associate Professor
<b>Susan E. Lewis</b>	Professor
<b>Eric T. Thobaben</b>	Assistant Professor

The Biology program will transform students into biologists with enhanced skills in critical thinking and scientific reasoning. Students will learn in an environment that fosters creativity, independent thinking, and the application of knowledge in the biological sciences. When biology students graduate from Carroll University, they will have the confidence and skills necessary to be successful professionals in a dynamic work force.

The Biology major is designed to give students excellent preparation for graduate study or professional careers in the life sciences, including molecular biology, physiology, field biology, research, teaching, dentistry, medicine, physical therapy, physician assistant, or veterinary medicine. All students have opportunities to develop excellent research skills throughout the core courses and upper-level biology electives, and many students collaborate with biology faculty on their current scholarly research.

### Learning Outcomes for Biology

As students progress through the Biology major, they will strengthen their abilities to

- Learn how to learn
- Read scientific literature
- Understand basic biological principles
- Apply knowledge to new situations
- Analyze complex issues
- Synthesize their understanding of diverse concepts
- Effectively conduct research
- Effectively communicate scientific information
- Understand and apply ethical principles
- Focus their career options

Students in the Biology program may apply for graduation with program honors if they complete the following requirements:

GPA, Biology courses: 3.6 or higher

GPA, Overall: 3.4 or higher

## **BIOLOGY**

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Presentation of research project results at a regional or national meeting (e.g., BBB or Wisconsin Academy of Sciences) or submission of a manuscript to a peer-reviewed journal

Demonstrated commitment to the biology profession, broadly defined, above and beyond that of the average student. Evidence of such commitment will come from one or more of the following:

- Active membership in Beta Beta Beta, the Biological Honor Society.
- Active membership in a professional/scholarly organization related to biology (e.g., Ecological Society of America, American Society for Microbiology, etc.).
- Significant educational activity/outreach (e.g., tutoring, mentoring) at the university or other level.
- Consistent and sustained volunteer activity in an organization working on environmental, health, or other issues relevant to biology.
- Significant research activity separate from or above and beyond the capstone.
- Sustained activity in science-related policy/consulting in communication, journalism, government, public policy, business, industry or education.

Applications will be available in spring semester each year and will be reviewed by faculty.

### **Fees**

Specific courses that require use of transportation, equipment or disposable supplies are assigned a course fee.

## **Biology Major Bachelor of Science**

### **Core Courses**

Biology 120, General Biology I  
Biology 125, General Biology II  
Biology 220, Genetics  
Biology 225, Organismal Physiology  
Biology 399, Capstone in Biological Science

### **Four Elective Courses**

At least one course from each area: Ecological, Organismal, and Cellular/Molecular.  
Biology 324, Bioethics, may be counted as an elective course.

### **Ecological**

Biology 319, Field Botany  
Biology 333, Experimental Methods in Field Biology  
Biology 417, Behavioral Ecology  
Biology 460, Restoration Ecology

### **Organismal**

Biology 322, Comparative Vertebrate Zoology  
Biology 350, Endocrinology  
Biology 402, Human Anatomy  
Biology 403, Human Physiology

**Cellular/Molecular**

Biology 312, Microbiology  
Biology 332, Gene Manipulation and Genomics  
Biology 452, Advanced Cell Biology

**Required Support Courses (\*Required for primary majors only)**

Chemistry 109, 110, and 203  
One of the following: Chemistry 204, Chemistry 308, or Physics 101  
Mathematics 112, or Mathematics 140 or higher\*  
Computer Science 107 or higher\*

**Pre-Dental, Pre-Medical, Pre-Physician Assistant,  
Pre-Physical Therapy, and Pre-Veterinary**

Students preparing for pre-professional programs must complete the requirements in the Biology major as well as the following courses:

Physics 101, 102, Introductory Physics  
Chemistry 204, Organic Chemistry II (Pre-Dent, Pre-Med)  
Chemistry 308, Biochemistry (Pre-PA, Pre-Vet)

Students may need additional courses as required by the specific professional school. Pre-professional students should consult with the appropriate pre-professional adviser regarding requirements.

**Secondary Education**

To meet DPI requirements, Biology majors with a secondary education minor must complete the following courses:

**Core Courses, plus**

Biology 312, Microbiology  
Biology 322, Comparative Vertebrate Zoology  
Biology 333, Experimental Methods in Field Biology  
One elective course in Biology (see Electives under Biology Major)

Students should be prepared to demonstrate mastery of biological concepts on the ETS Praxis II exam, which is required for licensure.

**Animal Behavior****Core Courses, plus**

Biology 322, Comparative Vertebrate Zoology  
Biology 333, Experimental Methods in Field Biology  
Biology 417, Behavioral Ecology  
One elective in the Cellular/Molecular area

Plus Psychology Minor (20 credits):

Psychology 101, Introductory Psychology  
Psychology 205, Statistics and Experimental Design

## BIOLOGY

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Psychology 240, Biopsychology  
Psychology 314, Learning and Animal Behavior  
Psychology 401, Behavioral Neuroscience

### Biology Minor

Biology 120, General Biology I  
Biology 125, General Biology II  
Biology 220, Genetics  
Biology 225, Organismal Physiology  
Two elective courses in Biology (see Electives under Biology Major)

**100. Introductory Human Biology** L2            4 credits

The basic principles and concepts of biology are presented in this course with an emphasis on human biology. Cellular function, genetic and developmental concerns, and physiological regulation are studied throughout the semester. Four hours of lecture/discussion and three hours laboratory. (Required course fee) (*Sp, Su*)

**120. General Biology I** L1, L2        4 credits

This course investigates the origins and diversity of life and how organisms interact with each other and their environment. Students will learn how evolutionary principles provide the foundation for understanding life throughout Earth's history. Case studies and student research during laboratory will develop the ability of students to apply their knowledge of how organisms interact at different biological scales. Four hours lecture/discussion and three hours laboratory. (Required course fee) (*Fa*)

**125. General Biology II** L1, L2        4 credits

This course investigates the structure, function, and biochemistry of cells. Students will learn how evolutionary principles provide the foundation for understanding the cellular processes that support life. Case studies and student research during laboratory will develop the ability of students to apply their knowledge of how underlying cellular processes explain complex organismal functions. Four hours lecture/discussion and three hours laboratory. (Required course fee) (*Sp*) Prerequisite: BIO 120.

**130. Introduction to Human Anatomy and Physiology I** 4 credits

This is the first of two courses which present the unifying concepts of anatomy and physiology required for understanding the human body as a structural and functional unit. This course emphasizes the mechanisms that underlie the normal functions of cells, tissues, organs, and organ systems. This course includes the study of basic biochemistry and inheritance and the structure and function of the integumentary, skeletal, muscular, nervous and endocrine systems. Four hours lecture and three hours laboratory. (Required course fee) (*Fa, Su*)

**131. Human Genetics** L1, L2        4 credits

This course will introduce non-science majors to human genetics and the scientific way of knowing. Students will learn how DNA determines traits and how traits are inherited. Students will also learn how modern genetic technologies influence the products we buy,

our health and, potentially, our genetic futures. The relationship between the scientific method and our understanding of human genetics will be stressed, and students will have the opportunity to propose and perform an experiment of their own design. Four hours lecture/discussion and three hours laboratory. (Required course fee) (*Fa*)

**140. Introduction to Human Anatomy and Physiology II** **4 credits**

This is the second of two courses that present the unifying concepts of anatomy and physiology required for understanding the human body as a structural and functional unit. This course includes the study of the structure and function of the cardiovascular, lymphatic, immune, respiratory, digestive, urinary and reproductive systems. A body systems approach is used to emphasize the interrelationships between structure and function of the gross and microscopic levels of organization of the human body. Four hours lecture and three hours laboratory. (Required course fee) (*Sp, Su*) Prerequisite: BIO 130 or equivalent is strongly recommended.

**200H. Human Biology: Health and Disease** **L2 4 credits**

This honors course is designed to improve the ability of non-biology majors to access scientific information and use this information to make informed decisions regarding personal and social health issues. Students build their knowledge in the field of human biology and then use this knowledge to investigate, learn about, and then share practical information about cancer, cardiovascular disease, and the role of genetics in medicine. Four hours lecture/discussion and three hours laboratory. (Required course fee) (*Fa, odd years*)

**212. Introduction to Microbiology** **4 credits**

This course examines the fundamentals of microbiology (structure, metabolism, genetics, and growth) and surveys the microbial world. The interaction between microbe and host and the diseases caused by microbes is examined. Four hours of lecture/discussion and two two-hour laboratories. (Required course fee) (*Fa, Sp, Su*) Prerequisites: BIO 130; CHE 102 or concurrent registration; or instructor consent.

**220. Genetics** **4 credits**

This course investigates molecular, classical and population genetics. Students will learn how evolutionary principles are based on genetic processes. Case studies and student research during laboratory will develop the ability of students to apply their understanding of genetic mechanisms at different biological scales. Four hours lecture and three hours laboratory. (Required course fee) (*Fa*) Prerequisite: BIO 125.

**225. Organismal Physiology** **4 credits**

This course investigates the diverse form and function of plants and animals. Students will learn how evolutionary principles provide the foundation for understanding how organisms meet specific physiologic challenges. Case studies and student research during laboratory will develop the ability of students to apply their understanding of physiologic mechanisms in diverse organisms. Four hours lecture and three hours laboratory. (Required course fee) (*Sp*) Prerequisite: BIO 220.

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### 271. Clinical Immunology

4 credits

This course covers the theory and application of immunology. Students will learn about the development and function of the immune system including immune responses, antigen-antibody reactions, intercellular communication, and autoimmune and immunodeficiency disorders. The course will emphasize the principles and performance of protocols in cellular immunology, immunochemistry, and clinical serology. Four hours lecture and three hours laboratory. (Required course fee) (*Fa, odd years*) Prerequisites: BIO 140 and CHE 102.

### 273. Hematology and Phlebotomy

4 credits

An introduction to the science of hematology and phlebotomy. Topics include origin and development of blood cells and their biochemistry, physiology and pathology. Laboratory includes microscopic examination of normal and abnormal erythrocytes and leukocytes morphology, as well as manual assays pertinent to clinical hematology. Four hours lecture/discussion and three hours laboratory. (Required course fee) (*Sp, odd yrs*) Prerequisites: BIO 130 and BIO 140.

### 312. Microbiology

4 credits

This course will present a study of biological entities collectively known as "Microbes" and include bacteria, viruses, protozoans, fungi and certain invertebrates. These organisms may be food sources at the bottom of the food chain, may be actually edible for humans, or be involved in decomposition and recycling of nutrients for various food chains. A large number of these organisms, although a minority, are capable of causing disease in other organisms including humans. We will investigate the properties of the biological entities including the structure, biochemistry, physiology, molecular biology, and pathogenicity of various microbes. (*Sp*) Prerequisite: BIO 220 or instructor consent.

### 319. Field Botany

4 credits

This course emphasizes field identification of local plant species. Students will become proficient in the use of taxonomic keys, plant preservation, and the classification and ecology of plants. Daily field trips will be combined with lecture/discussion and laboratory activities. Because this is a field course, students should be prepared for moderately strenuous exercise in a variety of weather conditions. (*Su, even years*) Prerequisite: BIO 225, ENV 201, or instructor consent.

### 322. Comparative Vertebrate Zoology

4 credits

This course examines the anatomical similarities and differences among seven vertebrate classes. Ontogeny and phylogeny of the vertebrates are related to structure and function. Adaptive changes vertebrates have undergone during evolution will be emphasized. Four hours lecture/discussion and two two-hour laboratories. (Required course fee) (*Sp, even yrs*) Prerequisite: BIO 225 or instructor consent.

**324. Bioethics****L7****4 credits**

This interdisciplinary course explores the problems and conflicts created by the impact of biological research and other technological advances on human values. The goal of this course is for students to encounter and discuss these conflicts in an attempt to approach some resolution. (*Fa, Sp, Su*)

**332. Gene Manipulation and Genomics****4 credits**

This course introduces students to the fields of gene manipulation and genomics through an integrated laboratory/lecture/discussion approach. Students will gain hands-on experience with the basic methods, the biological basis for those methods, and a practical understanding of how they are applied in the fields of medicine, basic science research, environmental science, ethics, and law. (Required course fee) (*Fa, even years*) Prerequisite: BIO 220 or instructor consent.

**333. Experimental Methods in Field Biology****4 credits**

This course will explore the diversity of methods used in field biology while further developing student understanding of ecological and evolutionary processes relevant to field biology. Course readings will draw heavily on primary literature. Four hours lecture/discussion and three hours laboratory. (Required course fee) (*Fa*) Prerequisite: BIO 225, ENV 201, or instructor consent.

**350. Endocrinology****4 credits**

The structural and functional classification of hormones, principles of hormone action, and the regulation of body functions by the endocrine system are presented. Special emphasis is placed on species differences and evolutionary changes in some selected hormone systems as they relate to homeostasis. Small group discussions, clinical cases, and research article presentations are included. (*Sp, odd years*) Prerequisite: BIO 225 or instructor consent.

**360. Aquatic Ecology****4 credits**

An advanced ecology course that builds upon the Biology core courses. This course explores the basic ecology of wetlands, lakes, and streams. Students will examine physical and chemical processes that are largely responsible for the biological responses evident in these different habitat types. The lecture component draws about half of its material from the textbook with the other half relying heavily upon peer-reviewed scientific literature. Laboratory activities (a three-hour laboratory is part of the course) further examine and reinforce ecological concepts derived from lecture and readings. (Required course fee) (*Sp, odd years*) Prerequisite: BIO 225, ENV 201, or instructor consent.

**371. Winter Ecology of Wolf and Lynx****3 credits**

This course is taught at the Audubon Center of the North Woods (ACNW) in Sandstone, MN. The focus will be the gray wolf, lynx, and the white-tailed deer, but all animals directly or indirectly associated with or affected by these predators or prey may be included. The course is field-oriented and includes opportunities for backcountry travel, wildlife observation and tracking, as well as an introduction to habitats, how wildlife respond to natural and artificial disturbance, and human factors. Additional topics include wildlife research techniques, data acquisition and analysis, as well as

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management practices. (*Wn*) (Tuition is paid directly to ACNW; an additional fee for Carroll credit will apply. See Dr. Susan Lewis for more details.)

### 399. Capstone in Biological Science

4 credits

This course allows students to synthesize their understanding of biology through exploration of contemporary issues in biology across multiple biological scales. Students will also explore case studies related to ethical practice in science and develop skills necessary to transition to future careers in biology. Four hours lecture/discussion. (*Fa, Sp*) Prerequisites: Junior standing; BIO 225.

### 402. Human Anatomy

4 credits

The microanatomy and gross anatomy of muscle, bone and cartilage and the integumentary, nervous, cardiovascular, lymphatic, respiratory, renal, digestive, endocrine, and reproductive systems are studied. Using multi-media software, male and female bodies are dissected from anterior, posterior, medial, lateral, and medial/lateral views and histologies, radiologies, cross-sections, and MRIs are linked to the anatomy. Models are also employed to study the structure of the human body. In addition, palpation laboratories are integrated into the course. (Required course fee) (*Fa, Su*) Prerequisites: Junior standing; BIO 225 or BIO 130 and 140.

### 403. Human Physiology

4 credits

Fundamental concepts related to the normal function of the human body are presented. The normal functioning of the human body is discussed across gender, race, and life span. Basic pathophysiological concepts are introduced. Resources used include physiology laboratories, computer simulations, and videos. (Required course fee) (*Sp, Su*) Prerequisites: Junior standing; BIO 225 or BIO 130 and BIO 140; and CHE 110 or CHE 101 and CHE 102.

### 417. Behavioral Ecology

4 credits

This course investigates the biological bases of animal behavior, focusing particularly on the evolution of social behavior in nonhuman animals. Theoretical foundations of the field as well as their practical applications are studied through lecture/discussion. Experience in experimental design and observation techniques are developed through studies of animal behavior. These experiences culminate in a final research project of the student's own design. Four hours lecture/discussion and three hours laboratory. (Required course fee) (*Sp, odd yrs*) Prerequisite: BIO 225, PSY 314, or instructor consent.

### 452. Advanced Cell Biology

4 credits

In this course, basic principles of cell physiology, molecular biology, biochemistry, and biophysics are studied in relation to the structure and function of cells and their organelles through an integrated laboratory/lecture/discussion approach. Seven hours integrated lecture/laboratory. (Required course fee) (*Fa, odd years*) Prerequisite: BIO 220 or instructor consent.

**460. Restoration Ecology****4 credits**

This interdisciplinary course introduces students to the philosophy, theory, and practice of restoration ecology. Students will develop skills in all aspects of restoration ecology, including different views of nature, conflict resolution, goal identification, the planning and evaluation of restoration projects, and grant writing. Community assembly theory serves as an overarching model for understanding the process of restoration. Four hours of lecture/discussion. (*Sp, even yrs*) Prerequisite: BIO 225, ENV 201, or instructor consent.

**480. (or 380) Internship in Biology****1-4 credits**

This internship places students in industry, hospital, field, health agency, laboratory, school, or other professional settings to obtain on-the-job experience and develop skills relevant to future career opportunities. The BIO 480 Internship differs from the BIO 380 Internship because it incorporates application of research-based skills to the internship experience. Prerequisites: BIO 225 and instructor consent.

**485. Independent Research in Biology****1-4 credits**

This experience involves independent laboratory or field-based research of selected areas in biology under supervision of a faculty member. Students will develop sufficient mastery of their system of interest to allow them to acquire data appropriate for resolution of their specific problem. Prerequisite: Instructor consent.

**491. (or 291) Special Topics in Biology****1-4 credits**

This course is a study of a selected topic not covered in regular course offerings. Lecture and discussion. The topic will be announced prior to registration.

**498. (or 398) Independent Study****1-4 credits**

This experience involves independent study of selected areas in biology under supervision of a faculty member that generally does not involve laboratory work. Prerequisite: Approval of the department chair and instructor consent.

DIVISION OF NATURAL AND HEALTH SCIENCES

# CHEMISTRY

## and BIOCHEMISTRY

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<b>Kathleen M. Kiedrowicz</b>	Instructor
<b>Gregory T. Marks</b>	Assistant Professor
<b>Kevin McMahan</b>	Associate Professor
<b>Joseph J. Piatt</b>	Associate Professor
<b>Michael D. Schuder</b>	Associate Professor
<b>Gail M. Vojta</b>	Instructor

The chemistry and biochemistry program is approved by the Committee on Professional Training of the American Chemical Society. This approval means that the program has the faculty, curriculum and instrumentation necessary to provide a quality education for undergraduate students.

### Learning Outcomes for Chemistry and Biochemistry

Upon successful completion of the Chemistry or Biochemistry major, students will:

1. Understand the basic definitions, concepts and relationships of chemistry.
2. Develop advanced skills in evaluating library searches for primary and other literature.
3. Understand fundamental laboratory analyses and safety protocols.
4. Perform quantitative and qualitative scientific analyses.
5. Understand the basic theory of and use of modern instrumentation.
6. Use computers for chemical applications including technical writing, modeling, data collecting and processing, and database searching.
7. Prepare effective written scientific reports and oral presentations for professional audiences.
8. Work cooperatively in problem solving situations.
9. Understand the benefits and problems of modern chemistry for our society.

Recognizing the individuality of students and that chemistry can be a strong preparation for a variety of careers, the program offers two majors, chemistry and biochemistry, each with multiple emphases. Each of these majors offers courses in the basic areas of inorganic, organic, analytical, physical, and biochemistry, and is supplemented by special opportunities such as industrial internships and independent research. Modern scientific instrumentation is available and incorporated into all courses of the curriculum. Students are encouraged to consult with chemistry faculty about the various emphases and opportunities associated with each.

### **Chemistry Major**

1. ACS-Approved Emphasis is especially suited for students planning on graduate work or desiring the best preparation for industrial employment.  
Upon completion of this emphasis, students will:
  - Develop an advanced understanding in multiple fields of chemistry.
  - Develop an independent research project, acquire and analyze data, and present the results at an off-campus professional meeting.
2. Forensic Science Emphasis is a multidisciplinary program designed to train students in the analysis of physical and chemical case evidence and the associated legal implications.  
Upon completion of this emphasis, students will:
  - Understand the basic definitions, concepts and relationships of criminalistics.
  - Understand intake, transport and biochemical processes of toxins in the human body.
  - Gain expertise in the collection and analysis of evidence specific to forensic science.
  - Understand the relationship of science and the legal system in the criminal justice system.
3. Pre-Health Science/Professional Emphasis is for those students who plan to pursue professional work in an allied health field such as medicine, dentistry, optometry, or veterinary science or pursue an industrial career.  
Upon completion of this emphasis, students will:
  - Develop an advanced understanding in a particular field of chemistry.
  - Obtain work-related career experience in an industrial, corporate or medical setting.
4. Pre-Pharmacy Emphasis is a three year program for students who plan to obtain an advanced degree in Pharmaceutical Sciences.

### **Chemistry Major**

#### **Bachelor of Science**

#### **Chemistry Major Core Courses**

Chemistry 109/109L, Principles of Inorganic Chemistry

Chemistry 110/110L, Principles of Analytical Chemistry

Chemistry 203/203L, Organic Chemistry I

Chemistry 204/204L, Organic Chemistry II

Chemistry 303, Quantum Mechanics and Spectroscopy

Chemistry 308, Biochemistry I

Chemistry 401, Advanced Chemical Analysis and Instrumentation

Chemistry 402, Capstone: Modern Chemistry

#### **Required Support Courses:**

Mathematics 160 and 161, Calculus

Physics 203 and 204, General Physics

Computer Science 107 or higher

# CHEMISTRY AND BIOCHEMISTRY

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## ACS-Approved Emphasis

### Core Courses plus

Chemistry 302, Advanced Inorganic Chemistry

Chemistry 304, Thermodynamics and Kinetics

One of the following courses:

Chemistry 306, Synthesis and Structure

Chemistry 309, Biochemistry II

To receive recognition of completion of this emphasis, students must earn a C or better in all chemistry major core courses and emphasis specific courses.

## Pre-Health Science - Professional Emphasis

### Core Courses plus

Two chemistry courses numbered 300 or greater (8 credits)

## Forensic Science Emphasis

### Core Courses plus

Chemistry 104, Forensic Science

Biology 100, Introductory Human Biology (Recommended) or  
any 100 level biology course

Sociology 103, Introduction to Criminal Justice

Sociology 303, Criminal Procedure, Evidence and Investigation

## Pre-Pharmacy Emphasis

This emphasis is a three-year program designed to prepare students for direct admission to a pharmacy program. A student can readily extend this program by one year and obtain a chemistry major.

### Three-Year Program

	Fall Semester	Spring Semester
Year 1	CHE 109 MAT 160 FYS 100 Humanities Elective	CHE 110 MAT 161 PSY 101 ENG 170
Year 2	CHE 203 BIO 150 ENG 305 LSP Area V	CHE 204 BIO 160 PHY 203 HIS Elective
Year 3	CHE 308 PHY 204 SOC 110 Humanities Elective	CHE 303 ECO 124 LSP Area VII CSC 107 (2 cr.)

### **Chemistry Minor<sup>1</sup>**

#### **Courses in the Minor**

Chemistry 109/109L, Principles of Inorganic Chemistry

Chemistry 110/110L, Principles of Analytical Chemistry

Chemistry 203/203L, Organic Chemistry I

Chemistry 308, Biochemistry I

One course numbered 300 or greater (2-4 credits)

### **Biochemistry Major**

1. ACS-Approved Emphasis is designed to prepare students for graduate school in chemistry or biochemistry or employment in biomedical sciences.  
Upon completion of this emphasis, students will:
  - Develop an advanced understanding in multiple fields of chemistry and biological chemistry.
  - Develop an independent research project, acquire and analyze data, and present the results at an off-campus professional meeting.
2. Pre-Health Science / Professional Emphasis provides a mixture of chemistry and biology courses and is designed for students who are interested in biology but want to solidify their understanding of the molecular view of it. Graduates will be prepared for professional school, graduate school, or employment in biological and biomedical sciences.  
Upon completion of this emphasis, students will:
  - Develop an advanced understanding in a particular field of biological chemistry.
  - Develop an advanced understanding of medical biology.

### **Biochemistry Major Bachelor of Science**

#### **Biochemistry Major Core Courses**

Chemistry 109/109L, Principles of Inorganic Chemistry

Chemistry 110/110L, Principles of Analytical Chemistry

Chemistry 203/203L, Organic Chemistry I

Chemistry 204/204L, Organic Chemistry II

Chemistry 308, Biochemistry I

Chemistry 309, Biochemistry II

Chemistry 401, Advanced Chemical Analysis and Instrumentation

Chemistry 402, Capstone: Modern Chemistry

Biology 120, General Biology I

Biology 125, General Biology II

Biology 250, Introduction to Genetics

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<sup>1</sup> Satisfies secondary teaching education minor for Department of Public Instruction.

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## CHEMISTRY AND BIOCHEMISTRY

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### Required Support Courses

Mathematics 160 and 161 Calculus  
Physics 203 and 204 General Physics  
Computer Science 107 or higher

### ACS-Approved Emphasis

#### Core Courses plus

Chemistry 302, Advanced Inorganic Chemistry  
Chemistry 303, Quantum Mechanics and Spectroscopy  
Chemistry 304, Thermodynamics and Kinetics  
Biology 332, Gene Manipulation and Genomics or  
Biology 452, Cell Biology

To receive recognition of completion of this emphasis, students must earn a C or better in all biochemistry major core courses and emphasis specific courses.

### Pre-Health Science / Professional Emphasis

#### Core Courses plus

Biology 452, Cell Biology

Choose one course from the following:

- Biology 212, Introduction to Microbiology
- Biology 225, Organismal Physiology
- Biology 332, Gene Manipulation and Genomics
- Biology 271, Clinical Immunology

### Biochemistry Minor

Chemistry 109/109L, Principles of Inorganic Chemistry  
Chemistry 110/110L, Principles of Analytical Chemistry  
Chemistry 203, Organic Chemistry I  
Chemistry 308, Biochemistry I  
Biology 130 and Biology 140, Human Anatomy and Physiology I & II or  
Biology 120 and Biology 125, General Biology I and II

### Fees

Specific courses that require use of equipment and disposable supplies are assigned a fee.

### 098. Introduction to Chemistry

No credit

A course designed to provide students with an introduction to the fundamental mathematics and chemistry necessary for CHE 101 or CHE 109. This is an appropriate starting point for students who need a review of high school chemistry. (Su)

**101. General Chemistry<sup>1</sup> and 101L. General Chemistry Laboratory** L1, L2      4 credits

A health science oriented survey course that introduces the basic concepts of inorganic and organic chemistry. Specific topics include: atomic theory, nuclear chemistry, compounds, chemical reactions, energy and organic functional groups. CHE 101 and 101L must be taken simultaneously. Four hours of lecture/discussion and one three-hour laboratory. (Required course fee) (*Fa, Sp*) Prerequisite: CHE 098 or demonstrated proficiency in high school chemistry and algebra.

**102. Biological Chemistry<sup>1</sup> and 102L. Biological Chemistry Laboratory** L1, L2      4 credits

A survey of organic chemistry and biochemistry that considers the structure and function of biomolecules (carbohydrates, lipids, proteins and nucleic acids) and their metabolism. CHE 102 and 102L must be taken simultaneously. Four hours of lecture/discussion and one three-hour laboratory. (Required course fee) (*Sp, Su*) Prerequisite: CHE 101/101L with a grade of C or better.

**104. Forensic Science** L1, L2      4 credits

A course that focuses on the application of scientific principles to the analysis of forensic data. The analysis and interpretation of physical, chemical, and biological tests is discussed utilizing a firm grounding in basic science. The laboratory utilizes simulated crime data and includes both basic and instrumental analyses. Four hours of lecture/discussion and one three-hour laboratory. (Required course fee) (*Sp*)

**106. Drug Discovery** L1, L2      4 credits

A general survey of drug design and development of pharmaceuticals. This course examines the methods used in drug discovery. Topics include: the role of the FDA, clinical trials, drug action, and the pharmaceutical industry. Various sources of new drugs will be explored and several case studies will be discussed. Laboratory work will introduce students to methods and instrumentation used to develop new drugs. Four hours of lecture/discussion and one three-hour laboratory. (Required course fee) (*Fa*)

**109. Principles of Inorganic Chemistry and 109L. Principles of Inorganic Chemistry Laboratory** L1, L2      4 credits

An introduction to the basic concepts of modern inorganic chemistry. The topics in this course include units and measurements, stoichiometry, behavior of gases, liquids, and solids, atomic structure, the periodic table, chemical bonding and kinetics. CHE 109 and 109L must be taken concurrently. Four hours of lecture/discussion and one three-hour laboratory. (Required course fee) (*Fa, Su*)

**110. Principles of Analytical Chemistry and 110L. Principles of Analytical Chemistry Laboratory** L1, L2      4 credits

A continuing discussion of modern chemistry with a focus on quantitative analysis of chemical problems. Topics include thermodynamics, equilibrium, acid-base theory,

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<sup>1</sup> Both Chemistry 101 and 102 are survey courses, which cover a wide range of topics but lack the depth of the more traditional chemistry courses; therefore, they do not count toward the major or minor in chemistry.

## CHEMISTRY AND BIOCHEMISTRY

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and oxidation-reduction reactions. Modern instrumentation is utilized in the laboratory. CHE 110 and 110L must be taken concurrently. Four hours of lecture/discussion and one three-hour laboratory. (Required course fee) (*Sp, Su*) Prerequisite: CHE 109/109L.

### 203. Organic Chemistry I

4 credits

#### 203L. Organic Chemistry I Laboratory

An introduction to the study of carbon and its compounds. Emphasis is placed on the simpler aliphatic and aromatic compounds, and functional groups. The course examines the underlying chemical principles and the mechanistic nature of organic reactions. Associated laboratory work is devoted to chemical and physical properties, as well as synthetic techniques. Four hours of lecture/discussion and one three-hour laboratory. (Required course fee) (*Fa, Su*) Prerequisite: CHE 110/110L.

### 204. Organic Chemistry II

4 credits

#### 204L. Organic Chemistry II Laboratory

A continuation of Chemistry 203. Major emphasis is placed upon carbonyl chemistry. The use of spectroscopic techniques is explored. The latter part of the course is devoted to the study of carbonyl compounds and modern synthetic strategies. Laboratory work consists of synthetic techniques, chromatography, and structural analysis. Four hours of lecture/discussion and one three-hour laboratory. (Required course fee) (*Sp, Su*) Prerequisite: CHE 203/203L.

### 208. Nutrition

3 credits

This course investigates the biochemistry of food, that is, the chemical structures and functions of the six classes of nutrients: carbohydrates, lipids, proteins, vitamins, minerals, and water. The study of these nutrients will be extended to human physiological requirements, energy balance, food sources and labeling, and deficiency symptoms. Students will be expected to apply their nutrition knowledge to their own lives (or a patient's life) to assess dietary adequacy and compatibility with optimal health. Three hours of lecture/discussion. (*Fa, Sp*) Prerequisite: CHE 102/102L and BIO 140.

### 302. Advanced Inorganic Chemistry

4 credits

This course emphasizes structure, bonding, reactivity, and periodicity of inorganic compounds. The laboratory includes the preparation of metal and non-metal compounds and their characterization by chemical and physical methods. Four hours of lecture/discussion and one three-hour laboratory. (Required course fee) (*Sp, odd years*) Prerequisite: CHE 204/204L, and 303 or 304.

### 303. Quantum Mechanics and Spectroscopy

4 credits

Thorough introduction to the principles of physical chemistry providing the theoretical basis of reaction dynamics, quantum chemistry, and atomic and molecular spectroscopy. Laboratory experiments incorporate modern instrumental design and data analysis. Four hours of lecture/discussion and one three-hour laboratory. (Required course fee) (*Sp*) Prerequisite: MAT 160, PHY 204 and CHE 110/110L.

**304. Thermodynamics and Kinetics****4 credits**

Study of reaction kinetics and the thermodynamic treatment of equilibrium in chemical systems. Topics include kinetic theory of gases, classical and statistical thermodynamics, phase equilibria, reaction rates and mechanisms. The laboratory relies on original student experimental design and data analysis of physical measurements that yield quantitative results of chemical interest. Four hours of lecture/discussion and one three-hour laboratory. (Required course fee) (*Fa, even years*) Prerequisite: MAT 161, PHY 204 and CHE 110/110L.

**306. Synthesis and Structure****4 credits**

The course will consider advanced topics in organic chemistry including selected topics from advanced spectroscopy, reaction mechanisms, synthetic methodology and photochemistry. Emphasis will be on reading, understanding, and orally presenting articles from the original literature. Four hours of lecture/discussion. (*Fa, odd years*) Prerequisite: CHE 204/204L.

**308. Biochemistry I****4 credits**

The course investigates the properties of buffers and the related chemistry of amino acids, the structure and function of proteins including an intensive look at hemoglobin, and the structure of lipids and carbohydrates. The course also focuses on the kinetics, thermodynamics, and mechanisms of enzymatic reactions, the structure of nucleic acids, and the regulation of nucleotide biosynthesis. The laboratory serves to strengthen the understanding of these topics and includes the purification and/or characterization of several classes of biomolecules. Four hours of lecture/discussion and one three-hour laboratory. (Required course fee) (*Fa*) Prerequisite: CHE 203/203L.

**309. Biochemistry II****4 credits**

The course focuses on the investigation of basic topics in metabolism, including bioenergetics, carbohydrate metabolism, and lipid metabolism. Additional topics include the biosynthesis of amino acids, nucleotides, and heme. Four hours of lecture/discussion. (*Sp*) Prerequisites: CHE 204/204L and 308.

**390. Projects in Chemistry****1-4 credits**

Students work on a project under the direction of a faculty member. It is highly advisable for every student to participate in research projects during their educational experience. Course credit is assigned on the basis of one credit per 40 hours of laboratory work. (Required course fee) (*Fa, Sp*) Prerequisite: Approval of the program chair and the consent of the instructor.

**391. Special Topics in Modern Chemistry****401. Advanced Chemical Analysis and Instrumentation****4 credits**

This course will complete the student's introduction to modern chemical analysis and instrumentation. The theory and applications of chromatography and separation science will be emphasized, to include gas and liquid chromatographic instrumentation. The laboratory focuses on configuring, operating, and maintaining instruments while conducting quantitative and qualitative analyses. The course will also serve to initiate

## CHEMISTRY AND BIOCHEMISTRY

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student research projects that are completed and presented in CHE 402. The course meets for two 3-hour periods per week. (Required course fee) (*Sp*) Prerequisites: CHE 204 and 308.

### 402. Capstone: Modern Chemistry

4 credits

This capstone course will involve the implementation and completion of a research project proposed and approved in CHE 401. The research project will involve the development of an experimental plan, the use of integrative laboratory analysis using a wide range of equipment and instrumentation, the collection, analysis, and interpretation of data, and the presentation of results in written and oral formats. The course will also formally review current trends in chemical research and the future of the chemical enterprise. The course meets for two 3-hour periods per week. (Required course fee) (*Fa*) Prerequisite: CHE 401.

### 480. Internship in Chemistry

1-4 credits

A cooperative arrangement with industries or governmental organizations that provides students with “real world” experiences in chemistry. The student must spend time at the company working on a specific project. The student must also be involved in answering some educational questions regarding industrial chemistry. This experience is strongly recommended for students who will be seeking an industrial position after graduation. Plans should be discussed with the instructor during the junior year. (*Fa, Sp, Su*) Prerequisite: Senior standing and consent of the instructor.

# DIVISION OF NATURAL AND HEALTH SCIENCES

## PRE-CLINICAL LABORATORY SCIENCES

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<b>Cindy Brown</b>	Clinical Associate Professor and Education Coordinator, University of Wisconsin-Milwaukee
<b>Lynn M. Peterson</b>	Health Sciences and 2+2 Program Advisor

Carroll University offers an opportunity to major in Clinical Laboratory Sciences through a partnership with the University of Wisconsin- Milwaukee (UWM). The partnership allows students the benefits of close, personal attention during the first two and one-half years at Carroll while still providing access to the advanced clinical training facilities at UWM in the final stages of the program.

Clinical Laboratory Science students can select one of several emphases at UWM:

- Medical Technology
- Cytotechnology
- Public Health Microbiology

These emphases provide a range of career opportunities in settings including hospitals, independent laboratories, public health facilities, industries, research laboratories, or sales and marketing centers. Long-term employment prospects in these areas are forecasted to be excellent.

Entry into the professional training phase of the program is competitive and dependent upon completion of general education requirements, a minimum GPA of 2.50 (overall and in required science courses), a grade of 'C' or better in courses transferring from Carroll and in all junior-level courses, and completion of all required and elective courses (90 credits) by second semester of the junior year.

### **Clinical Laboratory Sciences Major**

#### **Bachelor of Science**

**Science and mathematics courses taken at Carroll University**

Biology 130, Introduction to Human Anatomy and Physiology I

Biology 140, Introduction to Human Anatomy and Physiology II

Biology 212, Microbiology

Biology 250, Introduction to Genetics

Biology 271, Immunology

Mathematics 112, Introduction to Statistics

Chemistry 109, Inorganic Chemistry

Chemistry 110, Analytical Chemistry

## CLINICAL LABORATORY SCIENCES

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Chemistry 203, Organic Chemistry I  
Chemistry 204, Organic Chemistry II  
Chemistry 308, Biochemistry I  
Nursing 236, Human Pathophysiologic Responses  
Computer Science 107, Problem Solving Using Information Technology

### Other Carroll University courses required in this transfer program

FYS 100, First Year Seminar  
English 170, Writing Seminar  
LSP area 3 course emphasizing social sciences  
LSP area 4 course emphasizing cultural diversity\*  
LSP area 5 course emphasizing fine arts  
LSP area 6 course emphasizing humanities  
LSP area 7 course emphasizing humanities

\*An additional social science elective satisfying UWM's Diversity requirement must be completed prior to graduation. ENG 164, American Indian Literature and Cultures will satisfy this diversity requirement (LSP 4)

Students must also demonstrate completion of UWM's language requirement by achieving one of the following:

- complete with passing grades (prior to entering university) at least two years of high school level instruction in a single foreign language, or
- complete with passing grades at least two semesters (minimum of 6 credits) of university level instruction in a single foreign language, or
- demonstrate foreign language ability at least equivalent to the above by means of a satisfactory score on an approved placement, proficiency, program or other appropriate examination.

Because of the specialized requirements of this program, students should work closely with the CLS Advisor.

### Sample Program at Carroll University

	<u>Fall</u>	<u>Spring</u>	<u>Winter/Summer</u>
<b>Freshman</b>	BIO 130 CHE 109 FYS 100 LSP 3	BIO 140 CHE 110 ENG 170 ENG 164 (LSP 4)	BIO 212
<b>Sophomore</b>	CHE 203* BIO 250 MAT 112 LSP 5	CHE 204* NRS 236 LSP 6 LSP 7	CSC 107
<b>Junior</b>	BIO 271** CHE 308 Social Science Elective	[at UWM]	

\* Organic Chemistry (CHE 203 and 204) are also offered as summer courses.

\*\*Currently Immunology (BIO 271) is held in the fall of odd years. For those who need to take it as a sophomore, a summer Microbiology (BIO 212) course will be necessary as a prerequisite.

**Sample Program for Medical Technology at UWM**

	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
<b>Junior</b>	[at Carroll University]	Hematology Clinical Chemistry Medical Microbiology Molecular Diagnostics	Clinical Hematology Hemostasis Clinical Microbiology Medical Parasitology Urinalysis Clinical Chemistry
<b>Senior</b>	Adv. Hematology Immunochemistry Blood Banking Lab Diagnosis Lab Practicum Toxicology	Adv. Hematology Practicum Adv. Clinical Lab Science Adv. Immunochemistry Adv. Microbiology Practicum Adv. Chemistry Practicum Professional Development	

# DIVISION OF NATURAL AND HEALTH SCIENCES

## ENVIRONMENTAL SCIENCE

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<b>Jason G. Freund</b>	Assistant Professor of Environmental Science
<b>Susan E. Lewis</b>	Professor of Biology
<b>Joseph J. Piatt</b>	Associate Professor of Chemistry and Environmental Science
<b>Eric Thobaben</b>	Assistant Professor of Biology

The Environmental Science program houses one academic major and two related minors: Earth Science and Geography & Environmental Studies.

The environmental science major provides students with a comprehensive background in the physical and life sciences as well as applications in the social and management dimensions of environmental issues that are central to the quality of human life on earth as well as to the conservation and protection of the planet's natural resources.

Environmental Science as a career includes such professions as: water, soil, or air quality analyst, natural resource manager, environmental protection agent, environmental planner, soil scientist, hydrologist, park ranger, conservation warden, resource mapping specialist, government researcher, environmental educator and private environmental consultant.

The program manages the 65-acre Greene Scientific Field Station located in the Kettle Moraine region just west of Waukesha. This site features a pristine trout stream, several surface springs, and associated wetland vegetative communities. The site provides students with opportunities for outdoor laboratory and research activities, and also provides work experience for students interested in hands-on management of private resource conservancy sites.

Last, a student can earn a Master of Science in Environmental Science via a partnership with Alaska Pacific University (APU). Students who enroll at Carroll for three years and then transfer to APU for two years can earn both a Bachelor of Science degree from Carroll University and a Master of Science degree from APU.

### **Objectives of the Environmental Science Major**

To provide students with an integrated awareness and understanding of the biological, physical, chemical, and social components of the global natural resource base. Students should be able to apply this knowledge to the management of resources, the measurement of environmental quality, and the assessment of related societal impacts and implications. To provide students with an academic experience that facilitates advanced graduate study and career work in environmentally related fields.

### **Key Elements of the Major**

Several required core courses that provide students not only with a broad introduction to the field of environmental science, but also with upper-level research or internship experiences in environmental analysis and assessment. Upon completion of the major students will:

- Recognize the interrelated biophysical components and processes (i.e., structure and function) of the natural environment.
- Understand how physical/chemical processes dynamically shape the earth's surface and how such phenomena are distributed globally.
- Correlate a broad understanding of environmental science with a specific/correlative understanding of related scientific fields.
- Cultivate a set of personal values and attitudes concerning the environment, which will then prepare oneself to actively address environmental problems and participate in their solutions.
- Understand how human activities and physical systems affect one another, and how to assess the impacts and implications of these interrelationships.
- Apply appropriate scientific methods and techniques to the acquisition, analysis, and evaluation of environmental data.
- Analyze environmental variables in measurable (quantitative/objective) and perceptual (qualitative/subjective) ways using modern equipment and instrumentation.
- Acquire and analyze environmental samples and variables in outdoor settings using field equipment and instrumentation.
- Utilize computers for acquiring, organizing, analyzing, and displaying valid environmental information and research results.
- Demonstrate competency in written and oral communication by preparing effective written reports and oral presentations for peer and professional audiences.
- Work cooperatively and purposefully with others in research and problem-solving situations.

### **Fees**

Specific courses that require use of equipment and disposable supplies are assigned a course fee.

### **Environmental Science Major Bachelor of Science**

#### **Core Courses**

Environmental Science 105, Introductory Physical Geography  
Environmental Science 201, Problem Solving in Environmental Systems  
Environmental Science 220, Weather and Climate  
Environmental Science 230, Chemistry of the Environment  
Environmental Science 253, Mapping and Remote Sensing  
Environmental Science 267, Geographic Information Systems  
Environmental Science 292, Environmental Ethics and Applications  
Environmental Science 325, Soils and Hydrology

## **ENVIRONMENTAL SCIENCE**

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Environmental Science 349, Environmental Policy and Planning

Environmental Science 455, Watershed Management

Environmental Science 499, Capstone Seminar in Environmental Assessment (2 credits)

### **Required Supporting Courses**

Biology 120, General Biology I

Chemistry 109, Principles of Inorganic Chemistry

Politics 101, Introduction to Global Studies

Computer Science 107, Problem Solving Using Information Technology, or higher

Mathematics 112, or Mathematics 140 or higher

### **Environmental Science Minors Earth Science<sup>1</sup>**

Environmental Science 105, Introductory Physical Geography

Environmental Science 220, Weather and Climate

Environmental Science 223, Geologic Landscapes of North

Environmental Science 253, Mapping and Remote Sensing

Physics 105, Astronomy

In addition, two courses (minimum 6 credits) from the following:

Environmental Science 215, Natural Hazards (2 credits)

Environmental Science 255, Environmental Resources of Wisconsin

Environmental Science 325, Soils and Hydrology

Environmental Science 290/490, Workshop in Environmental Science

### **Geography & Environmental Studies<sup>1</sup>**

Environmental Science 105, Introductory Physical Geography

Environmental Science 120, Conservation and Environmental Improvement

Environmental Science 138, Cultural Geography

Environmental Science 160, World Regional Geography

Environmental Science 292, Environmental Ethics and Applications

In addition, two or three courses (minimum 8 credits) from the following offerings:

Environmental Science 215, Natural Hazards (2 credits)

Environmental Science 220, Weather and Climate

Environmental Science 223, Geologic Landscapes of North America

Environmental Science 253, Mapping and Remote Sensing

Environmental Science 252, Contemporary Issues in Geography and  
The Environment (2 credits)

Environmental Science 255, Environmental Resources of Wisconsin

Environmental Science 267, Geographic Information Systems

Environmental Science 290/490, Workshop in Environmental Science

Environmental Science 349, Environmental Policy and Planning

Environmental Science 455, Watershed Management

Sociology 202, Society and Ecology

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<sup>1</sup> Meets DPI certification requirements as an approved minor for secondary education.

### **Graduate Degree in Environmental Science in Alaska**

Three years of undergraduate coursework are completed at Carroll University followed by two years of graduate study at Alaska Pacific University (APU). The first year of APU courses transfer back to Carroll to complete the Bachelor of Science degree in Environmental Science with a minor in biology or chemistry. The agreement with APU specifies that students should be able to complete the Master of Science degree after two years of study in Alaska.

In preparation for this graduate program, students must complete a minimum of 104 credits at Carroll, all LSP courses, plus the following math and science courses during their first three years at Carroll:

Environmental Science 105, Introductory Physical Geography  
Environmental Science 220, Weather and Climate  
Environmental Science 223, Geologic Landscapes of North America  
Environmental Science 230, Chemistry of the Environment  
Environmental Science 253, Mapping and Remote Sensing  
Environmental Science 267, Geographic Information Systems  
Environmental Science 292, Environmental Ethics and Applications  
Environmental Science 325, Soils and Hydrology  
Environmental Science 349, Environmental Policy and Planning  
Environmental Science 455, Watershed Management  
Environmental Science 499, Capstone Seminar in Environmental Assessment (2 credits)  
Biology 150, Organismal Biology I  
Biology 160, Organismal Biology II  
Biology 260, Introduction to Ecology and Evolution  
Chemistry 109, Principles of Inorganic Chemistry  
Chemistry 110, Principles of Analytic Chemistry  
Computer Science 107, Problem Solving Using Information Technology (2 credits)  
Mathematics 112, Introduction to Statistics  
Mathematics 140, Calculus and its Applications

**105. Introductory Physical Geography** **L1, L2**      **4 credits**

Introduction to the basic concepts in physical geography and earth science, including the description, analysis, and interpretation of the major components of the earth's natural environment. The first part of the course focuses on the structure and processes of the atmosphere, along with resulting global patterns of climate. The second part of the course introduces map use and earth material identification and emphasizes the formation and distribution of the earth's landforms. Four hours of lecture/discussion and one three-hour laboratory. (Required course fee) (*Fa, Sp*)

**120. Conservation and Environmental Improvement** **L1, L2**      **4 credits**

A study of global natural resources and methods used in their conservation. The course includes the basic concepts of ecological biology including interactions between the living and the non-living elements of the environment, concepts of energy transformation in physical and biological systems, the nature of the Earth's ecosystems, and the implications



and economic activity. Historic climate change theories and contemporary global issues are both addressed. Laboratory exercises supplement lecture topics and emphasize local atmospheric observations and forecasts as well as regional climate data analyses. (Required course fee) (*Sp*) Prerequisite: ENV 105 or consent of the instructor.

**223. Geologic Landscapes of North America**

**4 credits**

The major landform regions of the U.S. and Canada are examined with respect to their geologic structures, origins, stages of development, and defined spatial patterns. Course exercises supplement lecture topics through the use of topographic maps, geologic maps, aerial photographs and related local field trips. (*Fa, odd years*) Prerequisite: ENV 105 or consent of the instructor.

**230. Chemistry of the Environment**

**4 credits**

This course introduces the basic concepts regarding the chemistry of the Earth's three major environmental components: air, water, and soil. The environmental chemistry of elements and compounds will be presented in terms of the natural biogeochemical cycles and in terms of human-caused pollutant transport and reactivity within and between environmental components. Laboratory experiments and field trips are designed to illustrate the chemical processes discussed in class and introduce various principles regarding environmental monitoring and sample analysis. Four hours of lecture/discussion and one three-hour laboratory. (Required course fee) (*Sp*) Prerequisites: ENV 105 and CHE 109.

**252. Contemporary Issues in Geography and the Environment**

**2 credits**

This course highlights various contemporary issues relating to the global environment with a focus on the distributional patterns of environmental problems such as natural resource depletion, food production, overpopulation, energy use, water pollution, and global climate change. This course may be used with a prior university biology laboratory course to satisfy the environmental science requirement for teachers. (*Wn, Su*)

**253. Mapping and Remote Sensing**

**4 credits**

This course explores a number of tools and techniques used by environmental geographers to assess the patterns, distributions, and characteristics of various earth surface features, such as aerial photo and satellite image interpretation, geologic and topographic map interpretation, spatial data acquisition and analysis, and field mapping. It also introduces students to modern methods of remote sensing, including the applied use of color infrared, thermal infrared, microwave, radar and multispectral imagery in the study of landforms, agriculture, forestry, water resources, weather and urban planning. Class exercises include a low altitude aerial photography flight. (Required course fee) (*Fa*)

**255. Environmental Resources of Wisconsin**

**4 credits**

This course investigates the spatial patterns of Wisconsin's varied physical and cultural landscapes, including such topics as climate, natural vegetation, geologic landforms, water resources, agriculture, and historic settlement patterns. (*Su, even years*)

**267. Geographic Information Systems**

**4 credits**

Students are introduced to various computer overlay mapping techniques for analyzing spatial data and investigating geographic, demographic, and environmental problems.

## ENVIRONMENTAL SCIENCE

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Lectures provide a conceptual background on geographic information systems. Hands-on computer laboratory exercises enable students to map terrain surfaces, conduct site suitability, feasibility, and desirability studies, investigate environmental impacts of human activity, and assess demographic and land-use patterns using ArcGIS software and available databases. (*Sp*)

### **290/490. Workshop in Environmental Science** **2-4 credits**

Topical workshops, field studies, or short courses are established in various areas of interest as recognized/needed by the program. For example, under this listing, the program offers a “Cultural and Environmental Geography of Alaska” field study during May term (*odd years*), which is also offered for NCEP credit.

### **292. Environmental Ethics and Applications** **L7** **4 credits**

This course addresses historic philosophical and religious perspectives concerning the natural environment, including contemporary ethical responses to such global concerns as resource stewardship and management, technological change and impact, ecological diversity and sustainability, environmental politics and economics, energy use, population growth, and overconsumption. An emphasis will be placed on global resource challenges and social issues related to resource utilization. (*Sp*)

### **325. Soils and Hydrology** **4 credits**

This course addresses various technical aspects of global soil and water resources, how we utilize and impact the quality and quantity of these vital resources, and how we manage and conserve them for future generations. Topics include soil classification, soil physics, soil chemistry, soil fertility, water chemistry, hydrology, and sediment and contaminant transport. (*Fa, even years*) Prerequisites: CHE 109 or ENV 230.

### **349. Environmental Policy and Planning**

An introduction to the nature of environmental planning, including various laws and policies designed to guide regional growth. The course examines the basic concepts and problems underlying the design and planning of environmentally desirable and appropriate land uses. Students will become familiar with federal, state, and municipal policies that influence and regulate environmental planning. Special emphasis is placed on assessing growth and development within watersheds, mapping and inventorying regional land-use changes, and identifying critical environmental impacts. (*Fa*) Prerequisite: ENV 105.

### **380/480. Work-Oriented Internship** **2-4 credits**

Prerequisite: Junior or senior standing and consent of major adviser.

### **396/496. Research in Environmental Science** **2-4 credits**

Prerequisite: Junior or senior standing and consent of major adviser.

### **398/498. Independent Study in Environmental Science** **1-4 credits**

Prerequisite: Junior or senior standing, approval of the divisional dean and consent of the instructor.

**455. Watershed Management****4 credits**

This course examines the interaction of abiotic, biotic, and social components in the management of a drainage basin's terrestrial and aquatic resources. Through the examination of global watershed management literature and related case studies, students will actively engage in the development of a watershed management plan. Class projects will focus on selected Wisconsin, upper Midwest, and Great Lakes watersheds. (*Fa*) Prerequisites: ENV 201, plus junior or senior standing. ENV 267 recommended.

**499. Capstone Seminar in Environmental Assessment****2 credits**

Examines some of the key tools and techniques used to effectively analyze and assess the impact of various human activities on environmental quality, and provides a capstone research/field experience in environmental science. Individual projects involve an environmental impact assessment or resource management plan. Contemporary issues and career opportunities in environmental management and monitoring are also addressed. (Required course fee) (*Sp*) Prerequisites: Environmental major status and senior standing.

# DIVISION OF NATURAL AND HEALTH SCIENCES

## EXERCISE SCIENCE

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<b>Brian P. Edlbeck</b>	Clinical Assistant Professor
<b>John T. Koshuta</b>	Lecturer
<b>Jamie L. Krzykowski</b>	Clinical Assistant Professor
<b>David B. MacIntyre</b>	Clinical Assistant Professor
<b>Brenda D. Reeves</b>	Clinical Assistant Professor
<b>Jason T. Roe</b>	Lecturer

The purpose of the exercise science program at Carroll University is to develop entry-level professionals who can assess, interpret, prescribe, intervene, and manage health and fitness in apparently healthy individuals across the life span and promote positive lifestyle changes through basic interventions and referrals. The program is also designed to prepare students for appropriate professional organization certification exams and for post-graduate study in exercise science or other health related disciplines such as medicine, physical therapy, and physician assistant.

The exercise science program emphasizes the area's body of knowledge, research, and practice. Constant reinforcement of content through practical experiences occurs through observations, exposure to clients in academic courses, practicum experiences, and full-time internships. Graduates are qualified professionals who are liberally educated and possess the foundations for lifelong learning.

Individuals interested in health/fitness management are prepared to provide exercise and general wellness programs to apparently healthy individuals across the life span in safe and effective environments. Those interested in strength and conditioning are prepared to provide training programs to improve athletic performance across the life span. Students are also well prepared for advanced study in either graduate school or a clinical health field. Students who intend to advance into Carroll University's Entry-level Doctor of Physical Therapy Program must also satisfy the physical therapy program progression requirements described in the Admission section of this catalog.

To meet the university's and the exercise science program's educational mission, a variety of academic and professional disciplines are utilized. The curriculum includes core courses in health sciences, exercise science, and physical education as well as courses in supporting academic areas such as chemistry and biology.

### **Learning Outcomes for Exercise Science**

Upon completion of the exercise science program, the individual:

1. Will possess the knowledge and skills for physical activity programming and lifestyle modification techniques and be prepared to work in a variety of health and fitness fields.

2. Will be able to collaborate with a variety of health care professionals through consultations and referrals in a multi-disciplinary approach to wellness.
3. Will be able to think critically to effectively solve problems in a variety of dynamic environments.
4. Will understand the importance and process of becoming life-long learners in order to contribute to the fields of health and fitness.
5. Will be an effective communicator among health care providers, fitness professionals, clients, administrators, family, and community in the delivery of life-long health and wellness.
6. Will practice with professionalism and integrity in their respective health and fitness field.

### **Fees**

Specific courses that require use of equipment and disposable supplies are assigned a course fee.

### **Exercise Science Major Bachelor of Science Minor Not Offered**

#### **Core courses (33 credits)**

Health Sciences 101, Introduction to Health Care Skills (1 credit)  
Health Sciences 103, Personal and Community Health (4 credits)  
Health Sciences 105, Group Exercise Instruction (1 credit)  
Health Sciences 110, Basic Weight Training Instruction (1 credit)  
Health Sciences 120, Fundamental Motor Development (4 credits) or  
PTH 407, Human Learning and Behavior (4 credits) for pre-physical therapy  
Health Sciences 303, Exercise Physiology (4 credits) or  
PTH 406, Applied Physiology I (4 credits) for pre-physical therapy  
Health Sciences 322, Kinesiology (4 credits) or  
PTH 404, Biomechanics (4 credits) for pre-physical therapy  
Exercise Science 210, Exercise Testing and Prescription (3 credits)  
Exercise Science 302, Exercise in Health and Disease (3 credits)  
Exercise Science 315, Exercise Science Practicum I (1 credit)  
Exercise Science 324, Exercise Science Laboratory (2 credits) or  
PTH 414, Biomechanics (4 credits) for pre-physical therapy  
Exercise Science 435, Exercise Science Practicum II (1 credit)  
Physical Education 421, Psycho-Social Aspects of Physical Activity (4 credits)

#### **Capstone Experience (2 or 12 credits)**

Exercise Science 480, Capstone: Internship in Exercise Science

#### **Required Supporting Courses (29 credits)**

Biology 130, Introduction to Human Anatomy and Physiology I (4 credits)  
Biology 140, Introduction to Human Anatomy and Physiology II (4 credits)  
Chemistry 101, General Chemistry (4 credits)

## EXERCISE SCIENCE

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Chemistry 102, Biological Chemistry (4 credits)

Chemistry 208, Nutrition (3 credits)

Physics 101, Introductory Physics I (4 credits). Pre-physical therapy students must also take Physics 102, Introductory Physics II (4 credits)

Computer Science 107, Problem Solving Using Information Technology (2 credits)

Mathematics 112, Introduction to Statistics (4 credits)

### Capstone Requirements

Students with a major of Exercise Science are required to take a 12 credit capstone course to help prepare the student for the transition to the workplace or graduate school. Students who are in Phase 1 of the Doctorate of Physical Therapy program at Carroll are allowed to take a minimum of 2 credits of capstone to earn their Bachelor of Science in Exercise Science. If a student is enrolled in Phase 1 of the Physical Therapy program and then drops out of the program during their senior year the student must then take an additional number of Capstone credits to achieve 12 total credits of Capstone.

### ESC 201. Sports Nutrition

4 credits

The goal of this course is to develop an understanding of the interaction of good nutrition and exercise habits for optimal functioning of the human body. Focus will be on nutritional strategies to maximize energy and recovery. (*Fa*) Prerequisites: CHE 208 or HED 201 (may be taken concurrently).

### ESC 202. Advanced Sports Nutrition

4 credits

This course offers an in-depth study of acute and chronic metabolic adaptations to exercise, followed by a study of diet manipulations to optimize exercise metabolism and improve performance. (*Sp*) Prerequisites: ESC 201 or consent of instructor.

### ESC 210. Exercise Testing and Prescription

3 credits

This course examines the evaluation of fitness levels and the components of fitness applicable to the development of exercise programs. Exposure to exercise prescription is also included in this course. (Required course fee) (*Fa, Sp*) Prerequisites: BIO 130 or consent of instructor.

### ESC 302. Exercise in Health and Disease

3 credits

This course examines and applies the principles of exercise prescription for normal and special cases. Development of exercise strategies for the apparently healthy, elderly, obese, hypertensive, and cardiac patients are discussed. In addition, exercise considerations for diabetes, asthma, arthritis, osteoporosis and pregnancy are explored. (*Sp*) Prerequisites: ESC 210 or consent of instructor.

### ESC 303. Nutrition Assessment and Prescription

3 credits

This course is designed to give the student knowledge and tools to assess the current diet and exercise habits of an athlete. Students will be able to use the assessment results to prescribe an eating plan. (*Wn*) Prerequisites: ESC 201.

**ESC 304. Nutrition and Fitness for Special Populations****3 credits**

The objective of this course is to apply the principles of sports nutrition to improve the health and functionality of special populations, including athletes with eating disorders. (*Su I*) Prerequisites: ESC 210 and ESC 303.

**ESC 305. Supplements for Sport Performance****2 credits**

The goal of this course is to provide the student with information on both safe and harmful supplementation for athletes. Specifically, the students will understand the proposed mechanism of action of a supplement, learn to evaluate the claim of effectiveness and evaluate its potential as an ergogenic aid. (*Wn*)

**ESC 315. Exercise Science Practicum I****1 credit**

This course provides students with an opportunity to observe and apply skills learned in exercise science and recreational management programs under the direction and supervision of the Exercise Science faculty. (Required course fee) (*Fa, Sp*) Prerequisites: ESC 210 for exercise science students, junior standing, current Professional Rescuer CPR & First Aid certification. (Grading is on an S/U basis.)

**ESC 324. Exercise Science Laboratory****2 credits**

This course further develops knowledge, skills, and abilities that exercise professionals need to possess in order to function competently in commercial, corporate, and clinical health and fitness settings. (Required course fee) (*Sp*) Prerequisites: HSC 303, HSC 322.

**ESC 391. Strength and Conditioning for Sport****2 credits**

This course presents advanced strength training and conditioning theory and practice. Designed primarily for students that may be involved in strength and conditioning for athletes at any age, the course explores periodization models and their utilization, mastery and analysis of explosive lifts, plyometric programming, speed and agility drills and programming, facility design, and ergogenic aids. (Required course fee) (*Wn*) Prerequisites: HSC 303, HSC 322, HSC 110 or permission from instructor.

**ESC 407. Facility Operation****3 credits**

This course is designed to bridge the gap between business administration theory and practical application in the fitness and recreation fields. Information provided in this course prepares students for their internship and first professional work experiences. (*Fa, Sp*) Prerequisites: Junior or Senior status (Exercise Science and Recreation Management majors) or permission from instructor.

**ESC 435. Exercise Science Practicum II****1 credit**

This course provides students with an opportunity to develop practical, hands-on skills and experiences in exercise science and recreation management under the direction and supervision of the Exercise Science faculty. (Required course fee) (*Fa, Sp*) Prerequisites: ESC 315, current Professional Rescuer CPR and First Aid certification. (Grading is on an S/U basis.)

## EXERCISE SCIENCE

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### ESC 480. Capstone: Internship in Exercise Science

2 or 12 credits

This course is an opportunity for students to apply theories and concepts to actual work experiences under the direction of the capstone advisor and the site supervisor. The purpose of the internship is to provide opportunities to improve skills, reach goals, and adapt to the world of work. (*Fa, Sp, Su*) Prerequisites: Senior standing, major requirements completed, current Professional Rescuer CPR and First Aid certification, and approval of the instructor.

See Health Sciences in the Carroll University Catalog for descriptions of Health Sciences (HSC) courses in the Exercise Science Program curriculum.

### Exercise Science Four Year Curriculum Model

	Fall	Winter	Spring
FRESHMAN	FYS 100 4 BIO 130 (or CHE) 4 HSC 103 4 LSP 3-7 4 or MAT (101)		ENG 170 4 BIO 140 (or CHE) 4 HSC 110 1 LSP 3-7 4 LSP 3-7 4 or MAT (101)
Credits	16		17
SOPHOMORE	CHE 101 (LSP 1) 4 HSC 101 1 HSC 105 1 MAT 112 4 LSP 3-7 4 LSP 3-7 4		CHE 102 (LSP 2) 4 HSC 120 4 ESC 210 3 CSC 107 2 PHY 101 4
Credits	18		17
JUNIOR	HSC 303 4 HSC 322 4 CHE 208 3 Elective 4	ESC 391- elective 2	ESC 302 3 ESC 324 2 ESC 315 1 Elective 4 Elective 4 Elective 4
Credits	15	2	18
SENIOR	ESC 407-elective 3 ESC 435 1 PED 421 4 Elective 4 Elective 4		ESC 480 12
Credits	16		12

**Exercise Science (Pre-Physical Therapy) Four-Year Curriculum Model**  
 (Pre-physical therapy students can find the necessary requirements for the Physical Therapy Program in the admissions section of the catalog)

<u>YEAR</u>	<u>FALL</u>		<u>SPRING</u>	<u>SUMMER</u>
<b>FRESHMAN</b>	FYS 100	4	ENG 170	4
	BIO 130 (or CHE)	4	BIO 140 (or CHE)	4
	PSY 101 (LSP 3)	4	PHY 101	4
	LSP 4-7 (or MAT 101)	4	HSC 110	1
	Credits	16	LSP 4-7	4
			Credits	17
<b>SOPHOMORE</b>	CHE 101 (LSP 1)	4	CHE 102 (LSP 2)	4
	HSC 101	1	ESC 210	3
	HSC 103	4	CSC 107	2
	HSC 105	1	MAT 112	4
	PHY 102	4	LSP 4-7	4
	LSP 4-7	4	Credits	17
	Credits	18		
<b>JUNIOR</b>	HSC 402	4	HSC 403	4
	CHE 208	3	ESC 302	3
	ESC 315	1	ESC 435	1
	PED 421	4	Elective	4
	LSP 4-7	4	Elective	4
	Credits	16	Credits	16
<b>SENIOR</b>	PTH 400	4	PTH 401	4
	PTH 404	4	PTH 407	4
	PTH 405	4	PTH 414	4
	PTH 406	4	PTH 416	4
	Credits	16	ESC 480	2
			Credits	18

# DIVISION OF NATURAL AND HEALTH SCIENCES

## HEALTH SCIENCES

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The Health Sciences Area offers bachelor of science degree programs in athletic training, exercise science, health science, nursing, physical and health education, and recreation management, a licensure program in adapted physical education, and an entry-level doctor of physical therapy degree program.

This section of the catalog presents: 1) the academic standing and progression standards and policies for the health sciences programs, 2) the health science major, and 3) interdisciplinary courses for the bachelor of science degree programs in athletic training, exercise science, health science, nursing, physical and health education, and recreation management. The athletic training, exercise science, nursing, physical and health education, and recreation management majors and pre-physical therapy emphasis are presented separately in this catalog.

### **Academic Standing and Progression in Health Sciences**

#### **Athletic Training Education, Nursing and Physical Therapy Programs**

Satisfactory progress in the athletic training education, nursing, and physical therapy programs is contingent upon satisfying the following academic requirements. Progression standards are subject to change based on regulatory, licensing, and/or certification needs.

- 1) Athletic Training Education Program: A cumulative GPA of 2.75 and pre-professional (natural, behavioral, and social sciences) GPA of 2.5 during the freshman and sophomore years is required for admission to the professional phase (junior and senior years) of the program. Grades of a C or better are required in all pre-professional phase courses (natural, behavioral and social sciences). Any pre-professional phase course may only be repeated once.

A student must maintain a cumulative university GPA and a semester GPA of 2.75 throughout the professional phase. A student who gets below a 2.75 cumulative and/or session GPA will be placed on academic probation for the following semester. To have the probationary status removed, a student must attain a 2.75 cumulative and/or session GPA or higher in subsequent semesters. If a student fails to attain a 2.75 cumulative and/or session GPA, s/he will be dismissed from the program.

Grades of C or better are required in all athletic training, exercise science and health science professional phase courses. A satisfactory (S) is required in all completed practica. If a grade below a C is achieved or an S is not achieved, the student may not progress to subsequent courses in the program if the course is a prerequisite of another. When repeating a professional phase athletic training, health science, or exercise science course, a student may be required to successfully complete ancillary learning experiences or clinical competencies/practica that validate

theoretical knowledge. If a student is unable to take further courses in the next occurring semester as a result of this policy, the student is placed on academic suspension and repeats the course during the next appropriate semester. A course may be repeated only one time. A student receiving a D, F, or U twice in one athletic training course or in two athletic training courses is dismissed from the program.

- 2) Nursing Program: grades of BC or better are required in all nursing, chemistry, biology and health science courses. A satisfactory (S) is required in all completed practica. In all concurrent nursing and practica courses a student is required to earn a BC or better in the didactic course and a (S) grade in the practica. Unsuccessful achievement in either course necessitates repeating the didactic and practica course. If courses are repeated, university progression standards apply to grades and repeated courses. A student must maintain a term GPA of 2.75. A student whose term GPA is below a 2.75 will be placed on academic probation for the following semester. To have the probationary status removed, a student must attain a 2.75 term GPA in the subsequent semesters. A student will be dismissed from the program if 1) s/he fails to attain a 2.75 term GPA in the subsequent term, 2) s/he is placed on academic probation a second time during his or her tenure in the program, 3) s/he fails to meet the criteria for the removal from academic probation.

If a grade below a BC is achieved or an S is not achieved, the student may not progress to subsequent courses in the program if the course is a prerequisite of another. When repeating a nursing, biology, chemistry or, health science course, a student may be required to successfully complete ancillary learning experiences or clinical competencies/practica that validate theoretical knowledge. If a student is unable to take further courses in the next occurring semester as a result of this policy, the student is placed on academic suspension and repeats the course during the next appropriate semester. A course may be repeated only one time. A student receiving a C, D, F, or U twice in one nursing chemistry, biology or health science course or in two nursing, chemistry, biology and health sciences courses is dismissed from the program.

A transfer student who takes NRS 100 and 230 concurrently and earns lower than a C in Nursing 100 must retake NRS 100 in the subsequent semester. In this case, the student may register for NRS 236 in the subsequent semester but may not register for NRS 232 or 234.

A student who withdraws from any nursing or health sciences course twice will be dismissed from the program.

- 2) Physical Therapy Program:

Pre-Physical Therapy Program: To proceed to the professional phase of the physical therapy program in the senior year, a student must have a cumulative and pre-professional (natural, behavioral, and social sciences) GPA of 3.0 or higher. Carroll University Academic Standing policies apply to pre-physical therapy students.

Professional Phase of the Physical Therapy Program: In the professional phase of the physical therapy program (400, 500, and 600 physical therapy courses) student must attain a grade point average of 3.0 or better each semester. If a student earns a semester grade point average between 2.0 and 2.99, s/he is placed on academic probation. If a student is on academic probation during the last semester of the program, the student must earn an S in the clinical internship course and in PTH 612: Clinical Research II, to graduate. A student will be dismissed from the program if 1) s/he is placed on academic probation a second time during his or her tenure in the program, 2) s/he fails to meet the criteria for the removal from academic probation, 3) if s/he earns a semester GPA of 1.99 or less or 4) if s/he receives a D, F, or U twice in one physical course or in two physical courses.

When repeating a physical therapy course, a student may be required to successfully complete ancillary learning experiences or clinical competencies/practica that validate theoretical knowledge. If a student is unable to take further courses in the next occurring semester as a result of this policy, the student is placed on academic suspension and repeats the course during the next appropriate semester. A course may be repeated only one time.

### **Physical and Health Education Program**

To complete a major in Physical Education with Health, the student must be admitted to the Teacher Education Program (TEP) in the Education Program. The TEP requires that a student 1) maintain a minimum cumulative GPA of 2.5, 2) maintain a combined GPA of 2.75 in the physical education major, the health education minor, and Department of Public Instruction approved secondary teaching education minor and 3) demonstrate professional behavior throughout his/her university career. The physical education with health student must make application to the TEP, including submission of the TEP Portfolio and passing scores on the PPST (PRAXIS I) examination, during the fall semester of his/her sophomore year. In the spring semester of the junior year, the student must successfully complete the Praxis II Content Knowledge Exam for health and physical education. Copies of the TEP Handbook are available from the Education Office.

### **Exercise Science and Recreation Management Programs**

Carroll University academic standing policies apply to students enrolled in the Exercise Science and the Recreation Management programs.

### **Evaluation of Academic Standing and Progression**

An interdisciplinary health science committee consisting of health sciences administrators and program directors, the Registrar, and the Office of Admission will conduct evaluation of academic progression at the end of each semester. Health sciences students may appeal a probation or dismissal decision by filing an Academic Affairs Petition with the Registrar's Office. The decision of the university regarding the appeal is final. During the appeal process, a student may participate in courses.

### **Policy on Reapplication to a Health Sciences Program**

The Policy on Reapplication defines the process by which students may seek readmission to a health sciences program following dismissal of the student from the program for failing to maintain good academic standing. Readmission candidates may apply for readmission to the program no sooner than one year and no later than three years from the date of dismissal. Readmission candidates may exercise their reapplication option only once. Readmission candidates applying to the program must submit the materials required of all applicants for admission. In addition, they must provide transcripts relating to any education experiences completed since leaving the program. A letter indicating why the readmission candidate believes s/he will succeed academically and technically in the program must accompany application materials. Candidates readmitted to a health science program must comply with the progression standards in the current catalog.

### **Medical or Personal Leave**

If a student must be absent from a health sciences program for an extended period of time for medical or personal reasons or jury duty, written notice must be given to the respective program director prior to the leave, if possible. Written notice must also be given to the program's director prior to the student's return to the program. If applicable, the student may be asked to verify that s/he has complied with the program's technical standards with previously imposed conditions for leave. In addition, remediation or course repetition may be required of the student dependent on the length of the absence. Any course, laboratory, outside learning experience, or clinical practicum/internship make-up or remediation is dependent upon academic and clinical faculty and facility availability.

### **Health Sciences Program**

**Lynn Peterson**

Instructor in Health Sciences

The aim of the health science major is to: 1) facilitate professional advancement for health care providers who currently hold a technical (associate) degree in a health-related profession, and 2) provide a program of study that is common to several health science majors at Carroll University as a way to facilitate career decision making. This program is designed to lead to various degree completion or professional programs. The health science major is not to be used as a stand alone major.

This major provides depth and breadth within the basic and behavioral sciences to prepare students for the balanced integration of critical thinking, basic science knowledge application, and interpersonal skills necessary to provide best care in a variety of health science disciplines. To meet the educational missions of the university and of the health science major, students study in a variety of academic and professional disciplines including biology, psychology, chemistry, health science, physics, mathematics, and physical therapy.

### Health Science Major Bachelor of Science

#### Major Core Courses (49 credits)

Biology 130, Introduction to Human Anatomy and Physiology I (4 credits)  
Biology 140, Introduction to Human Anatomy and Physiology II (4 credits)  
Psychology 101, Introductory Psychology (4 credits)  
Psychology 201, Abnormal Psychology (4 credits)  
Psychology 221, Life-Span Psychology (4 credits)  
Psychology 260, Health Psychology (4 credits)  
Chemistry 101, General Chemistry (4 credits)  
Chemistry 102, Biological Chemistry (4 credits)  
Chemistry 208, Nutrition (3 credits)  
Mathematics 112, Introduction to Statistics (4 credits)  
Physics 101, Introductory Physics I (4 credits)  
Physics 102, Introductory Physics II (4 credits)  
Computer Science 107, Problem Solving Using Information Technology (2 credits)

#### Capstone

Capstone requirements for degree completion students will be within the degree completion curriculum or Independent Study/Special Topics Capstone

### Bachelor of Science Degree Completion Emphasis

For students who have earned, or might be currently earning an Associate Degree in a health related profession such as surgery technician, radiology, etc., the Health Science major provides an avenue for professional growth and advancement. Students are awarded thirty credits by Carroll University for course work taken at either Waukesha County Technical College (WCTC) or Milwaukee Area Technical College (MATC) in conjunction with their respective degree.

The remaining required courses will vary depending on the degree program. For example, students with a surgical technician degree from MATC would be required to complete 36 of the above 48 core credits while a student with a radiography degree from WCTC would be required to complete 44 of the 48 core credits above. Students with a degree from either WCTC or MATC who wish to pursue the Health Science major would have an opportunity to take between ten and twenty-six elective credits. Additional course work focuses on preparing the individual for enhanced personal and professional development. Recommended options include a minor in a desired area of interest such as Hispanic Health and Human Services or Organizational Leadership, or a broad course of study within the liberal arts and sciences.

#### Fees

Specific courses that require use of equipment and disposable supplies are assigned a course fee.

## Academic Policies

Policies on academic standing and progression, readmission to the health sciences program, and medical or personal leave are presented under Academic Standing and Progression in Health Sciences in this section of the catalog. Policies on admission, technical standards, caregiver background and criminal history check, insurance, and academic progression.

## Interdisciplinary Health Sciences Courses

Health Sciences 101, Introduction to Health Care Skills (1 credit)  
 Health Sciences 103, Personal and Community Health (4 credits)  
 Health Sciences 105, Group Exercise Instruction (1 credit)  
 Health Sciences 110, Basic Weight Training Instruction (1 credit)  
 Health Sciences 120, Fundamental Motor Development (4 credits)  
 Health Sciences 300, Pharmacology (3 credits)  
 Health Sciences 303, Exercise Physiology (4 credits)  
 Health Sciences 322, Kinesiology (4 credits)  
 Health Sciences 402, Human Anatomy (4 credits)  
 Health Sciences 403, Human Physiology (4 credits)

### HSC 101. Introduction to Health Care Skills

1 credit

The purpose of this course is to provide the knowledge and skills that are necessary to become First Aid and Professional Rescuer CPR/AED (Automated External Defibrillator) certified in accordance with the American Red Cross. These skills include the ability to call for help, to help sustain life, reduce pain, and minimize the consequences of injury or sudden illness until advanced medical care arrives. Students will also be trained on policies and standards regarding blood borne pathogens and occupational exposure in accordance with the Occupational Safety and Health Administration (OSHA) guidelines. (Required course fee) (*Fa, Wn, Sp*)

### HSC 103. Personal and Community Health

L3

4 credits

Studies the dynamics of health in modern life with special emphasis on health concepts relevant to personal and community living. (*Fa, Sp*)

### HSC 105. Group Exercise Instruction

1 credit

This course provides training for the entry-level Group Exercise instructor. This course will cover basic cardiorespiratory physiology, aerobic program design and group exercise class development using activity and application to develop instructional skills. (Required course fee) (*Fa, Sp*)

### HSC 110. Basic Weight Training Instruction

1 credit

This course provides training for the entry-level resistance-training instructor, introducing basic strength training techniques, basic training principles, functional anatomy, and exposure to a variety of forms of resistance training. Students learn to apply basic physiology, biomechanics, weight room safety, and basic program design. (Required course fee) (*Sp*)

### **HSC 120. Fundamental Motor Development**

**4 credits**

Introductory course exploring the growth and development of basic motor skills from infancy to adulthood and changes which occur in skills with advanced age. This course will also explore different learning theories and variables associated with mastering motor skills. (Required course fee) (*Sp*) Prerequisites: BIO 130.

### **HSC 130. Health Careers Exploration**

**2 credits**

This course will help students to explore the various health care professions. There is a great deal of interest in health care careers, and there is a need for workers in all health care fields. Certain professions such as doctor and nurse are well known among the general population. Others may be unknown or not understood well, yet may be valuable options for the student to explore as a possible health care career opportunity. Information regarding resume writing and job searching will also be presented. A variety of methods including lecture, discussion, presentations, a job shadow/interview experience, and writing assignments will be employed. (*Fa, Sp*)

### **HSC 290. Cultural Influences in Hispanic Health Care**

**2 credits**

This course will focus on the impact of cultural influences in Hispanic populations as people make health care decisions. The learning objectives will be based on the need for students to obtain an understanding of Hispanic culture as it affects the clinician/patient relationship. The topics covered will enhance the effectiveness of the students to develop better research questions and to be able to anticipate the most appropriate ways of interacting with Hispanic populations. This course will be taught in English as a main language but also will introduce students to bilingual terminology. (*Fa*)

### **HSC 300. Pharmacology**

**3 credits**

Addresses pharmacology for the licensed athletic trainer and nurse. Students explore basic knowledge about major drug groups, physiological effects of pharmacotherapeutic agents, utilization of pharmacotherapeutic agents, and storage, dispensing, and tracking protocols for pharmacotherapeutic agents. (*Fa, Sp*) Prerequisites: CHE 101/102 or higher, BIO 103/104 or 130/140 or higher.

### **HSC 303. Exercise Physiology**

**4 credits**

Students explore the functions and the underlying mechanisms of action of the body's physiological systems, their acute response to physical activity, and their adaptation to chronic physical activity. This course also explores means by which physical performance can be enhanced. (*Fa*) Prerequisite: BIO 130 and 140.

### **HSC 322. Kinesiology**

**4 credits**

The anatomical and mechanical bases of normal human movement are studied in this course. Biomechanical terminology and principles are introduced. Students examine the laws of nature that govern movement and how they can be applied to human movement in a manner designed to enhance performance. The course also explores the roles and functions of the nervous and musculoskeletal systems in human movement and performance and the manner in which they work individually and collectively during movement. (*Fa*) Prerequisite: BIO 130 and 140.

**HSC 402. Human Anatomy****4 credits**

The microanatomy and gross anatomy of muscle, bone and cartilage and the integumentary, nervous, cardiovascular, lymphatic, respiratory, renal, digestive, endocrine, and reproductive systems are studied. Using multi-media software, male and female bodies are dissected from anterior, posterior, medial, lateral, and medial/lateral views and histologies, radiologies, cross-sections, and MRIs are linked to the anatomy. Models are also employed to study the structure of the human body. In addition, palpation laboratories are integrated into the course. (Required course fee) (*Fa*) Prerequisites: Junior Standing, BIO 130/140 or BIO 150/160.

**HSC 403. Human Physiology****4 credits**

Fundamental concepts related to the normal function of the human body are presented. The normal functioning of the human body is discussed across gender, race, and life span. Basic pathophysiological concepts are introduced. Resources used include physiology laboratories, computer simulations, and videos. (Required course fee) (*Sp*) Prerequisites: Junior standing, BIO 130/140 or BIO 150/160, CHE 110 or a C or better in CHE 101 and 102.

**Diagnostic Medical Sonography Emphasis**  
**Bachelor of Science****Laura Sorenson**Education Coordinator  
School of Diagnostic Medical  
Sonography

Aurora Health Care

**Lynn M. Peterson**Health Sciences and 2+2 Program  
Advisor

Carroll University offers an opportunity to major in Health Sciences with an Emphasis in Diagnostic Medical Sonography through Aurora Health Care. The partnership allows students the benefits of close, personal attention during the first two years at Carroll followed by two years at Aurora's School of Diagnostic Medical Sonography and its associated clinical sites with a small class of other students pursuing diagnostic medical sonography.

Diagnostic medical sonographers most often are employed in hospitals, but can also find employment with physicians, medical and diagnostic laboratories, diagnostic imaging centers and outpatient care centers. Some diagnostic medical sonographers find employment with manufacturers of equipment used in the field. Long-term employment prospects in this area are forecast to be excellent.

Entry into the Aurora Health Care professional phase of the program is highly competitive and dependent upon completion of Carroll University general education and Health Science requirements, a minimum cumulative and required science course GPA of 3.0, a grade of 'C' or better in all science courses, CNA training (at the student's own

## HEALTH SCIENCES

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expense), and the accumulation of at least 500 hours of direct patient care prior to application. The acceptance of students into the professional phase of the curriculum lies with the Aurora Health Care School of Diagnostic Medical Sonography Admissions Committee. See Admissions section of the catalog for details.

### **Required Carroll University Courses**

CSC 107, Problem Solving using Information Technology

English 170, Writing Seminar

FYS 100, First Year Seminar

LSP 5, 6

### **Science and mathematics courses taken at Carroll University**

Biology 130, Introduction to Human Anatomy and Physiology I

Biology 140, Introduction to Human Anatomy and Physiology II

Biology 212, Microbiology

Biology 324, Bioethics (LSP 7)

Chemistry 101, General Chemistry (LSP 1)

Chemistry 102, Biological Chemistry (LSP 2)

Communication 207, Intercultural Communication (LSP 4)

Math 112, Introduction to Statistics Mathematics

Nursing 100, Health Care and Nursing,

Nursing 230, Health Assessment,

Nursing 236, Human Pathophysiologic Responses

Physics 101, Introductory Physics I

Physics 102, Introductory Physics II

Psychology 101, Introductory Psychology (LSP 3)

Psychology 260, Health Psychology

Sample program at Carroll University

	Fall	Spring	Winter/Summer
<b>Freshman</b>	FYS 100 BIO 130 MAT 101 OR LSP 5 or 6 COM 207	ENG 170 BIO 140 PHY 101 NRS 100	Get CNA training and begin to work as a CNA to get 500 hours of patient care  PSY 101
<b>Sophomore</b>	CHE 101 PHY 102 BIO 324 BIO 212	CHE 102 NRS 236 NRS 230 PSY 260	CSC 107 MAT 112

Sample program at Aurora Health Care

<b>Junior</b>	HSC 370 HSC 371 HSC 372 HSC 373	HSC 376 HSC 377 HSC 378 HSC 374 HSC 380	HSC 379 HSC 375
<b>Senior</b>	HSC 470 HSC 471 HSC 473	HSC 472 HSC 474  <b>Carroll Courses</b> LSP 5 or 6	

**Radiologic Technology Emphasis**  
Bachelor of Science

<b>Rochelle Olive-Harmon</b>	Program Director Froedtert Memorial Lutheran Hospital School of Radiologic Technology
<b>Lynn M. Peterson</b>	Health Sciences and 2+2 Program Advisor
<b>Diane Wingenter</b>	Program Director Wheaton Franciscan Healthcare St. Joseph School of Radiologic Technology
<b>Jayne Wisniewski</b>	Program Director Columbia St. Mary's School of Radiologic Technology

Carroll University offers an opportunity to major in Health Sciences with an Emphasis in Radiologic Technology with the Radiology Alliance – Froedtert Hospital, Columbia-St. Mary's Hospital and Wheaton Franciscan – St. Joseph. The partnership allows students the benefits of close, personal attention during the first two years at Carroll followed by two years at one of these area hospitals with a small class of other students pursuing Radiologic Technology.

Radiologic technologists are most often employed in hospitals, but can also find employment with physicians, medical and diagnostic laboratories, diagnostic imaging centers and outpatient care centers. Some radiologic technologists find employment with manufacturers of equipment used in the field. Long-term employment prospects in this area are forecast to be excellent.

Entry into the professional training phase at the hospitals is highly competitive and dependent upon completion of general education requirements, a minimum overall and science GPA of 3.0, a grade of 'C' or better in all science courses and completion of all required and elective courses within the first two years. See Admissions section of this catalog for requirements.

**Carroll University courses**

Biology 130, Introduction to Human Anatomy and Physiology I  
Biology 140, Introduction to Human Anatomy and Physiology II  
Biology 324, Bioethics (LSP 7)  
Chemistry 101, General Chemistry (LSP 1)  
Chemistry 102, Biological Chemistry (LSP 2)  
Chemistry 208, Nutrition  
Communication 207, Intercultural Communication (LSP 4)  
English 170, Writing Seminar

FYS 100, First Year Seminar  
 LSP area 5 course emphasizing fine arts  
 LSP area 6 course emphasizing humanities  
 Mathematics 112, Introduction to Statistics  
 Physics 101, Introductory Physics I  
 Physics 102, Introductory Physics II  
 Psychology 101, Introductory Psychology (LSP 3)  
 Psychology 201, Abnormal Psychology  
 Psychology 221, Life Span Psychology  
 Psychology 260, Health Psychology

Sample program at Carroll University

	Fall	Spring	Winter/Summer
<b>Freshman</b>	FYS100 BIO 130 MAT 101 OR PSY 101 LSP 5 or 6	ENG 170 BIO 140 PHY 101 LSP 5 or 6	CSC 107 PSY 101
<b>Sophomore</b>	CHE 101 PSY 221 PHY 102 COM 207	CHE 102 CHE 208 PSY 260 MAT 112	PSY 201 BIO 324

Sample program at Radiology Alliance Hospital

<b>Junior</b>	HSC 350 HSC 352 HSC 354 HSC 356 HSC 359	HSC 351 HSC 353 HSC 355 HSC 357 HSC 360	HSC 358 HSC 361
<b>Senior</b>	HSC 450 HSC 452 HSC 454 HSC 456 HSC 459	HSC 451 HSC 453 HSC 455 HSC 457 HSC 458	HSC 461 HSC 462

# DIVISION OF NATURAL AND HEALTH SCIENCES

## MARINE SCIENCES

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**Susan E. Lewis**

Professor of Biology

**Christopher D. Winn**

Associate Professor and Director of Marine Science, Hawaii Pacific University

Carroll University offers access to majors in marine biology and oceanography via a cooperative arrangement with Hawaii Pacific University (HPU). The objective of the Marine Science Program at HPU is to help students gain a scientific understanding of the world's oceans and the life they contain, and a sense of appreciation for their beauty and fragility. Students are given a theoretical framework in the basic and applied sciences as well as ample opportunities to get hands-on experience conducting laboratory and field observations and experiments. Lecture and laboratory facilities are located on the Hawaii Loa Campus of Hawaii Pacific University. The campus is only a twenty-minute drive from Kaneohe Bay, a large natural embayment protected from the open ocean by the only true barrier reef in the Hawaiian Islands. This bay serves as one of the finest natural laboratories in the world for studying the marine sciences, and its protected nature allows HPU students to do field work in almost any type of weather.

Students desiring to major in marine biology or oceanography will spend two years at Carroll University taking basic science and liberal arts courses. After the two years, students transfer to Hawaii Pacific University and complete the requirements for a Marine Biology/Oceanography degree from Hawaii Pacific University.

### **Marine Biology or Oceanography Major** Bachelor of Science

#### **Science and mathematics courses taken at Carroll University**

Biology 120, General Biology I

Biology 125, General Biology II

Chemistry 109, Principles of Inorganic Chemistry

Chemistry 110, Principles of Analytical Chemistry

Computer Science 107, Problem Solving Using Information Technology

Environmental Science 105, Introduction to Physical Geography (required for Oceanography majors only)

Mathematics 112, Introduction to Statistics

Mathematics 160, Calculus I

Mathematics 161, Calculus II

Physics 101 or 203, Physics I (may be taken at HPU)

Physics 102 or 204, Physics II (may be taken at HPU)

**Additional Courses to fulfill HPUs General Education Curriculum** (contact a Marine Biology advisor for a listing of all approved general education courses)

Communication Skills: English 170, Writing Seminar; plus 1 additional course, e.g. Spanish 101 or Communication 101

Global Systems: 1 course, e.g., Environmental Science 138 or History 104

Research and Epistemology: Requirements are completed at HPU

Values and Choices: FYS 100, First Year Seminar; plus 2 additional courses, e.g., Environmental Ethics 292 or Psychology 101

World Cultures: 3 courses, e.g. Art 103, Politics 101, or Theater 101

### Sample program at Carroll University

	<u>Fall</u>	<u>Spring</u>
<b>Freshman</b>	FYS 100, First Year Seminar BIO 120, General Biology I COM 101, Prin.of Comm. MAT 130, Elem. Functions	ENG 170, Writing Seminar BIO 125, General Biology II ART 103, History of Art MAT 160, Calculus I
<b>Sophomore</b>	CHE 109, Prin. of Inorganic Chem MAT 161, Calculus II CSC 107, Prob. Solving PSY 101, Intro. to Psych HIS 104, Europe and the Modern World	CHE 110, Prin. of Analytical Chem ENV 105, Intro to Physical Geog. (Oceanography majors only) MAT 112, Intro. to Statistics SOC 110, Social Anthropology

### Sample program for Marine Biology at Hawaii Pacific University

#### Summer at CU or HPU before Junior Year

PHY 101, Intro Physics I and PHY 102, Intro Physics II or  
HPU Physics I and HPU Physics II

#### Fall and Spring Junior Year

Oceanographic Field Techniques  
Ecology  
General Oceanography I and II  
Argument, Research, Writing  
Marine Biology  
Cell and Molecular Biology  
plus Elective

#### Senior Year

Marine Ecology  
Evolutionary Genetics  
Plant Biology  
Marine Invertebrate Zoology  
Seminar: Marine Biology Seminar  
The World Problematique

## MARINE SCIENCES

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Fundamental Organic Chemistry  
Comparative Animal Physiology  
Biometry  
plus Elective

### Sample program for Oceanography at Hawaii Pacific University

#### Summer at CU or HPU before Junior Year

PHY 101, Intro Physics I and PHY 102, Intro Physics II or  
HPU Physics I and HPU Physics II

#### Fall and Spring Junior Year

Oceanographic Field Techniques  
General Oceanography I  
Marine Biology  
Argument, Research, Writing  
Physical Geology  
Ecology  
Aquatic Chemistry  
Geological Oceanography  
plus Elective

#### Senior Year

Environmental Microbiology  
Chemical Oceanography  
Descriptive Regional Oceanography  
Oceanography  
Hydrogeology  
Dynamic Physical Oceanography  
The World Problematique  
Organic Chemistry  
plus Elective

# DIVISION OF NATURAL AND HEALTH SCIENCES

# MATHEMATICS

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<b>Heather Evans</b>	Instructor
<b>David A. Feil</b>	Associate Professor
<b>Darrel Johnson</b>	Instructor
<b>Christopher Kuster</b>	Assistant Professor
<b>Kristen A. Lampe</b>	Associate Professor
<b>John C. Symms</b>	Associate Professor

The major in mathematics includes courses in pure and applied mathematics, offering a broad and in-depth foundation for students with diverse interests and backgrounds. All courses in the curriculum develop logical thinking, quantitative reasoning, and deductive analysis, making majors and minors highly attractive to graduate schools and employers in industry.

Combined with complementary course work, a mathematics major gives strong preparation for graduate study in an increasingly wide variety of disciplines. These include biostatistics, computer science, economics, forestry, genetics, meteorology, operations research, physics, psychology, pure and applied mathematics, sociology, and most engineering fields.

Career opportunities for those with a mathematics major are equally varied. These include positions in the fields of actuarial science, banking and financial services, communications, computer science, consulting, government, health services, management, public policy, research organizations, utilities, and transportation.

The major in mathematics is approved by the Wisconsin Department of Public Instruction for certification in mathematics.<sup>1</sup>

Please see page 21 of this catalog for information about how retroactive credits in calculus may be earned.

### **Learning Outcomes for Mathematics**

Students majoring in mathematics are expected to:

1. Learn to read, write, speak and do mathematics.
2. Demonstrate competence in the use of appropriate technology in support of mathematical calculation, symbolic manipulation and graphical analysis.
3. Demonstrate their understanding of the nature of mathematical proof.
4. Apply mathematics to a variety of problems in the natural, computational and social sciences.

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<sup>1</sup> Students must normally maintain a 2.75 grade point average in the major to remain in good standing in the Teacher Education Program.

## **MATHEMATICS**

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5. Learn the contributions of mathematics and mathematicians to the growth of knowledge.
6. Prepare for advanced studies in mathematics or for a profession.
7. Develop an appreciation for mathematics as an art.

### **Mathematics Major (B.A.)**

#### **Bachelor of Arts**

##### **Courses in the Major**

Mathematics 160, 161, 207, Calculus I, II, III

Mathematics 206, Transition to Advanced Mathematics

Mathematics 208, Linear Algebra

Two of the following six courses:

Mathematics 250, Mathematics Seminar

Mathematics 305, Modern Geometry\*

Mathematics 309, Differential Equations

Mathematics 312, Theory of Probability and Statistics\*

Mathematics 324, Numerical Analysis

Mathematics 350, Mathematics Seminar

Mathematics 320, Abstract Algebra

Mathematics 409, Mathematical Analysis

Mathematics 450, Senior Capstone

##### **Required Support Courses (Required for primary majors only)**

Completion of a Modern Language through 202

\*To be certified by the DPI, student must take Mathematics 305 and 312.

### **Mathematics Major (B.S.)**

#### **Bachelor of Science**

##### **Courses in the Major**

Mathematics 160, 161, 207, Calculus I, II, III

Mathematics 206, Transition to Advanced Mathematics

Mathematics 208, Linear Algebra

Three of the following four courses:

Mathematics 305, Modern Geometry\*

Mathematics 309, Differential Equations

Mathematics 312, Theory of Probability and Statistics\*

Mathematics 324, Numerical Analysis

Mathematics 320, Abstract Algebra

Mathematics 409, Mathematical Analysis

Mathematics 450, Senior Capstone

##### **Required Support Courses (Required for primary majors only)**

Computer Science 110, Problem Solving through Programming

Physics 203, General Physics

Physics 204, General Physics, or Biological Science\*

\*To be certified by the DPI, students must take Mathematics 305 and 312, and a biological science. Students not minoring in secondary education must take Physics 204.

### Mathematics Minor

Mathematics 160, 161, Calculus I, II

Mathematics 208, Linear Algebra

Three additional courses in Mathematics at the 200-level or higher excluding Mathematics 201, 205

### Secondary Education

#### Mathematics Minor

Mathematics 160, 161, Calculus I, II

Mathematics 206, Transition to Advanced Mathematics

Mathematics 207, Calculus III

Mathematics 305, Modern Geometry

Mathematics 312, Theory of Probability and Statistics

### Elementary Education

#### Mathematics Minor

##### Required Courses

Mathematics 104, Foundations of Elementary Mathematics I

Mathematics 140, Calculus and Its Applications or  
Mathematics 160, Calculus

Mathematics 112, Introduction to Statistics

Mathematics 201, Foundations of Elementary Mathematics II

Mathematics 206, Transition to Advanced Mathematics

Mathematics 305, Modern Geometry

##### 098. Pre-Algebra

4 credits

Intended for students who need an intensive review of high school Algebra I, content includes basic arithmetic, algebra, and geometry with an emphasis on study skills. Credits earned in this course do not count toward the 128 credits needed for graduation. (*Fa, Su*) Pre-requisites: placement recommendation.

##### 101. Intermediate Algebra

4 credits

##### 101L Intermediate Algebra Laboratory

Building on MAT 098 skills, this course is equivalent to high school Algebra II. Topics include number systems, theory of equations and inequalities, introduction to functions and their graphs, applications of algebra. This course is the prerequisite to MAT 104, 106, 112 and 130. (*Fa, Sp, Su*) Prerequisites: one year of high school algebra and one year of high school geometry or MAT 098 or placement recommendation.

##### 102. Review of Intermediate Algebra

2 credits

This course is an accelerated format of MAT 101 intended for students with stronger math skills who need a review of basic Algebra II concepts and skills to prepare for MAT 104, 106, 112 or 130. This course is not available to students who have failed MAT 101. (*Su*) Prerequisites: high school Algebra I and II.

## MATHEMATICS

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### 104. Foundations of Elementary Mathematics I

4 credits

An introduction to problem solving, sets, number theory, numeration systems, and the structure of the real number system. Course material will be presented in a manner consistent with the NCTM Principles and Standards for School Mathematics. Recommended for education students only. (*Fa, Sp*) Prerequisite: MAT 101 or placement recommendation.

### 106. Mathematics for the Liberal Arts

4 credits

This elementary course in contemporary mathematics introduces the Bachelor of Arts student to the usefulness of mathematics. Real current-day problems are presented along with some of the mathematics techniques which have been used to solve them. Problems discussed will involve such topics as "the traveling salesman problem," exponential growth, voting systems, analysis of arguments and fractal geometry. (*Fa, Sp, Su*) Prerequisites: MAT 101 or placement recommendation.

### 112. Introduction to Statistics

4 credits

An introductory statistics course emphasizing applications to business, science and the social sciences. Topics include: statistical description of data, distributions, random variables and sample spaces, probability, sampling and sampling distributions, the Central Limit Theorem, estimation of parameters, hypothesis testing, confidence intervals, goodness of fit, correlation and regression, one-way ANOVA, and use of a statistical calculator. (*Fa, Sp, Su*) Prerequisite: MAT 101 or placement recommendation and FYS level computer literacy. Note: This is no longer an LSP I course.

### 130. Elementary Functions

4 credits

A study of rational, radical, exponential, logarithmic, and trigonometric functions designed to prepare students for MAT 140 or 160 (*Fa, Sp, Su*) Prerequisites: MAT 101 or placement recommendation.

### 140. Calculus and Its Applications

4 credits

A compact version of Calculus I, II stressing problem-solving techniques and applications. Designed for students who need only one semester of calculus. Numerous examples are presented from accounting, biology, business, economics, and other fields. (*Fa, Sp, Su*) Prerequisite: MAT 130 or placement recommendation. May not be taken for credit by those who have completed MAT 160.

### 160. Calculus I

4 credits

A brief review of inequalities, functions and plane analytic geometry; limits and continuity; the derivative and the differential; applications of differentiation; L'Hospital's Rule; introduction to the Riemann integral. Includes differentiation of logarithmic and exponential functions, and indeterminate forms. History of selected topics is studied. Four hours of lecture and one hour of laboratory/recitation. (*Fa, Sp*) Prerequisite: MAT 130 or placement recommendation.

**161. Calculus II****4 credits**

Applications of the Riemann integral; calculus of the natural logarithm and exponential functions; formal techniques of integration; improper integrals; series and sequences. History of selected topics is studied. Four hours of lecture and one hour of laboratory/recitation. (*Fa, Sp*) Prerequisite: MAT 160 or placement recommendation.

**201. Foundations of Elementary Mathematics II****4 credits**

A study of introductory geometry, measurement, algebra, coordinate and transformation geometry, statistics and probability. Students will also be introduced to geometry computer software. Designed for the elementary education major. (*Fa, Sp*) Prerequisite: MAT 104.

**205. Discrete Mathematics****4 credits**

A study of set theory, propositional calculus, algorithms, relations, functions, combinatorics, recursion, discrete graphs, trees, automata. Intended for Computer Science majors only. (*Sp*) Prerequisites: CSC 226, MAT 140 or 160.

**206. Transition to Advanced Mathematics****4 credits**

An introduction to fundamental concepts, structures and style of mathematics. Core topics are logic, sets, mathematical induction, relations, functions and graph theory. Special topics may include number theory, cardinality, or the construction of the real numbers. Special emphasis will be placed on developing and communicating mathematical arguments. (*Fa*) Prerequisites: MAT 140 or 160.

**207. Calculus III****4 credits**

Vectors in the plane and in space, solid analytic geometry; calculus of functions of two variables; partial derivatives; divergence and gradient; multiple integrals, vector fields, line integrals, and surface integrals, Green's Theorem, Stoke's Theorem, Divergence Theorem. History of selected topics is studied. (*Fa*) Prerequisite: MAT 161 or placement recommendation.

**208. Linear Algebra****4 credits**

Vector spaces; linear transformations and matrices; systems of linear equations; applications. (*Sp*) Prerequisite: MAT 161 or 206.

**250. Mathematics Seminar****4 credits**

Mathematics Seminar topics vary by year. The course meets concurrent with MAT 350 and MAT 450, the Capstone Experience. The course is designed to give students exposure to the Capstone Experience and to give all mathematics students the opportunity to increase their breadth of study. (*Sp*) Prerequisite: MAT 206 or instructor approval.

**305. Modern Geometry****4 credits**

A study of elementary geometry from an advanced standpoint; includes distance and congruence axioms, parallelism, incidence and order, and non-Euclidean geometries. History of selected topics is studied. (*Sp*) Prerequisite: MAT 206.

## MATHEMATICS

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### 309. Differential Equations

4 credits

An introduction to the theory and solution of ordinary differential equations and their applications; power series solution; introduction to numerical methods; and other topics. (*Sp*) Prerequisites: MAT 161. Corequisite: MAT 208.

### 312. Theory of Probability and Statistics

4 credits

An introduction to the mathematical theory of probability and statistics. Topics include: sample spaces; probability distribution functions; regression and correlation; hypothesis testing. History of selected topics is studied. (*Sp, odd years*) Prerequisite: MAT 207.

### 320. Abstract Algebra

4 credits

An introduction to modern abstract algebra to include topics in the theory of groups, rings and fields. Required of all mathematics majors. History of selected topics is studied. (*Fa, odd years*) Prerequisites: MAT 206 and 208.

### 324. Numerical Analysis

4 credits

Introduction to the numerical methods and algorithms fundamental to mathematical and scientific analysis. Error analysis and efficient programming techniques are stressed. Includes solving equations, linear and nonlinear systems, curve fitting, function approximation, interpolation, differentiation, integration and numerical solutions to differential equations. (*Fa, odd years*) Prerequisites: MAT 161 and 208, CSC 110.

### 350. Mathematics Seminar

4 credits

Mathematics Seminar topics vary by year. The course meets concurrent with MAT 350 and MAT 450, the Capstone Experience. The course is designed to give students exposure to the Capstone Experience and to give all mathematics students the opportunity to increase their breadth of study. (*Sp*) Prerequisite: MAT 206 or instructor approval.

### 391/491. Advanced Topics in Mathematics

2-4 credits

These courses are designed to meet the special needs of students who have completed the prescribed courses for a major and wish to extend their study in specific areas. Students planning on graduate study should take courses in topology and other appropriate topics. Students interested in actuarial science should arrange for additional study in probability and statistics. Courses in applied mathematics can also be arranged. These courses may not be taken in lieu of courses specified for the major or minor. (*Fa, Sp, Su with instructor consent*) Prerequisites: Junior or senior standing, approval of the divisional dean and consent of the instructor.

### 409. Mathematical Analysis

4 credits

The study of theory and applications of analysis on the real line. Limits; continuity; differentiation; sequences and series of functions; integration. (*Fa, even years*) Prerequisites: MAT 206 and 207.

**450. Mathematics Senior Capstone****4 credits**

All majors will complete a mathematics-related project. Projects may involve original or expository research in applied mathematics, pure mathematics, or mathematics education. Applied mathematics projects may involve mathematical consultancy work for area businesses. (*Sp*) Prerequisite: 80 credit hours completed.

# DIVISION OF NATURAL AND HEALTH SCIENCES

## NURSING

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**Angela Brindowski**

Chair Nursing Program,  
Clinical Assistant Professor

**Genee A. Brukwitzki**

Clinical Assistant Professor

**Judy Bukvich**

Clinical Assistant Professor

**Joyce A. Ennis**

Clinical Assistant Professor

**Lisa Green**

Clinical Assistant Professor

**Kara Groom**

Clinical Assistant Professor

**Jamie Hansen**

Clinical Assistant Professor

**Karie Ruekert Kobiske**

Clinical Assistant Professor

**Laurie Kunkel-Jordan**

Clinical Assistant Professor

**Linda Phillips**

Clinical Assistant Professor

**Diane Sokolowski**

Clinical Assistant Professor

**Jill Switalski**

Laboratory Manager

Carroll University offers a program leading to a Bachelor of Science in Nursing degree. Established in fall of 2002, the nursing program is accredited by the Commission on Collegiate Nursing Education, has ongoing approval of the Wisconsin State Board of Nursing, is a member of the American Association of Colleges of Nursing and the National League for Nursing. Carroll University is accredited by the Higher Learning Commission and is a member of the North Central Association.

The Higher Learning Commission  
North Central Association  
30 North LaSalle St., Suite 2400  
Chicago, IL 60602  
Phone: 800.621.7440

Department of Regulation and Licensing  
Wisconsin State Board of Nursing  
1400 E. Washington Ave., Room 166  
Madison, WI 53708

National League for Nursing (NLN)  
61 Broadway, 33rd Floor  
New York, New York 10006

NLN Accrediting Commission  
61 Broadway, 33rd floor  
New York, New York 10006  
Phone: 800.669.1656

American Association of Colleges  
of Nursing  
One Dupont Circle NW, Suite 531  
Washington, DC 20036

Commission on Collegiate  
Nursing Education (CCNE)  
One Dupont Circle NW, Suite 530  
Washington, DC 20036  
Phone: 202.887.6791

### **Mission of the Nursing Program**

The Carroll University nursing program builds on Carroll University's mission of providing a superior educational opportunity to our students, one grounded in the liberal arts tradition and focused on career preparation and lifelong learning. Nursing practice is built on nursing knowledge, theory, and research. Nursing practice derives knowledge from a wide array of other fields and disciplines, adapting and applying this knowledge as appropriate to professional practice. It is the mission of the Carroll University nursing program to prepare nurses for professional practice in a variety of settings, preparing them to take on characteristics that will allow them to function in the generalist professional nursing role.

### **Vision of the Carroll University Nursing Program**

Be a leader of Baccalaureate Nursing education among Liberal Arts Universities in Wisconsin

### **Philosophy of the Nursing Program**

Our philosophy, in preparing professional nurses at the generalist level, is to provide grounding in the liberal arts in addition to career preparation. The educational process must allow for diversity, curiosity, and difference of opinion, but must not allow for indifference or neglect of academic rigor. We expect nursing students to focus on and connect nursing to every general education or liberal studies course. However, it is in clinical practice that the student will demonstrate patterns of professional behaviors that follow the legal and ethical codes of nursing and promote the actual or potential well being of patients. The promotion of health and wellness is a focus of all nursing practice, but nurses, more than any other health care discipline, takes care of the sick; therefore, acute care experience is a necessary background for any generalist practice setting and is a focus of generalist education. We believe nursing students are best served when they are educated in a variety of settings to provide care to diverse populations across all environments. The promotion of health and wellness, the prevention of injury and restoration of health are accomplished for a diversity of socio-economic, racial and ethnic populations in all the settings.

The conceptual framework, developed by nursing faculty, organizes the curriculum in a logical progression over the length of the program. The overviews in each course syllabus will illustrate how the essential components of professional nursing education are used in that course to prepare students to take on the characteristics that will allow them to function in the professional nursing role. Course objectives demonstrate the achievement necessary for the student, at each level of the curriculum, to evidence competency as they progress.

Nursing faculty at Carroll University believe students are individuals who come with learning preferences, different experiences, varied goals, and therefore, have unique learning needs. Active learning is a teaching/learning partnership. The faculty recognizes that learning is a lifelong process and that undergraduate education is the beginning of the progression from novice to expert nurse. The baccalaureate program pre-

prepares the student to enter professional nursing practice as a beginning provider of nursing care in a variety of settings, cultivates a commitment to professional development, and provides the foundation for graduate study.

### Curriculum

Our philosophy requires that the curriculum be responsive to the community of interest. To accomplish our mission, we consider it necessary to be flexible, to change quickly as society needs and technology changes. The program has been designed to be flexible in progression and sequencing, without sacrificing academic rigor. The conceptual framework, developed by nursing faculty, organizes the curriculum in a logical progression over the length of the program. The overviews in each course syllabus will illustrate how the essential components of professional nursing education are used in that course to prepare students to take on the characteristics that will allow them to function in the professional nursing role. Course objectives will demonstrate the achievement necessary for the student, at each level of the curriculum, to evidence competency as they progress.

### Program Outcomes

At the completion of the Bachelor of Science Nursing program, the graduate nurse will:

- Value a solid base in liberal education as the cornerstone of nursing practice and education.
- Operationalize knowledge and skills in leadership, quality improvement and patient safety to provide high quality healthcare.
- Model professional nursing practice that is grounded in the translation of current evidence into practice.
- Integrate knowledge and skills in information management and patient care technology in the delivery of quality patient care.
- Recognize and distinguish healthcare policies, including financial and regulatory, which influence the nature and functioning of the healthcare system.
- Effectively communicate and collaborate to deliver high quality and safe patient care.
- Incorporate the concepts of health promotion and disease prevention at the individual and population level.
- Internalize professionalism and the inherent values of altruism, autonomy, human dignity, integrity and social justice.
- Practice as a baccalaureate-graduate nurse prepared to deliver care to individuals, families, groups, communities and populations across the lifespan and across the continuum of healthcare environments.
- Practice as a baccalaureate-graduate who understands and respects the variations of care, the increased complexity and the increased use of healthcare resources inherent in caring for patients.

### Admission

See Admission section in this Catalog.

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## Academic Progression Standards

The academic progression standards for the nursing program are presented in the Health Sciences section of this Catalog.

### Technical Standards for Admission to and Progression in the Carroll University Bachelor of Science in Nursing Program

Successful participation in the Carroll University Bachelor of Science in Nursing Program requires that a candidate possess the ability to meet the requirements of the program. Though the program may modify certain course requirements in order to provide a handicapped<sup>1</sup> person with an equivalent opportunity to achieve results equal to those of a non-handicapped person, there are no substitutes for the following essential skills. The applicant/candidate must initially meet these requirements to gain admission to the program and must also continue to meet them throughout participation in the program.

**General Ability:** The student is expected to possess functional use of the senses of vision, touch, hearing and smell so that data received by the senses is integrated, analyzed and synthesize in a consistent and accurate manner. The student is expected to possess the ability to perceive pain, pressure, temperature, position, vibration and movement in order to effectively evaluate patients. A student must be able to respond promptly to urgent situations.

**Observational Ability:** The student must have the ability to make accurate visual observations and interpret them in the context of clinical/laboratory activities and patient care experiences. The student must be able to document these observations accurately.

**Communication Ability:** The student must communicate effectively verbally and non-verbally to obtain information and explain that information to others. Each student must have the ability to read, write, comprehend and speak the English language to facilitate communication with patients, family members and other members of the health care team. The student must be able to document and maintain accurate records, presents information in a professional manner and provide patient instruction to effectively care for patients and their families.

**Motor Ability:** The student must be able to perform gross and fine motor movements with sufficient coordination needed to provide complete physical assessments and provide safe effective care for patients. The student is expected to have psychomotor skills necessary to perform or assist with procedures, treatments, administration of medication and emergency interventions including CPR if necessary. The student must have sufficient levels of neuromuscular control and eye-to-hand coordination as well as possess the physical and mental stamina to meet the demands associated with extended periods of sitting, standing, moving and physical exertion required for safe patient care. Students must be able to bend, squat, reach, kneel or balance. Clinical settings may require that students have the ability to carry and lift loads from the floor, from 12 inches from the floor, to shoulder height and overhead. The student must be able to

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<sup>1</sup>. Handicapped as defined by the federal government pursuant to SS 504 of the Rehabilitation Act of 1973.

occasionally lift 50 pounds, frequently lift 25 pounds and constantly lift 10 pounds. The student is expected to be able to maintain consciousness and equilibrium and have the physical strength and stamina to perform satisfactorily in clinical settings.

**Intellectual – Conceptual Ability:** The student must have the ability to develop problem-solving skills essential to professional nursing practice. Problem solving skills include the ability to measure, calculate reason, analyze, synthesize objective and subjective data, and to make decisions in a timely manner that reflects thoughtful deliberation and sound clinical judgment. The student must demonstrate application of these skills and possess the ability to incorporate new information from peers, instructors and the nursing/healthcare literature to formulate sound judgment to establish care plans and priorities in patient care activities.

**Behavioral and Social Attributes:** The student is expected to have the emotional stability required to exercise sound judgment, complete assessment and intervention activities. Compassion, integrity, motivation and concern for others are personal attributes required of those in the nursing program. The student must fully utilize intellectual capacities that facilitate prompt completion of all responsibilities in the classroom and clinical settings; the development of mature, sensitive and effective relationship with patients and other members of the healthcare team. The ability to establish rapport and maintain interpersonal relationships with individuals, families and groups from a variety of social, emotional, cultural and intellectual backgrounds is critical for practice as a nurse. Each student must be able to adapt to changing environments; display flexibility; accept and integrate constructive criticism given in the classroom and clinical settings; and effectively collaborate in the clinical setting with other members of the healthcare team.

**Ability to Manage Stressful Situations:** The student must be able to adapt to and function effectively in relation to stressful situations encountered in both the classroom and clinical settings, including emergency situations. Students will encounter multiple stressors while in the nursing program. These stressors may be (but are not limited to) personal, patient care/family, faculty/peer and/or program related.

**Background Check:** Clinical facilities require that Carroll University perform background checks on all students before they are allowed to participate in clinical experiences. Therefore, students will be required to have a background check performed before being allowed into clinical practice

**Evaluation:** Carroll University may require that the applicant/student undergo a physical examination and/or an occupational skills evaluation. The University will endeavor to select and administer evaluations which accurately reflect the applicant's/candidate's aptitude or achievement level rather than the applicant's/candidate's handicap. A handicapped applicant/candidate shall not, on the basis of his or her handicap (except those which would preclude the essential skills outlined above) be excluded from participation in, denied the benefits of, nor be subjected to discrimination in the program.

### **Criminal Background Check**

The applicant/candidate/student must complete a Background Information Disclosure Form prior to clinical placement in the program. The university intends to fully comply with the requirements of the Wisconsin Caregiver Background Check Law which requires hospitals and other health care and treatment entities to perform background checks on all persons who have direct, regular contact with clients or patients. Certain convictions may prevent or significantly limit the ability of the university to place a student in a clinical program resulting in the student being unable to meet the university's graduation requirements. The university reserves the right to reject the application of a candidate or remove a student from the program if the university determines that the results of the criminal background check demonstrate that the applicant/student does not exhibit behavior and social attributes consistent with the program's Technical Standards.

### **Carroll University Health Policy for Nursing Students**

#### **Policy:**

- Prior to the first clinical placement each student must show evidence that they are able to meet the requirements of the nursing program.
- These requirements include current health history, immunization and physical examination data.
- In addition, all students must have on file current CPR certification and a criminal background check.

#### **Procedure:**

- Physical exam and health history information must be on file before any student may attend clinical experiences. A summary form for nursing students is available on My Courses.
- Cost of the exam is the responsibility of the student.
- Students may have the exam and screening completed with a private physician or nurse practitioner.
- Evidence of the completed history and exam must be on file before the onset of the first clinical experience.
- It is not necessary to repeat the physical exam every year if there is no change in the student's health status.
- Students who have not complied with the health policy will not be allowed in any clinical site.
- An annual TB skin test is required before clinical experience.

### **Time Commitment**

The Nursing Program is rigorous, labor intensive, and requires more time and commitment than many other areas of study. Clinical nursing courses require a minimum of 3 hours of direct clinical experience per semester credit hour. This does not include time that is required for travel, clinical preparation at the assigned clinical agency or study prior to or after the clinical experience. Therefore, it is strongly recommended that students in the Nursing Program limit their employment and/or involvement in non-student related activities. Students are expected to be available Monday through Friday throughout the academic year. Students will be expected to participate in clinical experiences that occur on weekends and on shifts other than day shifts (0700-

1530). Students in the capstone experience must understand that their clinical experience may be evenings or night shifts and/or weekend shifts.

### **Clinical Nursing Course Requirements**

All applicants must be in good health and free from communicable diseases and be able to carry out the functions of a professional nurse as specified in the Technical Standards. Students must maintain current immunizations, CPR certification and professional liability insurance. Additional tests may be required by specific agencies in which the student has clinical experiences. The program will notify students when such tests are required. Students who fail to comply will not be allowed in clinical. All costs associated with clinical requirements is the responsibility of the student.

Nursing courses begin during the freshman year allowing early participation in clinical service learning activities. Students will have diverse service learning experiences in a variety of clinical settings.

The number of hours spent in laboratory (including clinical) experience varies from semester to semester and is based on one (1) semester credit being equal to three (3) hours of clinical per week. Approximate time commitment for clinical courses:

200 level – 6 hours/week for one semester

300 level Junior year – 15 hours/week during both semesters

400 level Senior year – 15 hours/week during both semesters

### **Policy Statement on Student Attendance at Clinical**

**Policy:** The university reserves the right to require a student to repeat all or any part of a clinical course when, in the opinion of the course instructor, the time that the student has been absent from clinical makes it impossible to evaluate the student's level of attainment of course objectives. Make up time is not guaranteed and is dependent upon faculty and clinical availability. The student is responsible for any costs involved in repeating the course and/or making up time lost.

### **Learning and Study Resources**

Learning resource centers for student learning and testing are available. The nursing laboratory provides space and resources for students to practice and test their mastery of psychomotor skills used in patient care. The Carroll Library has a range of resources to support the nursing curriculum. The Walter Young Center provides personal counseling and the Study Center offers students opportunities to strengthen academic skills. All students should work closely with their advisor in planning their programs

### **Fees**

Undergraduate tuition and other fees apply to nursing students. A program fee of \$425.00 per year is also assessed for proficiency testing, disposable supplies, and equipment maintenance.

### **Licensure Examination**

Upon completion of all program requirements, the graduate is eligible to sit for the National Council Licensure Examination for Registered Nurses (NCLEX-RN). A graduate must pass this examination to be licensed and practice as a registered nurse (RN). However, no nursing program can guarantee success on the NCLEX-RN examination.

### **Bachelor of Science in Nursing Major (58 credits)**

Nursing courses build on the knowledge gained from liberal arts background in humanities, fine arts, social sciences, and natural sciences. The overall objective of the program is to provide students with the ability to critically apply knowledge of nursing art and science to improve the quality of health and health care for the communities they serve.

#### **Courses in the Major**

Nursing 100, Health Care and Nursing and Nursing 100L, Health Care and Nursing Laboratory (4 credits)  
Nursing 230, Health Assessment (4 credits)  
Nursing 233, Foundations of Nursing Practice (4 credits)  
Nursing 234, Foundations: Practicum (2 credits)  
Nursing 236, Human Pathophysiologic Response (4 credits)  
Nursing 300, Critical Inquiry into Research (2 credits)  
Nursing 310, Family Centered Mental Health Nursing and  
Nursing 310L Mental Health Nursing Lab (3 credits)  
Nursing 312, Family Centered Obstetric Care (2 credits)  
Nursing 316, Introduction to Medical/ Surgical Nursing (4 credits)  
Nursing 317, Introduction to Medical/Surgical Nursing: Practicum (5 credits)  
Nursing 320, Family Centered Pediatric Nursing (2 credits)  
Nursing 415, Community Health Nursing: Practicum (2 credits)  
Nursing 416, Community Health Nursing (4 credits)  
Nursing 417, Advanced Medical Surgical Nursing, (3 credits)  
Nursing 419, Advanced Medical Surgical Nursing: Practicum (5 credits)  
Nursing 429, Health Care Policy and Administration (3 credits)  
Nursing 431, Capstone (4 credits)  
Nursing 432, Professional Practice Preparation (1 credit)

Nursing electives in specialty clinical areas may be offered occasionally. If these course are elected the nursing student may accomplish a nursing major of 62 or 66 credits.

#### **Required Support Courses**

Biology 130, Introduction to Human Anatomy and Physiology I (4 credits)  
Biology 140, Introduction to Human Anatomy and Physiology II (4 credits)  
Biology 212, Microbiology (4 credits)  
Chemistry 101, General Chemistry (LSP I) and  
Chemistry 101L, General Chemistry Lab (4 credits)  
Chemistry 102, Biological Chemistry (LSP II) and  
Chemistry 102L, Biological Chemistry Laboratory (4 credits)

## NURSING

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Chemistry 208, Nutrition (3 credits)

Health Sciences 300, Pharmacology (3 credits)

Mathematics 112, Introduction to Statistics (4 credits)

Psychology 101, Introductory Psychology (LSP III) (4 credits)

Psychology 221, Life-Span Psychology (4 credits)

Communication 207, Intercultural Communication (LSP IV) (4 credits) or

Sociology 110, Cultural Anthropology (LSP IV) (4 credits)

### 100. Health Care and Nursing

4 credits

This is the first course in the nursing major. It is designed to acquaint the student with three broad areas that encompass the professional nursing role. Students acquire a foundational ability to use appropriate professional language including the terms and abbreviations that are necessary for professional communication. The process of nursing is studied from the context in which the program is offered, including consideration of global, regional and institutional needs and expectations of the practicing nursing professional. (*Fa, Sp*) Prerequisite: Admission to the Nursing Program or approval from program committee.

### 230. Health Assessment

4 credits

The foundational concepts, scientific basis and theoretical constructs of effective therapeutic communication, interviewing, health history, and physical assessment across the life span are presented. Laboratory practice is designed to produce the cognitive and psychomotor skills necessary to conduct a systematic and accurate assessment of an individual's health status. The ability to collect, organize, document and analyze health history and physical assessment data, as well as the ability to recognize and promote adaptive human responses are the expected outcomes of this course. (*Fa, Sp*) Prerequisite: Admission to the Nursing Program, BIO 130. Co-requisite: NRS 100, CHE 102.

### 233. Foundations of Nursing Practice

4 credits

This course is an introduction to the scientific basis and theoretical foundations of professional nursing practice. Nursing theory is incorporated with nursing process to enable the student to identify basic health responses and intervene appropriately at the foundational level of care. The student learns to use a systematic framework to implement the nursing process and begins to recognize and apply nursing research to practice. A continued development of an attitude of inquiry is expected. (*Fa, Sp*) Prerequisite: Admission to the nursing program, NRS 230. Co-requisite: NRS 236. Concurrent with 234.

### 234. Foundations: Practicum

2 credits

This course focuses on the application and integration of the nursing process to promote physical wellness. Simulated and actual client-care experiences provide an opportunity for student development and practice in the roles of professional nursing that assist the individual to regain or maintain an optimal health state. Therapeutic interventions relate to fundamental needs across the life span are addressed and a basic skill level is expected as an outcome of the course. *S/U* graded. (*Fa, Sp*) Prerequisite: NRS 230. Co-requisite: NRS 236. Concurrent with 233.

**236. Human Pathophysiologic Responses****4 credits**

This course is focused on the alterations in cell, tissue and system mechanisms that manifest as health problems throughout the life span and prevent or limit individuals from making adaptive responses. Although the focus of the course is on the systemic pathophysiology of the individual, the response of the family are acknowledged as inseparable from the health state of a family member. (*Fa, Sp*) Prerequisite: NRS 230. Co-requisite: BIO 212.

**300. Critical Inquiry in Nursing Research****2 credits**

This course examines the concepts and the process of research. A systematic and critical inquiry into published nursing research and an understanding of its practice application (s) provide the course emphasis. (*Fa, Sp*) Prerequisite: Admission to the nursing program, NRS 100.

**310. Family Centered Mental Health Nursing****3 credits**

This course focuses upon the theoretical principles of psychiatric/mental health nursing and on practical foundations for assessing, planning, intervening, and evaluating within psychiatric/mental health situations to promote health. The course examines measures for identifying, supporting and fostering the abilities of individuals, families, groups, and communities to cope and assist mentally unhealthy individuals to higher levels of function and quality of life. (*Fa*) Prerequisites: NRS 100, 230, 233, 234, 236.

**312. Family Centered Obstetric Nursing Care****2 credits**

This course focuses on the specialized health care needs of the childbearing family. The health response of the family unit is emphasized as essential to the promotion and maintenance of health of mother and child. Students develop the necessary knowledge base and learn the importance of collaboration with others of the health care delivery team to provide care and teaching for pregnancy, delivery, and newborn nursing. (*Fa, Sp*). Prerequisites: CHE 208, NRS 233, 234, 236.

**316. Introduction to Medical/Surgical Nursing****4 credits**

This course is designed to provide the student with an understanding of the effects of selected physiologic problems on adults in inpatient care settings and the relevant nursing interventions to care for those problems. The content explores ways to promote physical and emotional health in the ill individual, across the adult lifespan, through a partnership with the patient and the patient's support system. (*Sp*). Prerequisites: Nursing major, junior standing, CHE 208, NRS 230, 232, 234, 236, 310, HSC 300, PSY 221. Concurrent with 317.

**317. Introduction to Medical/Surgical Nursing: Practicum****5 credits**

This course is designed to provide the student with an understanding of the effects of selected physiologic problems on adults in inpatient care settings and the relevant nursing interventions to care for those problems. The content explores ways to promote physical and emotional health in the ill individual, across the adult lifespan, through a partnership with the patient and the patient's support system. (*Fa, Sp*). Prerequisites: Nursing major, junior standing, CHE 208, NRS 230, 232, 234, 236, 310, HSC 300, PSY 221. Concurrent with 316.

### **320. Family Centered Pediatric Nursing Care**

**2 credits**

The course focuses on the specialized health care needs of the child in the family. The course provides the necessary knowledge base to maintain optimal health in the pediatric population through developmentally and culturally competent care of the acute and chronic illness and through the promotion of wellness behaviors in the child and family. (*Fa, Sp*). Prerequisites: Nursing major, CHE 208, NRS 233, 234, 236, HSC 300.

### **415. Community Health Nursing: Practicum**

**2 credits**

This course is designed to provide nursing student with opportunities to apply the theoretical principles of community health nursing in the clinical setting. Care is focused on aggregate populations and families across the lifespan in a variety of community settings. Concurrent with 416.

### **416. Community Health Nursing**

**4 credits**

This course provides a body of knowledge that allows the student to view the community as a complex system of forces. Community systems have the potential for controlling community/aggregate health issues and problems. Students focus on the community as client, and learn to assess and analyze data from community systems in order to plan community nursing interventions for primary, secondary and tertiary prevention strategies. (*Fa*). Prerequisites: Nursing major, senior standing, NRS 300, 310, 312, 316, 317, 320. Concurrent with 415.

### **417. Advanced Medical Surgical Nursing**

**3 credits**

This course is designed to provide the student with an understanding of the effects of multiple diagnoses on adults in various clinical contexts (e.g. ER, ICU, sub-acute, community). Learners will gain knowledge and then are capable of assessment and management of patients with complex problems. The content explores ways to prioritize problems and interventions, use practice guidelines and outcome indicators in planning and implementing nursing care to ill individuals, across the adult lifespan with a focus on older adults. Integrated in all modules is discussion related to ethical issues, cultural awareness and diversity along with supporting theories and models. (*Fa*) Prerequisites: Nursing major, senior standing, CHE 208, PSY 221, HSC 300, NRS 230, 233, 234, 236, 310, 312, 316, 317, 320. Concurrent with 419.

### **419. Advanced Medical Surgical Nursing: Practicum**

**5 credits**

This course continues and expands, in practice, the concepts of patient care introduced in the medical surgical nursing theory courses. The practicum and laboratory experiences focus on implementing the nursing process and skills with ill individuals from diverse populations and developmental levels in a variety of medical/surgical in-patient settings. (*Fa*) Prerequisites: Nursing major, senior standing, CHE 208, PSY 221, HSC 300, NRS 230, 233, 234, 236, 310, 312, 316, 317, 320. Concurrent with 417.

### **429. Health Care Policy and Administration**

**3 credits**

This course provides an opportunity for the student to synthesize knowledge from all previous coursework and clinical experiences. This interdisciplinary course allows students to work together to understand regional, national, and global health care policy.

The course presents leadership concepts and management skills as a basis for implementing change at the policy level. (*Sp*). Prerequisites: Nursing major, senior standing, NRS 300, 310, 312, 316, 317, 320. Concurrent with 431.

**431. Capstone****4 credits**

The course provides an opportunity for the student to synthesize knowledge from all previous course work and clinical experiences. The student will be provided with the opportunity to practice professionally through delegation of tasks, supervision of non-professional staff, and management of patient groups. Students will provide direct patient care for clients and families with complex health needs. Capstone students will apply critical and creative thinking skills to synthesize and integrate nursing knowledge into an oral and/or written presentation of a project. (*Sp*). Prerequisites: Nursing major, senior standing, NRS 312, 315, 317, 318, 319, 320, 415, 416, 417, 419. Concurrent with 432.

**432. Professional Practice Preparation****1 credit**

The professional practice lab experience provides opportunities for students to identify strengths and areas for improvement in their professional nursing skills. Along with faculty support, students are provided simulation experience, study group work, group review sessions, and professional practice experiences that will strengthen nursing knowledge and build confidence to practice as a nurse. (*Sp*). Prerequisites: Nursing major, senior standing, NRS 312, 315, 317, 318, 319, 320, 415, 416, 417, 419. Concurrent with 431.

### **Curricular Modifications for the Registered Nurse**

Students who are registered nurses through an associate degree program will follow the same degree requirements as all of the Carroll University students with the following curricular modifications to acknowledge the scholarship and competence the Registered Nurse already possesses. Completion students may earn up to 34 nursing credits from previous nursing course work upon successful completion or challenge of NRS 230, Health Assessment and NRS 236, Human Pathophysiologic Responses.

A registered nurse student applying for admission to Carroll University submits a written plan for completion of the BSN. The plan will comment on his/her self-identified professional and academic strengths and weaknesses and further indicate his/her current professional interest area(s) and area of employment. The written statement assists the nurse advisor in helping the student create the most meaningful curricular plan. Registered nurse students are required to select course groupings that lead to some focus of career interest. They should select an appropriate emphasis in the liberal studies to enhance their chosen area of nursing practice. Students will consult with their assigned nursing advisor regarding the most appropriate course selections. The nursing faculty will attempt to work closely with the RN student in focusing their clinical experiences in an area of interest to the RN.

**Major for the Registered Nurse Student (58 Credits)**

**34 credits earned as previously stated, plus**

- Nursing 230, Health Assessment (4 credits)
- Nursing 236, Human Pathophysiologic Responses (4 credits)
- Nursing 300, Critical Inquiry in Nursing Research (2 credits)
- Nursing 310, Family Centered Mental Health Nursing and  
Nursing 310L, Mental Health Nursing Lab (3 credits)
- Nursing 415, Community Health Nursing: Practicum (2 credits)
- Nursing 416, Community Health Nursing (4 credits)
- Nursing 429, Health Care Policy and Administration (3 credits)
- Nursing 431, Capstone (4 credits)

**Required Support Courses**

- Biology 130, Introduction to Human Anatomy and Physiology I (4 credits)
- Biology 140, Introduction to Human Anatomy and Physiology II (4 credits)
- Biology 212, Microbiology (4 credits)
- Mathematics 112, Introduction to Statistics (4 credits)
- Psychology 101, Introductory Psychology (4 credits)
- Psychology 221, Life Span Psychology (4 credits)
- Two semesters of university chemistry
- One semester of university sociology

Nursing Four-Year Curriculum Model

Cohort A*	Cohort B*
Fall Freshman year	Fall Freshman Year
FYS 100, Freshman Seminar 4 cr BIO 130, A & P I 4 cr CHE 101, Chemistry (LSP 1) 4 cr NRS 100, Health Care and Nursing 4 cr <u>16 cr</u>	FYS 100, Freshman Seminar 4 cr BIO 130, A & P I 4 cr CHE 101, Chemistry (LSP 1) 4 cr PSY 101, Intro Psychology (LSP 3) 4 cr <u>16 cr</u>
Spring Freshman Year	Spring Freshman Year
ENG 170, Writing Seminar 4 cr BIO 140, A & P II 4 cr CHE 102, Biochemistry (LSP 2) 4 cr NRS 230, Health Assessment 4 cr <u>16 cr</u>	ENG 170, Writing Seminar 4 cr BIO 140, A & P II 4 cr CHE 102, Biochemistry (LSP 2) 4 cr NRS 100, Health Care and Nursing 4 cr <u>16 cr</u>
Fall Sophomore Year	Fall Sophomore Year
BIO 212, Microbiology 4 cr NRS 236, Human Pathophysiology 4 cr NRS 233, Foundations of Care 4 cr NRS 234, Foundations Practicum 2 cr PSY 101, Intro Psychology (LSP 3) 4 cr <u>18 cr</u>	SOC 110 or COM 207 (LSP 4) 4 cr PSY 221, Lifespan Psych 4 cr NRS 230, Health Assessment 4 cr MAT 112, Statistics 4 cr <u>16 cr</u>
Spring Sophomore Year	Spring Sophomore Year
SOC 110 or COM 207 (LSP 4) 4 cr PSY 221, Lifespan Psych 4 cr CHE 208, Nutrition 3 cr MAT 112, Statistics 4 cr HSC 300, Pharmacology 3 cr <u>18 cr</u>	NRS 233, Foundations of Care 4 cr NRS 234, Foundations Practicum 2 cr NRS 236, Human Pathophysiology 4 cr BIO 212, Microbiology 4 cr CHE 208, Nutrition 3 cr <u>17 cr</u>
Fall Junior Year	Fall Junior Year
NRS 310, Mental Health Nursing 3 cr NRS 320, Pediatric Nursing 2 cr LSP 5, 6, or 7 4 cr Elective 4 cr <u>13 cr</u>	HSC 300, Pharmacology 3 cr NRS 300, Critical Inquiry in Nursing 2 cr NRS 310, Mental Health Nursing 3 cr NRS 312, Obstetrics Nursing Care 2 cr LSP 5, 6, or 7 4 cr Elective 4 cr <u>18 cr</u>
Spring Junior Year	Spring Junior Year
NRS 312, Obstetrics Nursing Care 2 cr NRS 316, Intro Med Surg Nursing 4 cr NRS 317, Med Surg Nursing Practicum 5 cr NRS 300, Critical Inquiry in Nursing 2 cr LSP 5, 6, 7 4 cr <u>17 cr</u>	NRS 316, Intro Med Surg Nursing 4 cr NRS 317, Med Surg Nursing Practicum 5 cr NRS 320, Pediatric Nursing 2 cr LSP 5, 6, 9 or 7 4 cr <u>15 cr</u>

\* Students are placed in Cohort A or B when they are admitted into the nursing program.

# NURSING

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First Semester Senior		First Semester Senior	
NRS 417, Advance Med Surg	3 cr	NRS 417, Advance Med Surg	3 cr
NRS 419, Med Surg Pract	5 cr	NRS 419, Med Surg Pract	5 cr
NRS 416, Comm. Health Nursing	4 cr	NRS 416, Comm. Health Nursing	4 cr
NRS 415, Comm. Health Practicum	2 cr	NRS 415, Comm. Health Practicum	2 cr
	<u>14 cr</u>		<u>14 cr</u>
Final Semester Senior		Final Semester Senior	
NRS 429, Health Policy & Leadership	3 cr	NRS 429, Health Policy & Leadership	3 cr
NRS 431, Capstone Practicum	4 cr	NRS 431, Capstone practicum	4 cr
NRS 432, Capstone	1 cr	NRS 432, Capstone	1 cr
LSP 5, 6, or 7	4 cr	LSP 5, 6, or 7	4 cr
Elective	4 cr	Elective	4 cr
	<u>16 cr</u>		<u>16 cr</u>
<u>TOTAL CREDITS</u>	<u>128</u>	<u>TOTAL CREDITS</u>	<u>128</u>

\* Students are placed in Cohort A or B when they are admitted into the nursing program.

# DIVISION OF NATURAL AND HEALTH SCIENCES

# PRE-OCCUPATIONAL THERAPY

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**Lynn Peterson**

Health Sciences Advisor  
2+2 Health Program Advisor

**Katie Koncki**

Senior Advisor  
Office of Student Services  
University of Wisconsin - Milwaukee

Carroll University offers an opportunity to pursue a Bachelor of Science in Occupational Studies and a Master of Science in Occupational Therapy through a partnership with the University of Wisconsin-Milwaukee. Occupational therapy is a profession whose unique focus is on occupation and daily life activities that promote full participation in life roles as an active member of a community. The University of Wisconsin-Milwaukee offers a full array of occupational therapy education which allows students completing a Master's degree to be eligible to take the national Occupational Therapy certification examination. Students are prepared for Master's level study through the Bachelor of Science Occupational Studies Program. Students who complete this undergraduate program will need to meet all admission criteria to the University of Wisconsin-Milwaukee Graduate School for admission to the Master of Science program. The University of Wisconsin-Milwaukee's occupational therapy entry level program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE).

Students interested in Occupational Therapy spend two years satisfying general education requirements and prerequisites at Carroll University required for the professional years of study at the University of Wisconsin-Milwaukee. To progress into the undergraduate junior year, Carroll University pre-occupational therapy students must apply for admission to the University of Wisconsin-Milwaukee's occupational studies professional program in the spring of their sophomore year.

### **Admission/Progression Requirements**

Entry into the professional phase of the undergraduate Occupational Studies program is competitive and dependent upon multiple requirements. The admission/progression requirements for the Occupational Studies program are presented in the Admissions sections of the Catalog.

### **Caregiver Background Check**

All students admitted to the Occupational Studies Program will be required to complete a Background Information Disclosure form (HFS-64). A background check, which identifies a past criminal record, does not necessarily preclude an individual from pursuing studies in occupational therapy or becoming a successful practitioner. Should there be a discrepancy between the information reported by the student on HFS-64 and the reports issued by the Department of Justice and the Department of

## OCCUPATIONAL THERAPY

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Health and Family Services, the student will be subject to dismissal from the occupational therapy program and then reported to DHFS per HFS 12.20 (1)©, Wis. Adm. Code.

### Required Carroll Courses

FYS 100, Freshman Seminar (4 credits)

ENG 170, Writing Seminar (4 credits)

LSP IV, V, VI, VII

CSC 107, Problem Solving Using Information Technology (2 credits)

BIO 130, Introduction to Human Anatomy and Physiology I (4 credits)

BIO 140, Introduction to Human Anatomy and Physiology II (4 credits)

MAT 130, Elementary Functions (4 credits)

PHI 105, Introduction to Logic (LSP 1) (4 credits)

PHY 101, Introductory Physics (LSP 2) (4 credits)

PSY 101, Introductory Psychology (LSP 3) (4 credits)

PSY 205, Statistics and Experimental Design (4 credits)

PSY 221, Life-Span Psychology (4 credits)

An additional social science elective satisfying UWM's Diversity requirement must be completed prior to the professional phase. ENG 164, American Literature and Cultures will satisfy a LSP IV or VII requirement and meet this diversity requirement.

Students must also meet University of Wisconsin-Milwaukee's art and humanities requirements. This is done through coordination with Carroll's general education LSP program. To assure compliance with Carroll and the University of Wisconsin-Milwaukee requirements the prospective student should work closely with the Health Sciences and 2+2 program adviser and University of Wisconsin-Milwaukee liaison.

### Suggested Electives

PED 421, Psychosocial Aspects of Physical Activity

HSC 120, Fundamental Motor Development

REC 300, Assessment and Documentation in Therapeutic Recreation

REC 308, Therapeutic recreation in Physical Rehabilitation and Behavioral Health

REC 390, Recreation as a Therapeutic Intervention

Students must also demonstrate completion of UWM's language requirement by achieving one of the following:

- complete with passing grades (prior to entering university) at least two years of high school level instruction in a single foreign language, or
- complete with passing grades at least two semesters (minimum of 6 credits) of university level instruction in a single foreign language, or
- demonstrate foreign language ability at least equivalent to the above by means of a satisfactory score on an approved placement, proficiency, program or other appropriate examination.

Carroll Two Year Curriculum

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**FALL SEMESTER -YEAR 1**

FYS 100	Freshman Seminar	4
BIO 130	Intro. to Human Anatomy and Physiology I	4
PHI 105	Introduction to Logic (LSP 1)	4
*MAT 101	Algebra II (4 credits if needed) or	
PSY 101	Intro to Psychology (LSP 3)	4
<b>TOTAL</b>		<b>16</b>
<b>CUM</b>		<b>16</b>

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**SPRING SEMESTER -YEAR 1**

ENG 170	Writing Seminar	4
BIO 140	Intro. to Human Anatomy and Physiology II	4
PSY 101	Introductory Psychology (LSP 3) or Elective	4
ENG 164	American Indian Lit. and Cultures (LSP 4)	4
<b>TOTAL</b>		<b>16</b>
<b>CUM</b>		<b>32</b>

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**SUMMER -YEAR 1**

LSP	Liberal Studies Program 5-7	4
<b>TOTAL</b>		<b>4</b>
<b>CUM</b>		<b>36</b>

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**FALL SEMESTER -YEAR 2**

MAT 130	*Elementary Functions	4
LSP	Liberal Studies Program 5-7	4
Elective		4
CSC 107	Problem Solving Using Information Technology	2
*Providing Math 101 proficiency is met		
<b>TOTAL</b>		<b>14</b>
<b>CUM</b>		<b>50</b>

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**SPRING SEMESTER -YEAR 2**

PSY 205	Statistics and Experimental Design or	4
MAT 112	Intro. to Statistics	4
PSY 221	Life-Span Psychology	4
PHY 101	Introductory Physics (LSP 2)	4
LSP	Liberal Studies Program 5-7	4
<b>TOTAL</b>		<b>16</b>
<b>CUM</b>		<b>66</b>

# DIVISION OF NATURAL AND HEALTH SCIENCES

# PHYSICAL AND HEALTH

# EDUCATION

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<b>Stephen J. Dannhoff</b>	Assistant Clinical Professor and Director
<b>Pamela Pinahs-Schultz</b>	Professor
<b>Henny J. Hiemenz</b>	Instructor

The physical education with health major and adapted physical education licensure are designed for students who wish to acquire the diverse competencies needed to teach physical education, health education, and adapted physical education at the Pre-K-12 level. This program provides students with competencies necessary to meet Wisconsin Department of Public Instruction (DPI) requirements.

## **Physical and Health Education (K-12) Major Bachelor of Science**

Descriptions of Health Science courses in the Physical and Health Education major and the major's academic progression standards are in the Health Sciences section of this Catalog. Descriptions of Education Program courses in the Physical and Health Education program are in the Education Program section of this Catalog.

All physical education majors must be proficient to the intermediate level in swimming; a Water Safety Instructor and/or Lifeguarding certificate is strongly recommended.

### **Learning Outcomes for Physical Education**

Upon graduation and entry into the profession of Physical and Health Education, the individual will:

1. Articulate basic physical education knowledge, central physical education concepts, and pedagogical practices within the field of physical education. Articulate basic health knowledge, central health concepts, health tools of inquiry, and pedagogical practices within the field of health education.
2. Develop a professional philosophy consistent with current National Association for Sport and Physical Education (NASPE) and state physical education standards, developmentally appropriate curriculum and instructional design, assessment, and professional development. Develop a professional philosophy consistent with current research findings and best practices in health education, curriculum and instructional design, assessment and professional development.
3. Identify the role, function, and responsibility of a physical education teacher and physical education program coordinator as part of the K-12 physical education program. Identify the role, function, and responsibility of a health education teacher and health education program coordinator as part of the comprehensive school health program.

4. Assess informally student physical education and health education needs based on a student's prior physical education experiences, physical fitness level, interests and needs in order to implement quality physical education instruction. Assess informally student health needs based on a student's prior knowledge, interests and needs in order to implement quality health instruction.
5. Identify and articulate the concepts and skills contained in the current state and NASPE physical education standards in the development of curriculum and instruction. Identify and articulate current state and national health standards in the development of curriculum and instruction. Identify and articulate the concepts and skills contained in the current state and national health standards in the development of curriculum and instruction.
6. Design and deliver developmentally appropriate instructional programs based on stated goals and objectives contained in the current state and NASPE standards. Design and deliver developmentally appropriate instructional programs based on stated goals and objectives contained in the current state and national health standards, assessment data, utilizing the CDC guidelines for effective school health programs as the major health content organizer.
7. Analyze and articulate the social, cultural, economic and political factors that affect physical education engagement, home-school relations, and classroom strategies in physical and health education.
8. Evaluate commercial physical education programs as well as state, national, and international resources utilizing research-based principles in physical education curriculum, instruction and assessment. Critically evaluate developmentally appropriate commercial health education programs as well as state, national, and international resources utilizing research-based and best practices principles in health education curriculum, instruction, and assessment.
9. Implement effective developmentally appropriate instructional approaches including the use of media and technology, multiple intelligences, differentiated instruction and brain based learning that will create learning experiences that will meet the diverse needs of pupils, the community and curricular goals.
10. Apply formal and informal assessment strategies to evaluate and ensure continuous intellectual, social, and physical development of the pupil.
11. Reflect and evaluate the impact of his or her instructional capacity on others (e.g. learners, parents/guardians, and other professionals) as well as his/her classroom management skills and seek opportunities to grow professionally (i.e. Wisconsin Family and Consumer Educators, and Wisconsin Association for Health, Physical Education, Recreation, and Dance).

### Fees

Specific courses that require use of equipment and disposable supplies are assigned a course fee.

### Academic Progression Standards

The academic progression standards for the physical and health education major are presented in the Health Sciences section of this catalog.

## **PHYSICAL AND HEALTH EDUCATION**

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### **Courses in the Physical and Health Education Major (70 Credits)**

- Health Science 101, Introduction to Health Care Skills (1 credit)  
Health Science 103, Personal and Community Health (4 credits)  
Health Science 105, Group Exercise Instruction (1 credit)  
Health Science 110, Basic Weight Training Instruction (1 credit)  
Health Science 120, Fundamental Motor Development (4 credits)  
Health Science 303, Exercise Physiology (4 credits)  
Health Science 322, Kinesiology (4 credits)  
Athletic Training 101, Athletic Training Seminar I (2 credits)  
Physical Education 101, Dance (1 credit)  
Physical Education 102, Basic and Intermediate Swim (2 credits)  
Physical Education 103, Philosophy, Principles, and History of Physical and Health Education/Athletics (3 credits)  
Physical Education 208, Organization and Administration of Physical Activities/Athletics (2 credits)  
Physical Education 214, Teaching Outdoor Activities in Physical Education (2 credits)  
Physical Education 310, Elementary Physical Education Activities (3 credits) [PED 328]  
Physical Education 311, Team Sports and Officiating (3 credits)  
Physical Education 312, Individual/Dual and Lifetime Activities (3 credits)  
Physical Education 324, Physical Education Laboratory (2 credit) [ESC 324]  
Physical Education 353, Capstone: Special Methods in Teaching Physical Education (4 credits)  
Physical Education 411, Adapted Physical Education (4 credits)  
Physical Education 421, Psycho-Social Aspects of Physical Activity (4 credits)  
Health Education 201, Nutrition (2 credits)  
Health Education 202, Drugs, Society and Human Behavior (2 credits)  
Health Education 203, Consumerism in Health (2 credits)  
Health Education 204, Human Sexuality (2 credits)  
Health Education 323, School Health Programs (4 credits)  
Health Education 353, Special Methods in Teaching Health Education (4 credits)

### **Courses toward the Adapted Physical Education License**

- Health Sciences 120, Fundamental Motor Development (4 credits)  
Physical Education 411, Adapted Physical Education (4 credits)  
Education 336, Collaborating with Parents of Exceptional Children and Community Agencies (3 credits)  
Physical Education 412, Assessment and Program Evaluation in Adapted Physical Education (2 credits)

Physical Education 414, Field Experience in Adapted Physical Education (1 credit)

**Refer to the Education Program–Secondary Education Minor for additional course requirements necessary for Wisconsin Department of Public Instruction licensure.**

**Required Support Courses (14 credits)**

Biology 130, Introduction to Human Anatomy and Physiology I (4 credits)

Biology 140, Introduction to Human Anatomy and Physiology II (4 credits)

Computer Science 107, Problem Solving Using Information Technology (2 credits)

Mathematics 112, Introduction to Statistics (4 credits)

**Physical Education**

**101. Dance**

**1 credit**

Theory and methods of teaching age appropriate rhythms and dance activities for students in grades K-12. Emphasis is on skill progressions, teaching techniques and assessment methods. (Required course fee) (*Fa*)

**102. Basic and Intermediate Swim**

**2 credits**

This course is open to Physical Education majors only. Emphasis is placed on the improvement of the individual student's swimming skill. Course content ranges from the non-swimmer level through American Red Cross intermediate skill level. Physical education teaching majors and minors are required to enroll in this class unless they hold one of the following American Red Cross certifications: Water Safety Instructor or Lifeguard Training. (*Sp*)

**103. Philosophy, Principles, and History of**

**3 credits**

**Physical and Health Education/Athletics**

This course gives the student a broad historical, philosophical, and futuristic view of the physical education/athletics field. Principles of physical education/athletics are also introduced with emphasis on curricular development and design. (Required course fee) (*Sp*)

**208. Organization and Administration of Physical Activities/Athletics** **2 credits**

In this course, students study the organization and administration of physical education/fitness and athletic programs. Course content addresses organizational issues at various levels of administration K-12 through adult. (*Fa*)

**214. Teaching Outdoor Activities in Physical Education**

**2 credits**

This course is designed to offer undergraduate students an in-depth experience with various outdoor skills for orienteering, outdoor survival, canoeing, mountain (wall) climbing, all season camping, safety outdoors, outdoor fitness (trail running, backpacking, hiking, mountain biking) and ropes course. (Required course fee) (*Fa*)

**310. Elementary Physical Education Activities**

**3 credits**

In this course, students study basic movement patterns in games of lower and higher organization as well as tumbling and individual activities. Fitness activities are incorporated throughout as well as early childhood assessment. (Required course fee) (*Fa*)

**311. Team Sports and Officiating**

**3 credits**

This course gives students a background in the history, rules, equipment, values and the fundamental skills and techniques necessary to participate in and enjoy team sports. Officiating techniques in team sports are also included. (Required course fee) (*Sp*)

## PHYSICAL AND HEALTH EDUCATION

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**312. Individual/Dual and Lifetime Activities** 3 credits  
This course gives students a background in the history, rules, equipment, values and the fundamental skills and techniques necessary to participate in and enjoy individual and lifetime activities. (Required course fee) (*Sp*)

**324. Physical Education Laboratory** 2 credits  
This course further develops knowledge, skills, and abilities that exercise professionals must possess in order to function competently in the Pre-K-12 educational setting. HSC 303 and HSC 322 taken concurrently. (Required course fee) (*Fa*)

**328. Elementary Physical Education Activities and Health Education** 3 credits  
The course is specifically designed for elementary education majors to introduce both the content and techniques for delivering appropriate school health and physical education programs at the K-9 level. Content reflects Wisconsin's Model for Academic Standards for Physical Education and Health. (Required course fee) (*Fa, Sp, Su*)

**353. Capstone: Special Methods in Teaching Physical Education** 4 credits  
Applications of general principles and methods of teaching physical education are presented in this course. Special emphasis is placed upon selection, use and preparation of equipment, materials, teaching aids and other resources especially designed for the physical education setting (Pre-K-12). Prerequisites: Successful completion of the PPST, admission to TEP or instructors permission and junior standing (Required course fee) (*Sp*)

**391. Special Problems and Research** 4 credits  
Prerequisite: Approval of the divisional dean and consent of instructor.

**398. Special Studies in Physical Education** 1-3 credits  
Prerequisite: Approval of the divisional dean and consent of instructor.

**411. Adapted Physical Education** 4 credits  
This course introduces the student to skills, knowledge, and competencies necessary to evaluate, plan and organize educational and recreational activities for students with exceptional educational needs. A laboratory experience with students is also required. (Required course fee) (*Fa*)

**421. Psycho-Social Aspects of Physical Activity** 4 credits  
This course presents an introduction to basic issues and current research in the psychology and sociology of American sport, physical activity, rehabilitation and leisure. Specific emphasis is placed on the social and psychological factors affecting an individual's performance in motor activities. (*Fa*)

### Health Education

**201. Nutrition** 2 credits  
Basic principles of nutrition are covered as well as current problems and topics regarding both personal and world nutrition today. Designed for the public school teacher, the community health educator or those in related fields. (*Fa*)

- 202. Drugs, Society and Human Behavior** 2 credits  
This course is directed at introducing social, psychological, pharmacological and cultural aspects of drug use, misuse and abuse. In addition, the methods, materials and theories of drug abuse prevention in the school and community are introduced. (*Wn*)
- 203. Consumerism in Health** 2 credits  
The aim of this course is to identify content, resources, materials and instructional strategies for providing consumer education to various populations. (*Wn*)
- 204. Human Sexuality** 2 credits  
This course reviews current information on health and human sexuality. Emphasis is given to cognitive and affective components of human sexuality. Major issues and topics in human sexuality are covered with particular attention to gender as it affects these issues. (*Sp*)
- 323. School Health Programs** 4 credits  
Studies the importance of well-organized and planned school health programs with special emphasis on the importance of health to the school. Graduate credit available. (*Sp*) Prerequisite: HSC 103.
- 353. Special Methods in Teaching Health Education** 4 credits  
Applications of general principles and methods of teaching health education. Special emphasis upon selection, use, and preparation of equipment, materials, teaching aids, and other resources especially designed for the health education setting (Pre-K-12). (*Sp*) Prerequisites: HED 323 and HSC 103.

### Adapted Physical Education

- 412. Assessment and Program Evaluation in Adapted Physical Education** 2 credits  
This course introduces the core theoretical and practical background necessary to assess and evaluate the motor development and physical fitness needs of persons with disabilities. Students are able to administer various psychomotor assessment tools and apply the results in the design of an individualized motor program. (Required course fee) (*Sp*) Prerequisites: HSC 120, PED 411. Co-requisite: PED 414.
- 414. Field Experience in Adapted Physical Education** 1 credit  
This experience provides the student with an opportunity to work with students in an adapted physical education setting under the supervision of a Wisconsin 860 licensed physical education teacher. Attendance at a monthly seminar and a minimum of 40 clock hours must be spent at early childhood, elementary, and secondary levels. (*Sp*) Prerequisites: 411. Co-requisite: PED 412.

# PHYSICAL AND HEALTH EDUCATION

## Physical Education/Health Education/Adapted Physical Education Four- and One-Half-Year Curriculum Model

Class Standing	Fall Semester	Winter Term	Spring Semester	Summer Term
Freshman	FYS 100 HIS 103, 104, 105 or 106 BIO 130 HSC 103 HSC 101 17 Credits		PED 103 ATH 101 BIO 140 ENG 170 HSC 110 EDU 100 16 Credits	
Sophomore	PED 208 PED 310 EDU 203 EDU 210 HSC 105 ENV 105 17 credits Take PPST*	HED 202  2 credits Take PPST*	EDU 209 CSC 107 PED 102 HSC 120 MAT 112  16 credits Take PPST*	Take PPST*
Junior	PED 214 HSC 303 HSC 322 EDU 301 PED 101 PED 324 LSP #5 HED 201 17 credits Apply to Teacher Education Program	HED 203  2 credits	PED 311 PED 312 EDU 265 EDU 306 HED 323 HED 204  18 credits Take PRAXIS Physical Education/ Health Education Content Standards Tests**	EDU 336  3 credits
Senior	PED 411 LSP 5 ENG 255 EDU 311 POL 141  17 credits		PED 353 HED 353 LSP 4 or add PED 412 PED 414 PED 421 15/16 credits	LSP 4  4 credits
Year 5	EDU 409 EDU 410 12 credits			

\*PPST must be successfully completed during sophomore year

\*\*PRAXIS Physical Education and Health Education Content Standards Tests must be successfully completed during spring semester of or summer term following junior year.

# DIVISION OF NATURAL AND HEALTH SCIENCES

# PHYSICS

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**Damon A. Resnick**

Assistant Professor

**Greg Gabrielsen**

Instructor

Applied Physics majors may complete their degree at Carroll University, the University of Wisconsin – Platteville, or the University of Wisconsin – Milwaukee in accordance with the pre-engineering program. For details on this program see a member of the Physics or Mathematics faculty. In either case, the Applied Physics major provides a strong foundation for further studies in physics, engineering, computers, law and medicine. Applied Physics majors can find jobs immediately after graduation in a variety of technologically demanding careers.

Physics minors are encouraged to select additional supporting courses in the other sciences. The minor provides excellent preparation for a career in many fields including mathematics, chemistry, biology, medicine and physical therapy.

A certification program to teach physics at the secondary level, with a minor in physics, is available. Details of this program can be obtained from either the physics or the education faculty.

## Fees

Specific courses that require use of equipment and disposable supplies are assigned a course fee.

## Applied Physics Major

Physics 203 & 204, General Physics (recommended) or

Physics 101 & 102, Introductory Physics

Physics 301, Electricity and Magnetism

Physics 303, Modern Physics

Physics 304, Classical Mechanics

Physics 320, Thermodynamics

Mathematics 160, 161, 207, Calculus I, II, III

Mathematics 309, Differential Equations

Chemistry 109, Principles of Inorganic Chemistry

Chemistry 110, Principles of Analytical Chemistry

Computer Science 111, Introduction to Java

General Engineering 100, 101, Engineering Seminar I, II

12 hours of electives in the Mathematics and Physics programs

Capstone: Mathematics 450

**Physics Minor**

Physics 203, 204, General Physics (Recommended) or  
Physics 101,102, Introductory Physics  
Physics 303, Modern Physics  
Physics 304, Mechanics

**101. Introductory Physics I** **L1, L2**      **4 credits**

The first course of a non-calculus two-course sequence in the basic principles of physics covering the general areas of mechanics, thermal physics and fluids. The mathematical proficiency expected for this course is algebra and introductory trigonometry. This course satisfies the physics requirement for some majors, pre-health professional requirements, and can be used to satisfy a liberal studies program requirement. Four hours of lecture/discussion and three hours of laboratory per week. (Credit cannot be received for both 101 and 203.) (Required course fee) (*Sp, Su*) Prerequisite: MAT 101 or higher.

**102. Introductory Physics II** **L1, L2**      **4 credits**

The second course of a non-calculus two-course sequence in the basic principles of physics covering the general areas of wave motion (oscillations, waves and sound), light and optics, and electromagnetism. The mathematical proficiency expected for this course is algebra and introductory trigonometry. This course satisfies the physics requirement for some majors, pre-health professional requirements, and can be used to satisfy a liberal studies program requirement. Four hours of lecture/discussion and three hours of laboratory per week. (Credit cannot be received for both 102 and 204.) (Required course fee) (*Fa, Su*) Prerequisite: PHY 101. Instructor consent is necessary for enrollment in 102 without completion of 101.

**105. Astronomy** **L1**              **4 credits**

The course includes the study of the motions and structures of the earth, the moon, the sun, planets, stars and galaxies, and consideration of cosmological theories. The laboratory includes telescopic observational astronomy. Four hours of lecture/discussion and three hours of laboratory/observation per week. (Required course fee) (*Fa, Sp, Su*) Prerequisites: Satisfaction of the mathematics competency requirement for graduation. Note: PHY 105 is no longer an LSP II course.

**203. General Physics I** **L1, L2**      **4 credits**

The first course of a calculus level two-course sequence in the basic principles of physics covering the general areas of mechanics, fluids and wave motion. This course satisfies the physics requirement for some majors, pre-health professional requirements, and can be used to satisfy a liberal studies program requirement. Four hours of lecture/discussion and three hours of laboratory per week. (Credit cannot be received for both 101 and 203.) (Required course fee) (*Sp*) Prerequisites: MAT 160.

**204. General Physics II** **L1, L2**      **4 credits**

The second course of a calculus level two-course sequence in the basic principles of physics covering the general areas of heat, light, electricity and circuits, and magnetism. This course satisfies the physics requirement for some majors, pre-health professional requirements, and can be used to satisfy a liberal studies program requirement.

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Four hours of lecture/discussion and three hours of laboratory per week. (Credit cannot be received for both 102 and 204.) (Required course fee) (*Fa*) Prerequisites: MAT 160 and 161. Instructor consent is necessary for enrollment in 204 without the successful completion of 203.

**301. Electricity and Magnetism****4 credits**

Physical principles underlying modeling of charges and currents, including circuit elements and fundamentals of analog electrical circuits are explored through lecture and laboratory. Topics will include the following: Maxwell's equations, electric and magnetic fields in vacuum and in matter, potentials and the uniqueness theorem, current and voltage sources, resistors, Ohm's Law, Kirchhoff's Laws, Thevenin and Norton theorems. (*Sp*) Prerequisites: PHY 204, MAT 207.

**303. Modern Physics****4 credits**

A course in the basic principles of modern physics treating the general subjects of atomic and nuclear physics, relativity, cosmology and quantum physics. Four hours of lecture/discussion and three hours of laboratory per week. (Required course fee) (*Fa, Even Years*) Prerequisites: PHY 204 or 102 and MAT 160 and 161.

**304. Classical Mechanics****4 credits**

An intermediate course in mechanics including vector calculus, conservation laws of mechanics, and dynamics of a particle and of a rigid body. Four hours of lecture/discussion and three hours of laboratory per week. (Required course fee) (*Sp, Even Years*) Prerequisites: PHY 204 or 102 and MAT 160 and 161.

**320. Thermodynamics****4 credits**

An introduction to the basic concepts of thermodynamics, including temperature, thermal expansion, heat flow, calorimetry, the First and Second Laws of Thermodynamics, statistical mechanics and fundamental theories of phase transitions, topics on gas, vapor, combined power cycles, refrigeration cycles, gas mixtures, and gas-vapor mixtures. Engineering applications will be emphasized alongside theoretical fundamentals. (*Sp*) Prerequisites: PHY 204, MAT 207.

**380/480. Work-Oriented Experience****4 credits**

A work-oriented experience in applied physics. This is to be planned in advance with a physics faculty member. It does not count toward a minor in physics. *S/U* graded.

**396/496. Special Problems and Research****4 credits**

Prerequisite: Approval of the divisional dean and consent of instructor. (Required course fee)

**398. Independent Studies in Physics****1-4 credits**

Prerequisites: Junior standing, approval of divisional dean and consent of the instructor.

DIVISION OF NATURAL AND HEALTH SCIENCES  
Department of Health and Human Movement Sciences  
**PRE-PHYSICAL THERAPY**

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<b>Amy E. Cayemberg</b>	Clinical Assistant Professor
<b>Sara M. Deprey</b>	Clinical Associate Professor
<b>Mark R. Erickson</b>	Clinical Associate Professor
<b>Jane F. Hopp</b>	Associate Professor
<b>Thomas G. Pahnke</b>	Clinical Associate Professor
<b>Kathleen A. Shields</b>	Assistant Professor

The aim of the professional phase of the Doctor of Physical Therapy Program is to produce clinicians, trained for general practice in a dynamic health care environment, who provide best care, respectful of patient/client values, grounded in evidence-based practice and clinical reasoning, and contribute to the profession and their community.

The Entry-level Doctor of Physical Therapy Program is fully accredited by the Higher Learning Commission/North Central Association, and the Commission on Accreditation of Physical Therapy Education.

### **Curriculum**

The Carroll University Entry-level Physical Therapy Program consists of a six-year course of study, divided into pre-professional and professional phases.

During the pre-professional phase (freshman, sophomore and junior years), students complete their undergraduate course work while fulfilling the requirements to enter the professional phase. Pre-physical therapy education at Carroll University is grounded in the humanities and the natural, behavioral and social sciences. For pre-Physical Therapy students pursuing an undergraduate degree at Carroll University, a Bachelor of Science degree in any of the following majors is typically used to complete the Physical Therapy Program in six years: Exercise Science, Biology or Psychology.

The professional phase begins the senior year, lasts eight semesters, and is subdivided into two phases, Phase I and Phase II. During Phase I of the professional phase, fall and spring terms of senior year, course work in physical therapy begins at the 400 level. The 400 level courses present the basic, behavioral, professional, and applied science foundations that are subsequently applied in the 500 and 600 level courses taken during Phase II of the professional program. Bachelor's degrees are awarded at the conclusion of the senior year to those individuals satisfying all Carroll undergraduate requirements.

Immediately following Commencement, students begin the graduate segment of Phase II course work within the professional program. Here the 500 and 600 level courses in

physical therapy are offered in a developmental sequence that integrates knowledge throughout the student's professional education. Upon successful completion of Phase I and II of the professional curriculum, an Entry-level Doctor of Physical Therapy degree is awarded. Graduates participate in the University's Commencement ceremony in May of year six.

### Admission

The physical therapy program admits qualified students regardless of race, color, creed, gender, age, sexual orientation, marital status, national or ethnic origin or handicap that does not interfere with the performance of professional physical therapy practice as provided by law. Students can enter the physical therapy program in one of three ways:

- 1) **Direct admission.** Individuals matriculate directly from high school into one of three undergraduate majors with a pre-physical therapy emphasis. If the student qualifies for admission into the Physical Therapy Program, s/he automatically enters the professional phase during the senior year. Requirements for advancement into the professional program phase for direct admission applicants are described below in the Academic Progression section and in the Admission section of this catalog. Students who choose the direct admission option must meet these requirements to enter the professional phase of the Physical Therapy program.
- 2) **Transfer admission.** During the junior year, individuals can apply to enter the professional phase of the program, and, upon acceptance, would begin Phase I the senior year. Applicants completing a bachelor's degree at Carroll University receive a calculated preference in consideration for Phase I admission. Applicants must be free of academic and disciplinary probation for all institutions previously attended. Selection criteria for transfer applicants are described below and in the Admission section of this catalog.
- 3) **Non-traditional admission.** An individual who has completed an undergraduate degree can apply to phase I of the professional program. Applicants must be free of academic and disciplinary probation for all institutions previously attended. Selection criteria for non-traditional applicants are described under the program's information found in the Carroll University Graduate Catalog.

Applications and credentials for admission to the physical therapy program must be submitted to the Office of Admission. Decisions are made on applications by a selection committee in the program, and applicants are notified through the Office of Admission.

### Technical Standards for Admission to and Progression in the Physical Therapy Program

Successful participation in the Entry-level Physical Therapy Program requires that a student possess the ability to meet the requirements of the program. Though the program may modify certain course requirements in order to provide persons who are handicapped with an opportunity to achieve results equal to those of a person who is

## **PRE-PHYSICAL THERAPY**

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not handicapped, there are no substitutes for the following essential skills. The applicant must initially meet these requirements to gain admission to the program, and must also continue to meet them throughout participation in the program.

1. **Physical requirements:** The applicant/student must be willing and capable of performing patient examinations including a review of systems, history, and tests and measures including, but not limited to, range of motion, manual muscle testing, visual observations. The applicant/student must also be willing and capable of performing physical therapy interventions such as transferring, treatment techniques using manual skills and therapeutic equipment, activities of daily living, education, and documentation. In addition, an applicant/student must successfully complete and maintain certification in first aid and cardiopulmonary resuscitation.
2. **Communication:** The applicant/student must be able to elicit information, describe changes in health, mood, and activity, and perceive non-verbal communication. The applicant/student must be able to communicate effectively and sensitively with patients and all members of the health care team.
3. **Intellectual abilities:** Problem solving, clinical decision making, and evidence-based practice, critical skills of physical therapists, require abilities in measurement, calculation, reasoning and analysis.
4. **Behavioral and social attributes:** The applicant/student must be able to tolerate physically taxing workloads, function effectively under stress, adapt to changing environments, display flexibility, learn to function in the face of uncertainties inherent in the evaluation and treatment of patients, and must possess integrity, compassion, effective interpersonal skills and be motivated for a career in health care.

The physical therapy program may require that the applicant/student undergo a physical examination. An applicant/student who is handicapped shall not, on the basis of his or her handicap (except those which would preclude the essential skills outlined above) be excluded from participation in, denied the benefits of, nor be subjected to discrimination in the physical therapy program.

### **Caregiver Background and Criminal History Check**

On October 1, 1998, the State of Wisconsin Department of Health and Family Services mandated that all persons who seek to be employed and/or licensed in the caregiver industry must fulfill the caregiver and background check requirements in Section 50.065 of the Wisconsin Statute. On the first day of class in the professional phase of the program, students are required to complete a background and criminal history check and abide by university and state regulations pertaining to findings.

### **Insurance**

Health: Pre-physical therapy students are required to have medical insurance. Those who are covered by a family or personal policy must provide the insuring company's

name and the policy number on a waiver form sent to the student by the Carroll University Business Office. For students without their own coverage, a group insurance policy is available through the university. Pre-physical therapy students are also required to have a personal health history form completed and on file in the administrative area of the Health Sciences.

### **Academic Progression**

To proceed into the professional phase of the Physical Therapy Program students must satisfy all of the following requirements:

- 1) A university cumulative GPA of 3.0 or higher during the freshman, sophomore, and junior years. Any Carroll undergraduate credit with an earned D or F grade can be retaken at Carroll prior to the direct admit student's senior year with the most recent grade awarded used in the GPA calculations.
- 2) A pre-professional GPA of 3.0 or higher during the freshman, sophomore and junior years. See the Admission section of this Catalog for pre-professional courses. A minimum course grade of "C" is required in all coursework used to calculate pre-professional GPA.
- 3) Completion of courses fulfilling Carroll's general education core, the majority of required and elective courses in the undergraduate major, and pre-professional courses required by the Physical Therapy Program. See the Admission section of this Catalog for specific requirements.
- 4) Bachelor's degree to be awarded at the completion of the senior year, which is the first year of the Physical Therapy Program.
- 5) Graduate Records Examination (GRE) scores.
- 6) Participation in a clinical observation experience, and university or community service activities.
- 7) Submission of three letters of reference, one from a physical therapist, one from a university professor, and one that attests to the student's character.
- 8) Progression standards are subject to change based on regulatory, licensing, and/or certification needs.

The academic progress of the direct admit and transfer students is evaluated by the professional phase admissions committee during the direct admit or transfer student's junior year. Under certain circumstances admission on probation is possible. Any student with direct admission status who withdraws from the program during his/her freshman, sophomore or junior year must inform the program director in writing. Direct admission status will be surrendered at the end of the spring semester junior year if admission requirements are not met for entry into the professional phase. Students may

## PRE-PHYSICAL THERAPY

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apply for entry into the program following additional course work as a transfer student. If, for any reason, a student with direct admission status does not advance into the professional phase of the physical therapy program, career counseling through the Walter Young Center is available.

### Academic Progression Standards

The academic progression standards for the professional phase of the physical therapy program are presented in the Health Sciences section of this catalog.

### Pre-Physical Therapy Majors (96 credits)

Biology Major (Bachelor of Science)

Exercise Science Major (Bachelor of Science)

Psychology Major (Bachelor of Science)

**Optional Minors:** Biology, Business, Chemistry, Hispanic Health and Human Service, Psychology, Sociology

### Professional Program

Senior year for Direct Admission and Transfer Students (32 credits)

#### Phase I

##### Fall Semester 16 credits

PTH 400, Foundations of Professional Practice (4 credits)

PTH 404, Biomechanics I (4 credits)

PTH 405, Neuroscience (4 credits)

PTH 406, Applied Exercise Physiology I (4 credits)

##### Spring Semester 16 credits

PTH 401, Clinical Research I (4 credits)

PTH 414, Biomechanics II (4 credits)

PTH 416, Applied Exercise Physiology II (4 credits)

PTH 407, Human Learning and Behavior (4 credits)

#### Summary of Credits

- Pre-Professional Phase 96 credits
- Professional Phase I 32 credits

Pre-Physical Therapy Emphasis with undergraduate major 128 credits

#### PTH 400. Foundations of Professional Practice 4 credits

Fundamental concepts related to professionalism and the roles and responsibilities of the physical therapist are introduced. Emphasis is placed on professional practice and practice management expectations. The health care delivery system, including cost, quality, and access, and the policies and legislation which drive these forces, is introduced. (Fa) Prerequisite: Good standing in the Entry-level Physical Therapy Program.

**PTH 401. Clinical Research I**

**4 credits**

The concepts of critical inquiry, reflective thinking, and evidence based practice in physical therapy are introduced. The components and processes of qualitative and quantitative research in physical therapy are emphasized. Students access and analyze a variety of health care and physical therapy literature. (*Sp*) Prerequisites: Good standing in the Entry-Level Physical Therapy Program, CSC 107 and MAT 112 or PSY 205.

**PTH 404. Biomechanics I**

**4 credits**

Biomechanics I is the first of a two-course sequence investigating the anatomical and mechanical bases of normal human movement. Musculoskeletal structure and function as they relate to the production of normal human movement are explored using a variety of kinematic and kinetic analysis techniques. (*Fa*) Prerequisite: Entry-Level Physical Therapy Program Standing.

**PTH 405. Neuroscience**

**4 credits**

The structure, chemistry, and functioning of the brain in relation to learning, memory, emotion, personality, and complex human behaviors, including thought and language, are emphasized. Brain disorders are discussed. Resources used to study the structure, chemistry, and function of the human brain include laboratories and CD ROM programs. (*Fa*) Prerequisite: Entry-Level Physical Therapy Program Standing.

**PTH 406. Applied Exercise Physiology I**

**4 credits**

The fundamental principles of exercise physiology are explored. The anatomical, physiological, biochemical, and psychological effects of exercise in healthy untrained and trained individuals are studied. The effects of exercise on the human body are discussed across gender, race, and life span. Exercise performance under different environmental conditions is also presented. Cardiovascular endurance and skeletal muscle force generating assessment and training techniques are performed. Resources used to study the effects of exercise on the human body include exercise physiology laboratories, computer simulations, and observations. (*Fa*) Prerequisite: Entry-Level Physical Therapy Program Standing.

**PTH 407. Human Learning and Behavior**

**4 credits**

The basic principles of human learning and behavior are explored across gender, culture, and life span. Attention is focused on Pavlovian and instrumental conditioning and their applications in medicine and education; the concepts of motor learning and their application in skill learning and recovery of function; information-processing approaches to behavior; and behavior dysfunction. Basic research is related to applied efforts in educational technologies and behavior modification. (*Sp*) Prerequisite: Entry-Level Physical Therapy Program Standing.

**PTH 414. Biomechanics II**

**4 credits**

Biomechanics II is the second of a two-course sequence investigating the anatomical and mechanical bases of normal human movement. In this course, quantitative analysis is emphasized to integrate and apply previous biomechanical and kinesiological knowledge. Advanced technologies are introduced and applied to examine kinematic and kinetic principles introduced in both Biomechanics I and II. Students apply course

## PRE-PHYSICAL THERAPY

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material to design a research project and proceed through data collection and analysis, culminating with presentation. (*Sp*) Prerequisite: Entry-Level Physical Therapy Program Standing.

### **PTH 416. Applied Exercise Physiology II**

This course is the second in a series of two exercise physiology courses where the investigation of fundamental exercise physiology principles are advanced. This course focuses on the acquisition of more complex exercise physiology concepts and their application as well as integration and critical analysis of fundamental exercise physiology content, acquired previously. The effects of exercise, decreased use, exercise testing and exercise prescription are explored and applied to individuals of varying gender, age and across the life span. The role of exercise in wellness and primary prevention programs is addressed. (*Sp*) Prerequisite: Entry-Level Physical Therapy Program Standing.

See the Carroll University Graduate Catalog for descriptions of Physical Therapy (PTH) courses in Phase II of the Entry-level Physical Therapy Program.

# DIVISION OF NATURAL AND HEALTH SCIENCES

# PSYCHOLOGY

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<b>Denise D. Guastello</b>	Associate Professor
<b>Margaret D. Kasimatis</b>	Assistant Professor
<b>Carrie A. Lloyd</b>	Instructor
<b>Christopher J. May</b>	Assistant Professor
<b>Matthew Scheel</b>	Assistant Professor
<b>Tara J. Schmidt</b>	Assistant Professor
<b>David D. Simpson</b>	Professor

Psychology is a life science that focuses upon the physical and mental processes that underlie individual behavior. This definition provides a focus for the objectives of the psychology program at Carroll University. The program numbers among its liberal learning objectives those of enriching students' understanding of scientific methods and giving students a thorough knowledge of the subject matter central to their better comprehending people.

In addition to its emphasis upon liberal learning, the program strives to offer a major that provides an excellent foundation for those who wish to pursue graduate studies. The program takes great pride in its strong track record of launching psychology majors into academic and professional careers. Academic careers include teaching and research in biological, cognitive, or social psychology; professional careers include serving people in clinical, counseling, or industrial/organizational settings.

### **Program Goals for Psychology**

1. Majors will understand psychology as a scientific discipline with regard to its content and research methods.
2. Majors will demonstrate intellectual skills in thinking, communication, information gathering and synthesis, as well as in quantitative and scientific methodology.
3. Majors will demonstrate personal development in ethics, values, and career plans.

### **Learning Outcomes**

Upon successful completion of the Psychology major, students will be able to:

1. Define and describe psychology-related terminology and concepts
2. Evaluate and generate psychological research
3. Enroll in a psychology-related graduate program or find other full-time employment
4. Demonstrate multiple effective communication skills
5. Work effectively in a team environment

Students may take up to 12 psychology courses plus Psychology 480 (Internship); however, only 10 4-credit, graded courses (i.e., 40 credits) are required for the major. In addi-

## PSYCHOLOGY

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tion to Psychology 101, 205 and 307, and the senior capstone course 403\*, students complete additional requirements by selecting any six remaining psychology courses (excluding 398 and 480). Suggested groupings:

Clinical/Counseling (201; 206; 240; 303; 306 or 321; 314 or 316)

Industrial/Organizational (211, 228, 303, 306, 316, and 321)

Research (240, 303, 314, 316, 401, and 492)

Pre-PT (201, 221 or 206, 260, 303 or 321, plus two electives excluding 314)

### Fees

Specific courses that require use of equipment and disposable supplies including certain types of psychological tests are assigned a course fee.

### Psychology Major Bachelor of Science

Psychology 101, Introductory Psychology

Psychology 205, Statistics and Experimental Design

Psychology 307, Research Methods in Experimental Psychology

Psychology 403, Historical and Modern Viewpoints of Psychology plus

Six elective courses in Psychology or completion of an area grouping. (Cannot include both 206 and 221.)

Forty credits are required as a minimum.

#### Required Support Courses (For primary majors only)

CSC 107 or higher

Mathematics 112 or higher than Mathematics 130 plus any additional 8 credits from the following:

Communication 101

English 305

Business 250 or Sociology 110

Chemistry 101 and 102

### Psychology Minor

Psychology 101, Introductory Psychology

A minimum of four additional Psychology courses, excluding PSY 398 and PSY 480.

(Cannot include both PSY 206 and PSY 221.) At least one elective must be 300-level or higher. Twenty credits are required as a minimum.

#### 101. Introductory Psychology

L3

4 credits

An introduction to the life science of behavior and mental processes. Emphasis is placed upon methods of inquiry as well as such topics as: perception and consciousness; learning, memory and thinking; biological and developmental processes; motivation and emotion; personality and individuality; social determinants of behavior, conflict, maladjustment and mental health. (*Fa, Sp, Su*)

#### 201. Abnormal Psychology

4 credits

A study of major and minor psychological disorders. Consideration of classification issues and theoretical perspectives precedes an examination of research on genetic,

biobehavioral and psychosocial determinants of stress reactions and psychological disorders. Consideration is also given to healthy adjustment and coping strategies as well as prevention and therapy options. (*Fa, Su*) Prerequisite: PSY 101.

**205. Statistics and Experimental Design**

**4 credits**

Required for the psychology major and highly recommended for many others, this course teaches the data analysis procedures most widely used by researchers in the social and behavioral sciences. Instructional emphasis will be on learning which statistic to use, how to perform the data analyses and how best to communicate one's results. Students will gain extensive experience collecting, analyzing, thinking about and using statistical data. Computations will be done both by calculator and by computer. Four hours of lecture-discussion and one two-hour laboratory. (Lab fee required) (*Fa, Sp, Su*) Prerequisite: PSY 101 and at least sophomore standing or special permission from the instructor.

**206. Developmental Psychology**

**4 credits**

A study of the theories, research, and issues related to physical, intellectual, social and emotional development. Slight emphasis on children, including observational strategies for behavioral assessment of infants and children, are included. Credit cannot be received for both 206 and 221. (*Sp*) Prerequisite: PSY 101.

**210. The Science of Sleep**

**2 credits**

This course will introduce students to the subject of sleep. There is a large body of information about circadian rhythms and the biological clock, what constitutes normal sleep, the myriad of sleep disorders, and the costs to society of sleep deprived individuals. Special emphasis will be placed on the lack of sleep some professionals routinely accrue, including medical doctors, airline pilots, truck drivers, as well as shift workers. Basic polysomnography (brain waves, breathing, heart rate and movement recorded during a sleep study) will also be covered. A variety of methods including lecture, movies, group work and discussion will be employed. (*Wn*)

**211. Industrial and Organizational Psychology**

**4 credits**

The psychological study of factors related to people at work. Employee selection methods such as testing and interviewing, performance evaluations, job descriptions, statistical validation and decision techniques, motivation, leadership, satisfaction, job redesign and organizational development are examined. (*Fa, Su odd*) Prerequisite: PSY 101.

**221. Life-Span Psychology**

**4 credits**

A comprehensive course with an applied emphasis which examines individual development throughout life. Topics such as genetic inheritance, intellectual change and social adjustment are viewed as processes that extend from the neonatal period through very old age. Credit cannot be received for both 206 and 221. (*Fa, Sp, Su*) Prerequisite: PSY 101.

### 228. Consumer Behavior

4 credits

An applied psychology course focusing upon the behavior of the individual consumer. Concepts derived from perception, motivation, personality, learning and cognition are developed in the analysis of consumer decision-making. (*Sp, Su even*) Prerequisite: PSY 101.

### 240. Biopsychology

4 credits

This course examines the biological substrates, causes, and influences on the mind and behavior. It focuses on the relationship between mind and brain as well as between brain and body, mind and body, brain and environment, and mind and environment. Foundational to the course is an understanding of the electrochemical processing that occurs in and between neurons, with relevant applications to drug use, emotions, learning, memory, sleep, consciousness, sensory systems, evolution, and psychiatric disorders. (*Sp*) Prerequisite: PSY 101.

### 250H. Brain, Mind and Behavior

L2

4 credits

An interdisciplinary approach to the study of the brain, mind, and behavior. Material will draw from psychology, evolutionary biology, neuroscience, anthropology, philosophy, robotics, artificial intelligence, and other relevant disciplines. The goal of the course is to better understand the nature of mind and behavior by examining the extent to which they are both grounded in and extend beyond the brain. Lectures, guest speakers, discussions, and laboratories will be used to introduce students to current methods and findings. Four hours of lecture/discussion and one three-hour laboratory. Honors course or consent of instructor. (Lab fee required) (*Sp*)

### 260. Health Psychology

4 credits

Based on the research of clinical, experimental social and health psychologists, this course examines how psychological, social, and biological factors affect health and illness. Topics include coping with stress and pain, psychoneuroimmunology, and living with chronic illness, such as diabetes, cardiovascular disease, or cancer. Emphasis is also placed on effective patient-clinician communication and on the modification of health-related behaviors. (*Sp*) Prerequisite: PSY 101.

### 303. Experimental Social Psychology

4 credits

This course reviews and critically examines the research findings of experimental social psychologists. Among the topics explored are attitude change, prejudice, conformity, altruism, aggression and group dynamics. Instructional emphasis will be on developing ideas for further needed social psychological research. (*Fa*) Prerequisite: PSY 101 and 205.

### 306. Psychological Testing and Assessment

4 credits

This course gives students a strong foundation in the technical and methodological principles of test construction and in the social and ethical implications of psychological testing. Students will learn criteria for selecting and critically evaluating tests. In addition, students will actually take and study in depth a number of widely used tests of personality, occupational interests, intelligence and values. (Course fee required) (*Sp*) Prerequisite: PSY 101 and 205.

- 307. Research Methods in Experimental Psychology** 4 credits  
 A research methods course in experimental science. Knowledge gained from PSY 205 is combined with laboratory exercises in physical control and measurement of variables. A class component covers experimental and quasi-experimental research methods. In addition, students learn how to write research reports and how to conduct an individual experimental project. Four hours of lecture/discussion and one three-hour laboratory. (Lab fee required ) (*Fa, Sp, Su*) Prerequisite: PSY 101 and 205.
- 314. Learning and Animal Behavior** 4 credits  
 A systematic survey of basic principles of learning and behavior in animals including humans. In the context of evolutionary psychology, attention is directed toward Pavlovian and instrumental conditioning, behavioral approaches to learning, species-specific concerns, and motivation. Basic research is related to applied efforts in behavior modification and educational technologies. (*Fa, Sp*) Prerequisite: PSY 101. Credit cannot be received for both 314 and PTH 407.
- 316. Thinking, Problem Solving, and Cognition** L3 4 credits  
 A study of human intelligence. This course focuses upon cognitive processes and structures involved in perception, memory, critical thinking, problem-solving and creativity. Applications to effective study and reading comprehension are also examined. (*Fa, Sp*) Prerequisite: PSY 101.
- 321. Personality: Theory and Assessment** 4 credits  
 The personality theories of Freud, Jung, Erikson, Rogers, Cattell and others are examined using both textbook treatments and original works of the psychologists. Biological contributions to personality are also discussed. Various psychological assessments are used to help students examine aspects of their own personalities. (Course fee required) (*Fa*) Prerequisite: PSY 101.
- 391. Special Studies in Psychology** 2 credits  
 (*Fa, Sp, Su*) Prerequisite: PSY 101.
- 398. Independent Study in Psychology** 1-4 credits  
 (*Fa, Sp, Su*) Prerequisites: PSY 101, Junior standing, approval of divisional dean and consent of instructor.
- 401. Behavioral Neuroscience** 4 credits  
 This course emphasizes the structure, chemistry and functioning of the brain in relation to learning, memory, emotion, personality and complex human behaviors, including thought and language. Four hours of lecture/discussion and one three-hour laboratory. (Lab fee required) (*Fa*) Prerequisite: PSY 101 and PSY 240, or consent of instructor.
- 403. Capstone: Historical and Modern Viewpoints of Psychology** 4 credits  
 This capstone course prepares the psychology senior for a career in or related to the major. It also integrates traditional subject matter of perception, learning, social and developmental processes, as well as intelligence, motivation and personality. Historical

## PSYCHOLOGY

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roots, contemporary issues, as well as career opportunities, form the bases of class activities. Each student also completes career and major project portfolios. (Course fee required) (*Fa*)

### **480. Internship in Psychology**

**4 credits**

Provides majors contemplating a career in psychology or in related areas with supervised field experience. *S/U* graded. (*Fa, Sp, Su*) Prerequisite: PSY 101, Junior standing and consent of instructor.

### **492. Research Seminar**

**4 credits**

This course is required for those psychology majors who are in the university-wide honors program and is recommended for all psychology majors. Students conduct systematic empirical research in the context of a seminar directed and coordinated by a faculty member. Seminar discussion is focused upon a current topic and is largely confined to asking researchable questions, exploring the feasibility of student-generated research proposals and evaluating student research reports. (*Fa, Sp*) (Lab fee required) Prerequisite: PSY 101, 205 and 307.

# DIVISION OF NATURAL AND HEALTH SCIENCES

## PUBLIC HEALTH PROGRAM

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**Pamela Pinahs-Schultz** Professor

**Barbra J. Beck**

Clinical Associate Professor

The mission of public health is to fulfill society's interest in assuring conditions in which people can be healthy. Public health carries out its mission through organized, interdisciplinary efforts that address the physical, mental, and environmental health concerns of communities and populations at risk for disease and injury. Its mission is achieved through the application of health promotion and disease prevention technologies and interventions designed to improve and enhance quality of life. The core areas of public health include health services administration, biostatistics, epidemiology, behavioral sciences/health education and environmental health sciences.

Students in the Public Health major will also become eligible to sit for the Certified Health Education Specialist exam offered by the National Commission for Health Education Credentialing. NCHEC's voluntary professional certification program establishes a national standard for individual health education practitioners. Health educators are professionals who design, conduct and evaluate activities that help improve the health of all people. These activities can take place in a variety of settings that include schools, communities, health care facilities, businesses, colleges and government agencies. Certified Health Education Specialists (CHES) are those who have met the standards of competence established by The National Commission for Health Education Credentialing Inc. (NCHEC) and have successfully passed the CHES examination. The CHES designation after a health educator's name is an indication of professional competency and commitment to continued professional development.

### Learning Outcomes for the Public Health Program

Graduates of the Public Health program:

1. Are able to use existing sources of health data, name the major causes of morbidity and mortality in the United States based on age and gender, and the important modifiable risk factors for each.
2. Can identify recommended clinical preventive services based on patient's age, sex, and risk factor status using appropriate guidelines.
3. Demonstrate the communication and psychomotor skills required to provide appropriate, recommended preventive services.
4. Understand features of health systems that promote the integration and utilization of disease prevention-health promotion services.
5. Describe the clinical, ethical, and legal issues associated with case finding and screening programs.
6. Identify the roles of various health care providers, interdisciplinary health care teams, consultation/referral sources, and community resources in providing clinical preventive services and complementary clinical care.

## **PUBLIC HEALTH**

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7. Understand the transmission of disease in clinical settings and demonstrate knowledge and skills necessary to take universal precautions.

These learning outcomes are delivered through a focused curriculum in clinical prevention, quantitative skills, health service organization and delivery, and community dimensions of practice.

### **Admission and Progression Standards**

Students will be subject to Carroll University admission and progression standards.

### **Public Health Major Bachelor of Science**

#### **Core Courses (34-40 credits)**

Public Health 101, Introduction to Public Health (4 credits)

Public Health 102, Global Health (4 credits)

Public Health 202, Environmental and Occupational Health (2 credits)

Public Health 310, Public Health for Communities (4 credits)

Public Health 312, Public Health Policy and Administration (4 credits)

Public Health 324, Program Development, Assessment and Evaluation in Public Health (4 credits)

Public Health 411, Field Experience (2 credits)

Public Health 421, Epidemiology (4 credits)

Public Health 480, Public Health Internship (capstone) (6-12 credits)

#### **Required Supporting Courses (19 credits)**

Biology 130, Introduction to Human Anatomy & Physiology I\* (4 credits)

Biology 140, Introduction to Human Anatomy and Physiology II\* (4 credits)

Communication 290, Health Communication (4 credits)

Health Education 201, Nutrition (2 credits) or

Chemistry 208, Nutrition (3 credits)

Health Science 101, Introduction to Health Care Skills (1 credit) or equivalent of First Aid and CPR for the Professional Rescuer Certification with AED certification

Psychology 260, Health Psychology (4 credits)

\*Biology 120 and 125 could be substituted for Biology 130/140 for students pursuing a more biology based education or Biology minor.

### **General Education Requirements**

First Year Seminar 100 (4 credits)

English 170, Writing Seminar (4 credits)

Mathematics 112, Introduction to Statistics (4 credits)

Liberal Studies Program I, II, IV, V, VI, VII

### **Public Health Minor**

The Public Health minor will utilize core public health courses while potentially fulfilling some LSP requirements. This minor allows the undergraduate to add healthcare specific courses giving additional diversity to their current course of study.

Public Health 101, Introduction to Public Health (4 credits)

Public Health 102, Global Health (4 credits)

Public Health 310, Public Health for Communities (4 credits)

Public Health 324, Program Development, Assessment and Evaluation in Public Health (4 credits)

Public Health 421, Epidemiology (4 credits)

**101. Introduction to Public Health** **L3 4 credits**

This course is designed to expose students to core topics in the area of public health. The course will examine varying health, environmental, and behavioral influences on the health of the public in the United States. The course will challenge students to think critically at the varying nature of public health and current events. Students will evaluate case studies and be provided with a basic didactic background. The course will be team taught and/or will include multiple guest speakers who can address the breadth of topics in this area.

**102. Global Health** **4 credits**

This course will introduce students to the main concepts of the public health field and the critical links between public health and social and economic development. Students will get an overview of various factors, including social, economic, and political issues on the health of individuals and of communities. The course will also introduce students to key concerns regarding nutrition, reproductive health, infectious diseases, and chronic diseases. The course will cover key concepts but be very practical in orientation. The course will be global in coverage but with an important focus on the developing world and on the health of the poor.

**202. Environmental and Occupational Health** **2 credits**

This course is designed to introduce environmental and occupational health issues and demonstrates effective control activities related to workplace exposures. The specific topics covered during this course include agricultural work and exposure to pesticides, industrial hygiene, asbestos exposure, safe drinking water, air quality, hazardous waste disposal, disease clusters and bioterrorism. The goal of the course is to provide students with basic knowledge of environmental and occupational health as it applies to the principles of public health practice from individual, organizational and political perspectives.

**310. Public Health for Communities** **4 credits**

This course is designed to provide students in public health with a broad-based overview of public policies, service delivery systems, and family-centered approaches to public health. Prerequisites: PBH 101, PBH 102.

**312. Public Health Policy and Administration** **4 credits**

This course is about making public policy in public health and in health care: what it is, who makes it, and how and when it is made successfully. The course aims (1) to highlight several selected critical public policy issues and (2) to build skills in critical, reflective thinking that will help the student in making decisions about, or advocating for, policies that reflect individual and societal values. In the study of public policy,

## **PUBLIC HEALTH**

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there are two broad theoretical models for explaining the policy making process. One is the rational model that emphasizes economic analysis and rational decision making. The other model is based in political science. This course is built on the political science model and emphasizes the political context in which public policy is always developed. Prerequisites: PBH 101, PBH 102.

### **324. Program Development, Assessment, and Evaluation in Public Health** **4 credits**

This course is designed to enable the student to organize and administer a comprehensive health promotion program which includes healthful curriculum, health instruction, and health assessment, both in preparation, delivery and evaluation of units or entire programs. Prerequisites: PBH 101, PBH 102, PBH 310.

### **411. Public Health Field Experience** **2 credits**

This course will provide students with an opportunity to observe exercise testing public health professionals under the direction and supervision of the Public Health faculty. The client focus will be apparently healthy adults drawn primarily from the faculty, staff and students at Carroll University. Observation will involve specific assignments as to what each observation's focus will be. Students will also be involved in the campus wellness promotion and education activities. Prerequisites: PBH 101, PBH 102, PBH 202, PBH 310, PBH 324.

### **421. Epidemiology** **4 credits**

Modern epidemiology, as a science applicable to investigations of disease and other outcomes, policy assessment, and population science, evolved during the last half of the 20th century. Epidemiologic methods focused on application of statistical theory, use of survey methods, and information technology implementation. Epidemiology also broadened its scope to include concepts of causation applicable to non-communicable disease and other health determinants, including social and behavior factors. Applications to intervention efficacy, effectiveness, and safety, testing and decision-making methods, and policy analysis applicable to social concerns recently have been integrated into epidemiology teaching and research. Prerequisites: MAT 112, PBH 101, PBH 102, PBH 310.

### **480. Public Health Internship** **6-12 credits**

Students are given the opportunity to apply public health theories and concepts to actual work experiences under the supervision of an external and capstone supervisor. This course is a part- or full-time internship with an affiliated organization or facility actively engaged in the field of public health. The purpose of the internship program is to enhance and develop personal growth in public health disciplinary knowledge, ethical behaviors, career development, interpersonal skills, problem solving abilities, and personal responsibility. Further, it is intended to complement and reinforce the academic goals of the institution. Prerequisite: PBH 411.

	Fall Semester		Spring Semester	
<b>Freshman</b>	FYS 100	4	ENG 170	4
	PBH 101	4	BIO 140	4
	BIO 130	4	PBH 102	4
	HSC 101	1	Elective	4
	(Math 101 if needed)			
	Total	13 credits	Total	16 credits
<b>Sophomore</b>	PBH 202	2	COM 290	4
	LSP 1,2,4,5,6,7	4	HED 201	2
	LSP 1,2,4,5,6,7	4	MAT 112	4
	LSP 1,2,4,5,6,7	4	LSP 1,2,4,5,6,7	4
	Elective	4	Elective	4
	Total	18 credits	Total	18 credits
<b>Junior</b>	PBH 310	4	PBH 324	4
	LSP 1,2,4,5,6,7	4	PBH 312	4
	LSP 1,2,4,5,6,7	4	PSY 260	4
	Elective	4	Elective	4
	Total	16 credits	Total	16 credits
<b>Senior</b>	PBH 411	2	PBH 480	6
	PBH 421	4	Elective	4
	Elective	4	Elective	4
	Elective	4		
	Elective	4		
	Total	18 credits	Total	14 credits

129 credits

# DIVISION OF NATURAL AND HEALTH SCIENCES

# RECREATION MANAGEMENT

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**Stephen J. Dannhoff**     Assistant Professor and Director of  
Physical and Health Education/  
Recreation Management

**Pamela Pinahs-Schultz**     Professor of Physical Education

The purpose of the Recreation Management program at Carroll University is to prepare entry-level professionals who can develop, implement, and administer recreation and outdoor adventure programs across the life span in a variety of settings including community Parks and Recreation Departments, fitness facilities, resorts, and cruise ships.

## Recreation Management Major

### Bachelor of Science

Many of the teaching and planning skills utilized in teaching physical and health education are also essential for successful recreation program management. Descriptions of Physical Education Program courses in the Recreation Management Program are in the Physical Education/Health Education/Adapted Physical Education Program section of this catalog. Descriptions of Health Sciences and Exercise Science Program courses in the Recreation Management program are contained in the Health Sciences and Exercise Sciences Program sections, respectively, of this catalog.

### Program Outcomes for Recreation Management

1. Train our students in management skills associated with middle management line positions.
2. Instill in our students a sense of ethical principles and professional responsibility.
3. Prepare our students so that they may identify and access the most relevant research materials.
4. Foster those skills necessary to seek out partnerships in the delivery of recreational services.
5. Cultivate an attitude of lifelong professional participation.
6. Implement effective instructional approaches including the use of media and technology.
7. Apply formal and informal assessment strategies.

### Fees

Specific courses that require use of equipment and disposable supplies are assigned a course fee.

### Core Courses (52 Credits)

Health Science 101, Introduction to Health Care Skills (1 credit)

Health Science 103, Personal and Community Health (4 credits)

Health Science 105, Group Exercise Instruction (1 credit)

Health Science 110, Basic Weight Training Instruction (1 credit)  
Health Science 120, Fundamental Motor Development (4 credits)  
Health Science 303, Exercise Physiology (4 credits)  
Health Science 322, Kinesiology (4 credits)  
Exercise Science 324, Exercise Science Laboratory (2 credits) or  
Physical Education 324, Physical Education Laboratory (2 credits)  
Exercise Science 315, Exercise Science Practicum I (1 credit)  
Exercise Science 407, Facility Operations (3 credits)  
Exercise Science 435, Exercise Science Practicum II (1 credit)  
Physical Education 208, Organization and Administration of Physical  
Education/Athletics (2 credits)  
Physical Education 214, Teaching Outdoor Activities in Physical Education  
(2 credits)  
Physical Education 311, Team Sports and Officiating (3 credits)  
Physical Education 312, Individual/Dual and Lifetime Activities (3 credits)  
Physical Education 411, Adapted Physical Education (4 credits)  
Physical Education 421, Psycho-Social Aspects of Physical Activity (4 credits)  
Recreation 405, Recreational Programming (4 credits)  
Recreation 410, Recreation Administration and Supervision (4 credits)

**Capstone Course (12 Credits)**

Recreation 480, Recreation Management Internship (12 credits)

**Required Support Courses (16 Credits)**

Biology 130, Introduction to Human Anatomy and Physiology I (4 credits)  
Biology 140, Introduction to Human Anatomy and Physiology II (4 credits)  
Computer Science 107, Problem Solving Using Information Technology (2 credits)  
Mathematics 112, Introduction to Statistics (4 credits)  
Athletic Training 101, Athletic Training Seminar I (2 credits)

**REC 300. Assessment and Documentation in Therapeutic Recreation 4 credits**

Students will study and explore the practice of assessment and documentation in the field of therapeutic recreation. (*Sp*) Prerequisite: none.

**REC 308. Therapeutic Recreation in Physical Rehabilitation and Behavioral Health 4 credits**

This course will focus on the study of therapeutic recreation services for individuals with physical disabilities and behavioral health disorders. (*Fa*) Prerequisite: none.

**REC 310. Facilitation Techniques in Therapeutic Recreation 4 credits**

The study of various facilitation techniques used in the field of therapeutic recreation. Specific emphasis will be placed on leisure education. (*Sp*) Prerequisite: none.

**REC 390. Recreation as a Therapeutic Intervention 3 credits**

Students will explore the current and future practice of therapeutic recreation, the values and underpinning of practice, and the inter-relationships between therapeutic

## RECREATION MANAGEMENT

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recreation professionals, other health care and human service professionals. (*Fa*)  
Prerequisite: none.

### **REC 400. Therapeutic Recreation Trends**

**3 credits**

Examination of the most current trends and issues in the field of TR. (*Su*) Prerequisite:  
REC 308 or consent of instructor.

### **REC 405. Recreational Programming**

**4 credits**

This course provides students with the skills to lead and administer a variety of recreation programs. This course involves budgeting and marketing programs designed for various populations and situations. (*Fa*) Prerequisite: Senior status in Recreation Management or consent of instructor.

### **REC 410. Recreation Administration and Supervision**

**4 credits**

This course introduces students to special topics in the field of recreation. The course explores current trends in the field of recreation, management in recreation and professional writing for recreational management. (*Sp*) Prerequisite: Senior status in Recreation Management or consent of instructor.

### **REC 480. Recreation Management Internship**

**12 credits**

The purpose of this course is to enhance and develop personal growth in recreation management knowledge, ethical behaviors, career development, interpersonal skills, problem solving abilities, and personal responsibilities through participation in an internship at a recreation facility. During a 15-week internship, students will spend 30 hours/per week (450 total hours) developing, implementing, and administering recreation and outdoor adventure programs in a university affiliated recreation program. During the 15-week internship, students participating in the internship will come together for seminars. (*Su, Fa*) Prerequisites: REC 405 and 410.

**RECREATION MANAGEMENT**

**Recreation Management Four-Year Curriculum Model**

Class Standing	Fall Semester	Cr.	Spring Semester	Cr.	Summer Term	Cr.
Freshman	FYS 100 BIO 130 HSC 103 HSC 101 LSP 1,2,4,5,6,7	4 4 4 1 4	ATH 101 BIO 140 ENG 170 HSC 110 LSP 1,2,4,5,6,7	2 4 4 1 4		
		17 Cr.		15 Cr.		
Sophomore	PED 208 HSC 105 LSP 1,2,4,5,6,7 LSP 1,2,4,5,6,7 Elective	2 1 4 4 4	CSC 107 PED 102 HSC 120 MAT 112 LSP 1,2,4,5,6,7	2 2 4 4 4		
		15 Cr.		16 Cr.		
Junior	PED 214 HSC 303 HSC 322 Elective PED 324	2 4 4 4 2	PED 311 PED 312 Elective LSP 1,2,4,5,6,7 HSC 101	3 3 4 4 1		
		16 Cr.		15 Cr.		
Senior	PED 421 PED 411 ESC 315 ESC 407 REC 405	4 4 1 3 4	ESC 435 REC 410 Elective Elective	1 4 4 4	REC 480	12
		16 Cr.		13 Cr.		12 Cr.
Revised 4/4/08				134		

## RECREATION MANAGEMENT

### Recreation Management Four-Year Plan Therapeutic Recreation Emphasis

Class Standing	Fall Semester	Cr.	Spring Semester	Cr.	Summer Term	Cr.
Freshman	FYS 100 BIO 130 HSC 103 LSP 1,2,4,5,6,7	4 4 4 4	ATH 101 BIO 140 ENG 170 HSC 110 LSP 1,2,4,5,6,7	2 4 4 1 4		
		16 Cr.		15 Cr.		
Sophomore	PED 208 HSC 105 LSP 1,2,4,5,6,7 PSY 101 REC 390	2 1 4 4 3	CSC 107 PED 102 HSC 120 MAT 112 HSC 101 LSP 1,2,4,5,6,7	2 2 4 4 1 4		
		14 Cr.		17 Cr.		
Junior	PED 214 HSC 303 HSC 322 REC 308	2 4 4 4	PED 311 PED 312 ESC 324 LSP 1,2,4,5,6,7 REC 300	3 3 2 4 4		
		14 Cr.		16 Cr.		
Senior	PSY 201 PED 411 ESC 315 ESC 407 REC 405	4 4 1 3 4	PED 421 LSP 1,2,4,5,6,7 ESC 435 REC 410 REC 310	4 4 1 4 4	REC 480	12
		16 Cr.		17 Cr.		12 Cr.
Revised 2/2/09				137		

**Therapeutic Recreation Emphasis**  
Bachelor of Science

**Stephen J. Dannhoff**

Assistant Professor of Physical/Health  
Education and Recreation  
Management

**Patti Smith**

Clinical Assistant Professor  
Therapeutic Recreation Program,  
University of Wisconsin -Milwaukee

Carroll University offers an opportunity to receive an emphasis in Therapeutic Recreation in collaboration with the University of Wisconsin-Milwaukee. Students majoring in Recreation Management are thought to be the primary users of this certification route; however other student may opt to use this course sequence. Exercise Science, Nursing, Physical Education or Psychology majors are well prepared and alternative courses of study. Courses in collaboration with the University of Wisconsin-Milwaukee are done in an online format.

Therapeutic Recreation, also known as recreation therapy, is a unique profession that utilizes recreation and activity based interventions to help improve an individual's physical, emotional, cognitive, social, spiritual and leisure functioning for optimal participation in life. The Therapeutic Recreation Specialist, also known as a Recreation Therapist, assists clients to develop skills, knowledge and behaviors for daily living and community involvement. The therapist works with the client and his/her family to incorporate specific leisure interests and community resources into therapy to achieve optimal outcomes that transfer to his/her real life situation.

This emphasis is designed for a broad audience of individuals who work with people with disabilities. The program focuses on the development of knowledge and acquisition of skills and abilities in the areas of Health and Therapeutic Recreation. In preparation for the nationally recognized certification examination, coursework covers topic areas included in the National Council for Therapeutic Recreation Certification Job Analysis categories. Courses present the concepts of health, wellness, disease and illness in relation to quality of life for individuals with disabilities. Specific skill development in the areas of assessment and facilitation techniques is also taught and complemented with an ongoing focus on emerging issues in the field of therapeutic recreation.

Completion of this emphasis allows the individual to meet one portion of the academic coursework required for the credential as a Certified Therapeutic Recreation Specialist with National Council for Therapeutic Recreation Certification. Additional requirements are needed to fully qualify for the credential. The individual must take responsibility to meet the additional requirements to be eligible to sit for the CTRS certification exam. The additional requirements include supportive coursework, a minimum of a bachelor's degree, and one year of direct care experience under the direction

## RECREATION MANAGEMENT

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of a Certified Therapeutic recreation Specialist. Completion of these requirements will meet Equivalency Path B of the National Council for Therapeutic Recreation Certification requirements for exam eligibility. Please refer to the National Council for Therapeutic Recreation Certification Standards for additional information.

### **Emphasis Certification Coursework**

18 credits of supported courses are required in Therapeutic Recreation or Recreation Management. 12 of those 18 credits must be Therapeutic Recreation specific. All courses with an asterisk are offered online only, in collaboration with UW-Milwaukee. Recreation 405 and 410 are currently offered on campus and required in Recreation Management major. Specific course descriptions are located in the Recreation Management section of catalog.

- REC 390, Topics in TR: Recreation as a Therapeutic Intervention (3 credits)
- REC 300, Therapeutic Recreation Assessment and Documentation (4 credits)
- REC 308, Therapeutic Recreation in Physical Rehabilitation and Behavioral Health (4 credits)
- REC 310, Facilitation Techniques in Therapeutic Recreation (4 credits)
- REC 400, Therapeutic Recreation Trends (3 credits)
- REC 405, Recreational Programming (4 credits)
- REC 410, Recreation Administration and Supervision (4 credits)

### **Required Emphasis Support Courses**

*(Required supportive coursework for CTRS Exam)*

- BIO 130, Anatomy & Physiology I (4 credits)
- BIO 140, Anatomy & Physiology II. (4 credits)
- HSC 120, Fundamental Motor Development (4 credits)
- PSY 101, Intro to Psychology (4 credits)
- PSY 201, Abnormal Psychology (4 credits)

**Possible Four Year Plan**

Therapeutic Recreation emphasis may be combined with Major in Recreation Management, Additional 4 year plans done with student's adviser.

<u>YEAR</u>	<u>FALL</u>	<u>WINTER</u>	<u>SPRING</u>	<u>SUMMER</u>
Freshman	BIO 130		BIO 140	
Sophomore	REC 390 PSY 101		HSC 120	
Junior	REC 308		REC 300	
Senior	REC 405 PSY 201		REC 310	

Following graduation students will need to work for 1 year with Certified Therapeutic Recreation Specialist to be eligible for Certified Therapeutic Recreation Specialist Exam.

# DIVISION OF NATURAL AND HEALTH SCIENCES

# SOFTWARE ENGINEERING AND

# APPLIED MATHEMATICS

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**John Symms**

Associate Professor of Mathematics

This interdisciplinary major is designed for students with a strong interest both in Computer Science and in Mathematics. Thus, the learning outcomes for the programs are those of the Computer Science and Mathematics programs (see pages 252 and 172). The program provides an in-depth foundation in both software engineering and the mathematics that underpins it, showcasing the links between the two disciplines. Students who pursue this major graduate and work in the field of software development or they may decide to pursue further education in graduate school in either computer science or industrial mathematics.

## **Bachelor of Science**

Computer Science 110, Problem Solving through Programming

Computer Science 111, Introduction to Java

Computer Science 226, Data Structures Using Java

Computer Science 271, Computer Organization

Computer Science 272, Computer Architecture

Computer Science 323, Programming Languages

Computer Science 341, Software Design and Development

Computer Science 351, Database Design

Computer Science 440, Software Engineering

Computer Science 450, Projects for Computer Science Majors

Mathematics 160 and 161, Calculus I and II

Mathematics 205, Discrete Mathematics or

Mathematics 206, Transition to Advanced Mathematics

Mathematics 207, Calculus III

Mathematics 208, Linear Algebra

Mathematics 309, Differential Equations

Mathematics 312, Theory of Probability and Statistics

Mathematics 324, Numerical Analysis

# DIVISION OF NATURAL AND HEALTH SCIENCES

## SPORTS NUTRITION

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**Brian P. Edlbeck**

Clinical Assistant Professor

**Jamie L. Krzykowski**

Clinical Assistant Professor

Program Goals: The overall goal of the Sports Nutrition minor is to provide the student with information on the combination of sound nutrition and exercise principles to improve both sports performance and health. A further goal is to give the student tools to make decisions on sports nutrition information presented in the popular media and effectively work with a client on unique sports related needs.

### Learning Outcomes for Sports Nutrition

Upon completion of the sports nutrition minor program, the individual:

1. Will be able to effectively evaluate popular nutrition claims.
2. Will be able to identify and evaluate related research.
3. Will be able to effectively assess a client's needs and prescribe appropriate nutrition and exercise programs.
4. Will be able to communicate effectively to the client.

### Sports Nutrition Minor (Major not offered)

Courses required for the Minor		Credits
CHE 208	Nutrition	3
OR		
HED 201	Nutrition	2
ESC 210	Exercise Testing and Prescription	3
ESC 201	Sports Nutrition	4
ESC 202	Advanced Sports Nutrition	4
ESC 303	Nutrition Assessment and Prescription	3
ESC 304	Nutrition and Fitness for Special Populations	3
ESC 305	Supplements for Sport Performance	2
Total Credits		21-22

### Sports Nutrition Minor Timetable

Year	Fall	January	Spring	May
Freshman			BIO 140*	
Sophomore	CHE 208 (or HED 201)		ESC 210	
Junior	ESC 201	ESC 303	ESC 202	ESC 304
Senior		ESC 305		

\*Prerequisite for ESC 210 and Advanced Sports Nutrition

# DIVISION OF PROFESSIONAL AND GRADUATE STUDIES

# ACCOUNTING

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Jeffrey T. Kunz

Assistant Professor

Gary L. Olsen

Associate Professor

## Preparing Accounting Professionals for Global Challenges

The Accounting Program provides superior educational opportunities that increase students' professional effectiveness and career success in complex business environments.

## Learning Outcomes for Accounting

Graduates of the Accounting Program are able to:

1. Define and describe accounting-related terminology and concepts.
2. Solve complex accounting problems using appropriate tools and techniques.
3. Formulate accounting policies and strategies and evaluate their effectiveness.
4. Integrate global considerations in accounting decisions.
5. Demonstrate multiple effective communication skills.
6. Work effectively in team environments.
7. Demonstrate appropriate habits, behaviors and attitudes in professional situations.

Carroll University offers two tracks in accounting for students interested in preparing for a position of leadership and responsibility in accounting in the public, private or governmental sectors of our economy.

Track #1 is designed for students wishing to complete an accounting major that will enable them, upon graduation, to obtain a position in a corporate or not-for-profit organization.

Track #2 is designed for students interested in obtaining a Certified Public Accountant (CPA) designation. Students wishing to meet the requirements to sit for the CPA exam can do so in four years by following a specified curriculum. This curriculum requires completion of 150 credit hours. With careful planning additional competencies can be gained that will allow the student to consider other certifications (described below). Students should carefully coordinate with their academic advisor if they wish to complete this track in four years.

With careful planning, the requirements for either TRACK #1 OR TRACK #2 can be completed within a four-year period (not the traditional five-year period).

**Accounting Major  
Bachelor of Science**

NOTE: Transfer students must complete a minimum of 20 credits of accounting at Carroll University.

**Core Requirements - Accounting Requirements (50 Credits)**

Accounting 205, Financial Accounting  
Accounting 207, 208, Intermediate Accounting I, II  
Accounting 305, 306, Advanced Accounting I, II  
Accounting 310, Advanced Cost Accounting and Budgeting  
Accounting 324, Advanced Business Law  
Accounting 375, Pre-Internship Seminar (2 credits)  
Accounting 405, 406, Tax Accounting I, II  
Accounting 407, Auditing  
Accounting 414, Accounting Theory  
Accounting 480, Internship (minimum of 4 credits are required)

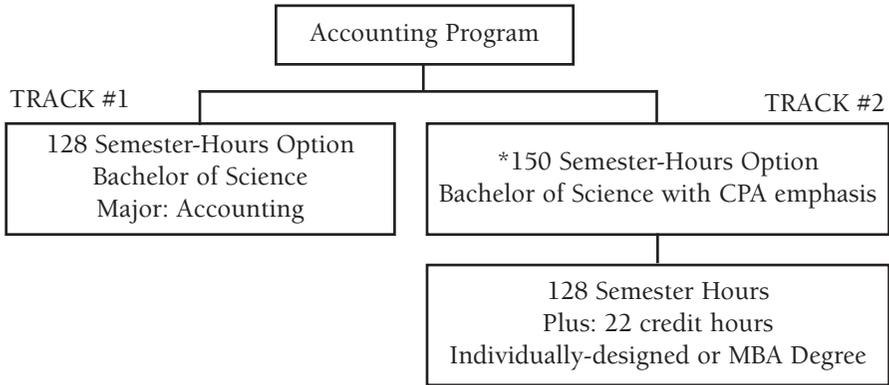
**Required Support Courses (52 Credits)**

Business 101, Introduction to Business  
Business 290, Principles of Business Law  
Business 301, Principles of Marketing  
Business 302, Principles of Management  
Business 304, Principles of Finance  
Computer Science 107, Problem Solving Using Information Technology (2 credits)  
Computer Science 109, Technological Productivity (2 credits)  
Computer Science 211, Database, Web Creation and Networks  
Computer Science 220, Information Systems  
Economics 124, Principles of Economics I – Microeconomics  
Economics 212, Applied Statistics for Business  
Economics 225, Principles of Economics II – Macroeconomics  
Mathematics 112, Introduction to Statistics  
Mathematics 140, Calculus and its Applications

**Accounting Minor (20 credits)**

Accounting 205, Financial Accounting  
Accounting 207, 208, Intermediate Accounting I, II  
Two of the following:  
    Accounting 206, Managerial Accounting  
    Accounting 305, Advanced Accounting I  
    Accounting 310, Advanced Cost Accounting and Budgeting  
    Accounting 324, Advanced Business Law  
    Accounting 405, Tax Accounting I  
    Accounting 406, Tax Accounting II

# ACCOUNTING



\*Legislation passed in Wisconsin mandates a candidate for the CPA examination complete 150 semester-hours of college credit.

TRACK #1 ACCOUNTING EMPHASIS					
Class Standing	Fall Term	Jan/Winter Term	Spring Term	Summer term	Total Hours
Freshman	BUS 101 FYS 100 LSP MAT 140* 16 credits +	(optional)	ACC 205 ECO 124 ENG 170 MAT 112 16 credits =	(optional)	32 credits
Sophomore	ACC 207 LSP BUS 290 ECO 225 CSC 107 18 credits +	(optional)	ACC 208 BUS 301 ECO 212 BUS 302 CSC 109 18 credits =	(optional)	36 credits
Junior	ACC 310 ACC 305 LSP CSC 220 ACC 375 18 credits +	(optional)	BUS 304 ACC 306 ACC 324 CSC 211 16 credits =	(optional)	34 credits
Senior	ACC 405 ACC 407 ACC 480 LSP 16 credits +	(optional)	ACC 406 ACC 414 LSP 12 credits =	(optional)	28 credit

= 130 hours

\*Note: If a student's math placement indicates that s/he is not ready for MAT 140, then s/he should take MAT 101 or MAT 130 before taking MAT 140.

- 100. Personal Finance** **2 credits**  
 The objective of the course is to provide the student with the necessary information and decision-making tools needed to manage his/her personal financial plan. For elective credit only. Open to all majors. (*Fa*)
- 105. Introduction to Accounting Basics** **2 credits**  
 The course defines accounting information, explains why it is important and describes how it is used by decision-makers. It does not cover the details of bookkeeping. (*Sp*)
- 205. Financial Accounting** **4 credits**  
 A study of the accounting cycle and extensive coverage of various financial topics such as cash, receivables, inventory, liabilities, equity, plant/equipment, and financial statements. (*Fa, Sp, Su*)
- 206. Managerial Accounting** **4 credits**  
 Study of the accounting data that aids in management decision-making. Topics covered include budgeting, break-even, costing methods, ratio analysis, cash flow, pricing, and inventory control. (*Fa, Sp, Su*) Prerequisite: ACC 205.
- 207. Intermediate Accounting I<sup>1</sup>** **4 credits**  
 Study of the development of accounting standards underlying financial statements. An in-depth review of the income statement and balance sheet. Recognition, measurement and reporting of cash, receivables, inventory, plant assets, intangibles, liabilities, revenue recognition and present value analysis. (*Fa*) Prerequisite: ACC 205.
- 208. Intermediate Accounting II<sup>1</sup>** **4 credits**  
 Recognition, measurement and reporting of stockholders' equity, earnings per share, cash flow, income tax allocation, pensions, leases, accounting changes, accounting errors and disclosure reporting. (*Sp*) Prerequisite: ACC 207.
- 305, 306. Advanced Accounting I, II** **4 credits, 4 credits**  
 A study of the principles, concepts, and procedures applied to mergers and consolidations, foreign exchange, governmental, non-profit organizations, estates and trusts, insolvency and partnerships. (*305 Fa, 306 Sp*) Prerequisite: ACC 208.
- 310. Advanced Cost Accounting and Budgeting** **4 credits**  
 Study of various costing methods and management tools to aid in the decision-making process. Topics covered are job costing, process costing, activity-based costing, standard costing, inventory planning/control, budgeting/responsibility accounting, variable/absorption costing, cost-volume-profit analysis, cost allocation, transfer pricing, capital budgeting and product/service pricing. (*Fa*) Prerequisite: ACC 205.

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<sup>1</sup> If not completed within the past five years, no credit will be granted. The student has the option of retaking the course for credit or taking an examination for credit to show mastery of the current subject matter.

## ACCOUNTING

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### 324. Advanced Business Law<sup>1</sup>

4 credits

An advanced study of the current legal environment of businesses for accounting students taking the CPA exam or students interested in a career in law. (*Sp*) Prerequisite: BUS 290 or equivalent.

### 375 (470). Pre-Internship Seminar - Capstone Course

2 credits

This course introduces students to the skills and knowledge needed to successfully compete for internship opportunities. Students develop personal action plans, resumes, interview techniques, networking, critical thinking and self-assessment skills – all crucial preparation for the job market. Junior or senior standing. (Grading is on an S/U basis.) (*Fa*)

### 405. Tax Accounting I<sup>2</sup>

4 credits

Federal and Wisconsin income tax laws and their application to individuals. (*Fa*) Prerequisite: ACC 205.

### 406. Tax Accounting II<sup>2</sup>

4 credits

Federal income tax laws and their applications to partnerships, corporations, estates, trusts, and gift and inheritance taxes. (*Sp*) Prerequisite: ACC 405 or consent of instructor.

### 407. Auditing - Capstone Course

4 credits

The study of general audit procedures, preparation of working papers, various types of reports, professional ethics and legal responsibility. Student will be expected to successfully conduct and complete a comprehensive simulated financial audit project. (*Fa*) Prerequisites: Senior standing and ACC 305, 306 or consent of instructor.

### 414. Accounting Theory - Capstone Course

4 credits

Comprehensive analysis of the theoretical structure underlying financial and managerial accounting topics. Students must integrate prior knowledge and demonstrate mastery of complex FASB/IFRS issues and updates. Case methodology, oral presentations and written summaries are used in the course. (*Sp*) Prerequisites: Senior standing and ACC 305, 306 or consent of the instructor.

### 480. Internship in Accounting - Capstone Course

1-12 credits

An opportunity for students to apply theories and concepts to actual work experience under the supervision of an external supervisor and the instructor. The purpose of the FASB/IFRS internship is to provide opportunities for students to improve managerial and leadership skills while adapting to the world of work. Consent of the instructor. Junior or senior standing. (Grading is on an S/U basis.) The course may be repeated for a maximum of 12 credits if the student has substantially different work experiences. 40 hours of work are needed for each credit.

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<sup>1</sup> If not completed within the past five years, no credit will be granted. The student has the option of retaking the course for credit or taking an examination for credit to show mastery of the current subject matter.

<sup>2</sup> If not completed within the past two years, no credit will be granted. The student has the option of retaking the course for credit or taking an examination for credit to show mastery of the current subject matter.

**481. Internship Option - Course Substitution****1-4 credits**

An additional 400 level course may be substituted for the internship when placement is not available. Senior standing and consent of the instructor. (Grading is on an S/U basis.)

**483. Internship Option - Prior Work Experience****1-4 credits**

Prior entry-level accounting experience may be substituted for the internship. Senior standing and consent of the instructor. (Grading is on an S/U basis.) Meets ACC 375 or 470 requirement.

**398/498. Independent Study****1-4 credits**

A course designed to widen the student's knowledge of accounting theory, develop the ability to study independently, and demonstrate aptitude in planning and production of original work. (*Fa, Sp, Su*) Prerequisite: Approval of the divisional dean and consent of instructor.

### **Additional certifications for accountants**

With careful planning, the 150-credit accounting curriculum (CPA Emphasis) can provide the competency needed to sit for examinations that can lead to the following professional designations:

**CIA-CERTIFIED INTERNAL AUDITOR:**

**Major:** Accounting (CPA) Emphasis

**Electives:** CSC 110, CSC 111 or CSC 112, CSC 211, CSC 271, and CSC 409.

**For more information contact:**

Institute of Internal Auditors  
249 Maitland Avenue  
Altamonte Springs, FL 32701  
407-830-7600  
[www.theiiianet.org](http://www.theiiianet.org)

**CMA-CERTIFIED MANAGEMENT ACCOUNTANT:**

**Major:** Accounting (CPA) Emphasis

**Electives:** BUS 260, BUS 341, BUS 342, ECO 343 or BUS 344 and BUS 361.

**CFM-CERTIFIED FINANCIAL MANAGER:**

**Major:** Accounting (CPA) Emphasis

**Electives:** ACC 100, BUS 341, BUS 342, ECO 343 or BUS 344, and BUS 446.

**For more information on the CMA/CFM contact:**

Institute of Certified Management Accountants  
10 Paragon Drive  
Montvale, NJ 07645-1759  
800-638-4427  
[www.imanet.org](http://www.imanet.org)

## ACCOUNTING

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### CFE-CERTIFIED FRAUD EXAMINER:

**Major:** Accounting (CPA) Emphasis

**Electives:** SOC 103, SOC 211 or SOC 212, SOC 303, SOC 304, and CHE 104.

**For more information contact:**

Association of Certified Fraud Examiner

Gregor Building

716 West Avenue

Austin, TX 78701

800-245-3321

[www.cfenet.com](http://www.cfenet.com)

Students seeking multiple certifications are encouraged to add specific electives to the 150-credit CPA Emphasis in preparation for the national exams.

# DIVISION OF PROFESSIONAL AND GRADUATE STUDIES

## BUSINESS ADMINISTRATION AND ECONOMICS

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William F. Bauer	Assistant Professor
Matthias Bollmus	Instructor
Dennis M. Debrecht	Associate Professor
Catherine E. Jorgens	Instructor
Gregory A. Kuhlemeyer	Associate Professor
Michael G. Levas	Associate Professor
Richard J. Penlesky	Professor and Chair
Debra R. Schultz	Assistant Professor
Gregory J. Schultz	Assistant Professor
Frances Tuer	Assistant Professor
Mary Ann Wisniewski	Professor

### Preparing Business Professionals for Global Challenges

The Business Program provides superior educational opportunities that increase professional effectiveness and career success in complex business environments.

### Learning Outcomes for Business Administration and Economics

Graduates of the Business Program are able to:

1. Define and describe business-related terminology and concepts.
2. Solve complex business problems using appropriate tools and techniques.
3. Formulate business policies and strategies and evaluate their effectiveness.
4. Integrate global considerations in business decisions.
5. Demonstrate multiple effective communication skills.
6. Work effectively in team environments.
7. Demonstrate appropriate habits, behaviors and attitudes in professional situations.

Students who major in Business Administration are prepared for a variety of fulfilling and challenging careers with domestic and international organizations. These organizations need articulate, well-reasoning, effective leaders to manage in business environments that are dynamic and increasingly complex.

A Carroll University business degree facilitates integration of knowledge, development of lifelong skills, career preparation, and formulation of enduring personal values. These pillars of a Carroll University education are grounded in the liberal arts and provide the foundation upon which Business programs are built. This combination of liberal and professional education has been carefully designed to enhance personal and professional success.

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## BUSINESS ADMINISTRATION AND ECONOMICS

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Courses in the Business Administration major address the theory (why?) and practice (how?) of business decision-making within a global context. Courses are delivered by experienced, highly educated faculty who pay careful attention to individual student needs. Classes are often augmented and enriched by carefully selected guest speakers, videos, interactive games or exercises, and judicious use of online content and delivery. All Business Administration majors complete a common group of core and support courses. In addition, students select an in-depth area of study, called an emphasis, in one of five areas of study: entrepreneurship, finance, human resources, management or marketing.

The Business Administration major offers a variety of opportunities beyond the classroom that prepare students for successful lives and careers. All students are required to complete an internship. Internships provide realistic job previews, income and networking opportunities and, in some cases, full-time employment upon graduation. Leadership opportunities are available through a number of scholarly and professional organizations. Interaction with Carroll alums and other business leaders is fostered through a required career management course, occasional classroom visits by guest lecturers, an optional mentoring program, and other on-campus and off-campus events.

### **Business Administration Major**

#### **Bachelor of Science**

#### **Core Courses for the Major (36 credits)**

Business 101, Introduction to Business  
Business 290, Principles of Business Law\*  
Business 301, Principles of Marketing  
Business 302, Principles of Management  
Business 304, Principles of Finance\*\*  
Business 305, Principles of Operations Management  
Business 360, Career Management  
Business 480, Internship (minimum of 4 credits)  
Business 496, Business Policy

\*BUS 310 should be taken in place of BUS 290 for the Human Resource emphasis

\*\* BUS 340 should be taken in place of BUS 304 for the Entrepreneurship emphasis

#### **Required Support Courses (30 credits)**

Accounting 205, Financial Accounting  
Accounting 206, Managerial Accounting  
Computer Science 107, Problem Solving Using Information Technology (2 credits)  
Computer Science 220, Information Systems  
Economics 124, Principles of Economics I - Microeconomics (LSP 3)  
Economics 212, Applied Statistics for Business (LSP 1)  
Economics 225, Principles of Economics II - Macroeconomics (LSP 3)  
Mathematics 112, Introduction to Statistics

### **Human Resource Emphasis (16 credits)**

**Core and support courses, plus 16 credits in emphasis:**

Business 265, Human Resource Management (LSP 3)

Business 315, Organization Behavior

Communication 241, Communication and Conflict

One elective from:

Business 250, Culture and Diversity in Organizations (LSP 4)

Business 291/391, Special Topics

Communication 230, Organizational Communication

Leadership 302, Leadership: Theory and Practice

### **Management Emphasis (16 credits)**

**Core and support courses, plus 16 credits in emphasis:**

Business 315, Organization Behavior

Business 479, Consulting Management

Leadership 302, Leadership: Theory and Practice

One elective from:

Business 250, Culture and Diversity in Organizations (LSP 4)

Business 260, Ethics in Business, Government, and Society (LSP 7)

Business 265, Human Resource Management (LSP 3)

Business 291/391, Special Topics

### **Marketing Emphasis (18-20 credits)**

**Core and support courses, plus 18-20 credits in emphasis:**

Business 320, Promotion Management

Business 327, Business-to-Business Marketing

Business 435, Marketing Research

Management track (choose two)

Business 291/391, Special Topics

Communication 208, Introduction to Public Relations

Psychology 228, Consumer Behavior<sup>1</sup>

Promotion Management track (choose two)

Business 291/391, Special Topics

Communication/Art 258, Visual Communication

Graphic Communication 106, Introduction to Communication Technology

Graphic Communication 150, Digital Toolbox: Photoshop and Illustrator I

Graphic Communication 360, Digital Flash Gaming

General track (choose two)

Business 291/391, Special Topics

Communication 208, Introduction to Public Relations

Communication/Art 258, Visual Communication

Graphic Communication 106, Introduction to Communication Technology

Graphic Communication 150, Digital Toolbox: Photoshop and Illustrator I

Psychology 228, Consumer Behavior<sup>1</sup>

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<sup>1</sup> Note that PSY 101 is a prerequisite for PSY 228.

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**Finance Emphasis (20 credits)**

Core and support courses, plus 20 credits in emphasis:

Investment Track<sup>1</sup>

Business 200, Personal Financial Management

Business 342, Investment Management

Business 446, Applied Portfolio Management

Two electives from:

ACC 405, BUS 291/391, BUS 341, BUS 344, BUS 356, ECO 343

Financial Institutions Track<sup>2</sup>

Economics 343, Money and Banking

Business 344, Management of Financial Institutions

Business 356, Applied Financial Management

Two electives from:

ACC 207, BUS 291/391, BUS 341, BUS 342, BUS 446, ECO 307

Corporate Track<sup>2</sup>

Business 341, Applied Risk Management

Business 342, Investment Management

Business 356, Applied Financial Management

Two electives from:

ACC 207, BUS 291/391, BUS 344, BUS 446, ECO 306, ECO 343

<sup>1</sup>Recommended minors: Accounting, Psychology or Economics

<sup>2</sup>Recommended minors: Accounting or Economics

**Entrepreneurship Emphasis (16 credits)**

Core and support courses, plus 16 credits in emphasis:

Business 204, Start-ups and New Venture Planning

Business 475, Managing Growth in Entrepreneurial Companies: Venture Development

Business 479, Consulting Management

Business 485, Organizational Strategy and Social Entrepreneurship

**Business Minors**

There are four Business minors: entrepreneurship, finance, management and marketing. Each minor provides in-depth understanding in the respective business discipline. Business minors are intended for non-business majors who may ultimately assume business responsibilities in the private or public sector.

Students majoring in Business Administration are not eligible to complete Business minors. However, they may complete the Economics minor and/or the Global Studies minor. Descriptions of these minors appear later in this section.

**Business Marketing Minor (20 credits)**

Business 101, Introduction to Business

Business 301, Principles of Marketing

Business 302, Principles of Management

Business 320, Promotion Management  
Business 327, Business-to-Business Marketing or  
Psychology 228, Consumer Behavior<sup>1</sup>

**Business Management Minor (20 credits)**

Business 101, Introduction to Business  
Business 265, Human Resource Management (LSP 3)  
Business 302, Principles of Management  
Business 315, Organization Behavior  
Leadership 302, Leadership: Theory and Practice

**Business Finance Minor (20 credits)**

Business 101, Introduction to Business  
Business 304, Principles of Finance<sup>2</sup>  
Business 342, Investment Management  
Business 344, Management of Financial Institutions  
One elective from:

Business 341, Applied Risk Management  
Business 356, Applied Financial Management  
Business 361, International Business  
Business 446, Applied Portfolio Management  
Economics 343, Money and Banking

**Business Entrepreneurship Minor (24 credits)**

Accounting 205, Financial Accounting  
Business 101, Introduction to Business  
Business 204, Start-ups and New Venture Planning  
Business 340, Entrepreneurial Finance: Financing Start-ups and the Growing Firm  
Business 475, Managing Growth in Entrepreneurial Companies: Venture Development  
Business 485, Organizational Strategy and Social Entrepreneurship

**101. Introduction to Business**

**4 credits**

This course is designed to define and describe business-related terminology and concepts and expose students to the various subjects covered in the business world. Topics covered include the global perspective of business; environmental issues; current business practices; marketing, management, finance, accounting, information systems, and the impact of the Internet on business. (*Fa, Sp, Su*)

**200. Personal Financial Management**

**4 credits**

Broad coverage of personal financial decisions including financial planning, tax planning, managing savings and other liquid accounts, buying a house, use of credit, insurance, managing investments and saving for retirement. In the course, each student develops an effective personal financial plan. (*Fa, Wn, Su*)

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<sup>1</sup> Note that PSY 101 is a prerequisite for PSY 228.

<sup>2</sup> Note that BUS 304 has a prerequisite of ACC 206 or ACC 310 and a co-requisite of ECO 212 or MAT 312. This minor best fits Accounting and Actuarial Science majors.

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## BUSINESS ADMINISTRATION AND ECONOMICS

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### 204. Start-ups and New Venture Planning

4 credits

Students study entrepreneurial behavior, self-assess their entrepreneurial potential, learn how to identify new venture opportunities (not ideas), become a founder and/or organize a founder team, design the firm's organizational structure, write an effective business plan, present their plan to prospective investors, and manage the start-up phase of a new venture. (Fa) Prerequisite: BUS 101.

### 250. Culture and Diversity in Organizations

L4

4 credits

This course aids in understanding the complexities of diversity and cultural differences, increasingly important components for success in organizations. It examines the elements of managing and understanding diversity in foreign environments where cultural difference is the norm for international business. The course looks at diversity at home and abroad in an attempt to better understand, appreciate, and value the variety of differences. (Fa, Sp, Su, WW)

### 260. Ethics in Business, Government and Society

L7

4 credits

An interdisciplinary course that deals with the nature and scope of business/government relationships. The emphasis is on ethical and social issues affecting society's stakeholder groups (consumers, owners, employees, communities and environmentalists) and the challenges for business in the future. It encourages comparative analysis of business ethics with the moral standards of the world community. (Fa, Sp, Su, WW)

### 265. Human Resource Management

L3

4 credits

The study of managerial responsibilities for human resources in the areas of productivity, quality of work life, compensation and job design. The course material deals with the recognition that an organization's most valuable resource is its personnel. The course is consistent with the systems orientation of human resource management, which recognizes the interrelationship of the personnel functions. (Fa, Sp)

### 290. (303) Principles of Business Law

4 credits

A study of the legal environment including the nature and sources of law, court systems, litigation, and alternative dispute resolution; constitutional and administrative law, tort law and product liability, contract law, agency law; business organizations; business ethics and social responsibility; international law; and selected topics of government regulation of business including antitrust law, employment law, environment law, and securities regulation. (If not completed within the past five years, no credit will be granted. The student has the option of retaking the course for credit or taking an examination for credit to show mastery of the current subject matter.) (Fa, Sp, Su) Prerequisite: sophomore standing.

### 291/391. Special Topics

1-4 credits

A study of selected processes, developments, problems or issues in business administration or economics that are not covered in other courses. Changing topics may be drawn from any area of business administration. Courses may be repeated for credit with changed topics.

**301. Principles of Marketing****4 credits**

The marketing process is analyzed as part of our socio-economic system that anticipates and satisfies consumer needs, adjusts to demand and sales, and procurement of goods and services. Topics include the marketing concept, new product development, channels of distribution, pricing, promotion and Internet marketing. (*Fa, Sp, Su, WW*) Prerequisite: BUS 101.

**302. Principles of Management****4 credits**

Examines the theory, techniques, and applications of management systems. Planning, organizing, leading, and controlling are issues addressed. Topics include environmental influences, organization design and structure, motivation, total quality management, ethics, production and international management. Emphasis is on learning through application. (*Fa, Sp, Su, WW*) Prerequisite: BUS 101.

**304. Principles of Finance****4 credits**

An analysis of the three functional and interrelated areas of finance: (1) financial institutions and markets, (2) corporate financial management, and (3) the investment management environment. The purpose of this course is to give all business students an expansive as well as applied understanding of the role of finance in business. Greater emphasis is placed on corporate financial management. (*Fa, Sp, Su*) Prerequisites: ACC 206 or ACC 310 and junior standing. Co-requisites: ECO 212 or MAT 312.

**305. Principles of Operations Management****4 credits**

This course provides a survey of the operations function within a variety of enterprises and an understanding of how the design, operation and control of systems can most effectively provide goods and services. Topics include operations strategy, process selection, quality management and control, supply chain management, forecasting, scheduling, inventory planning and control, and lean systems. (*Fa, Sp, Su*) Prerequisites: BUS 101, MAT 112 and junior standing.

**310. Employment and Labor Law****4 credits**

A study of labor law as it affects labor relations and the work environment. Legal areas covered include federal legislation, judicial rulings and federal agency guidelines as they pertain to human resource decisions. A portion of the semester is spent on labor negotiations. The National Labor Relations Act is studied in detail. (*Sp - offered only in the evening*). Prerequisite: junior standing.

**315. Organization Behavior****4 credits**

An experiential approach to current theory, research, and practices regarding variables that influence behavior in complex organizations. Emphasis is placed on self-managed work teams, total quality management, motivation, development, change and other models relevant to the human condition in organizations. (*Fa, Sp*) Prerequisite: BUS 302.

**320. Promotion Management****4 credits**

Development and control of the managerial structure for the elements involved in the marketing promotion function. Areas of concern are the relationship between the customer's needs and behavior, the corporation's approach to promotion, and the analy-

## **BUSINESS ADMINISTRATION AND ECONOMICS**

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sis of organizational structure alternatives in the marketing promotional area. An integrated marketing perspective is utilized. (*Sp*) Prerequisite: BUS 301.

### **327. Business-to-Business Marketing**

**4 credits**

Analysis of the problems of marketing industrial goods. Particular attention given to acquiring market information, marketing planning, methods of distribution, pricing, and the promotional challenges of industrial marketing. Personal selling techniques and sales management are also covered. (*Sp*) Prerequisite: BUS 301.

### **340. Entrepreneurial Finance: Financing Start-ups and the Growing Firm**

**4 credits**

Students learn the forms of financing a start-up, including personal sources, community banks, asset-backed borrowing, and U.S. Small Business Administration (SBA) loans. These financing needs change and evolve as the firm grows; they include bridge financing, angel investors, leveraged buyouts (LBOs), limited partnerships, franchising, mergers, acquisitions, private equity investors and initial public offerings (IPOs). (*Sp*) Prerequisites: ACC 205, BUS 204 and junior standing.

### **341. Applied Risk Management**

**4 credits**

An introductory course covering the basics of business risk management. This course provides an overview of the nature, process, and methods of dealing with risk. Students study traditional insurance contracts, as well as all other forms of transference (non-insurance), as risk management tools in the business world. (*Sp*) Prerequisite: BUS 304.

### **342. Investment Management**

**4 credits**

A study of financial instruments, the markets in which they trade, and their use in developing basic portfolios. A key emphasis of this course involves the valuation decision process of fundamental analysis and its application towards portfolio management. In addition, topics such as investing risks, efficient markets, and the use of fixed-income securities in portfolio management are examined. (*Fa*) Prerequisite: BUS 304.

### **344. Management of Financial Institutions**

**4 credits**

A study of the decision making process of depository financial intermediaries such as commercial banks, credit unions, insurance companies, and savings and loan associations. A primary emphasis is on commercial bank management. Topics covered in the course are related to asset and liability management, capital formation, bank regulation, interest rate risks, and other banking innovations and functions. (*Fa*) Prerequisite: BUS 304.

### **356. Applied Financial Management**

**4 credits**

A case-study format that applies the principles and models of financial management to current business problems. All students are expected to be involved in detailed discussions of the case issues on a daily basis. In addition, ethical, moral, and social issues are addressed, where appropriate, with topics related to working capital management, capital budgeting, dividend, capital structure, financing decisions, and firm valuation. Computer technologies are used extensively to analyze issues related to case studies and the presentation of those results. (*Sp*) Prerequisites: BUS 304 and senior standing.

**360. (275, 375) Career Management****4 credits**

This course provides students with the tools necessary to succeed in their future careers. Students develop their business writing and communication skills as well as prepare a career action plan and resume. Networking, interviewing techniques, team work, critical thinking and self-assessment skills are also addressed as students prepare for entering the job market upon graduation. Prerequisite: junior standing.

**361. International Business****4 credits**

Every person has three roles in a global economy: consumer, worker, and citizen. International Business provides a foundation for becoming informed about the global business environment. Important topics in this course include economic, cultural and political factors that affect international business. Students gain an understanding and appreciation for a diverse society. Business structures, trade relations, international financial transactions, legal agreements, and global entrepreneurship are highlighted. The course focuses on the challenges of managing global organizations. (*Fa, even years*) Prerequisites: BUS 101. It is also recommended that BUS 301-305 be completed.

**435. (335) Marketing Research****4 credits**

Study of the research process as an aid to data analysis in marketing management. Emphasis on the planning of research and the gathering, quantitative analysis, and interpretation of information with emphasis on net based research and primary data collection. (*Fa*) Prerequisites: BUS 301, ECO 212 and senior standing.

**446. (346) Applied Portfolio Management****4 credits**

The application of investment theories and practices towards the effective creation and management of portfolios. The course covers key topics ranging from modern portfolio theory, fixed-income and equity portfolio management, the use of derivative securities, and risk management. Students are required to create and maintain hypothetical portfolios for specific institutional client purposes. (*Sp, odd years*) Prerequisites: BUS 304, BUS 342 and senior standing.

**475. Managing Growth in Entrepreneurial Companies:  
Venture Development****4 credits**

Students learn how the nature and challenge of an entrepreneurial business changes as it moves beyond the start-up phase. The primary task during the growth phase is to build an organizational structure capable of managing growth and ensuring that the organization can sustain growth as the competitive environment changes. (*Fa*) Prerequisites: BUS 340 and senior standing.

**479. (390) Consulting Management****4 credits**

An integrative course intended to give students the opportunity to solve actual management problems in organizations. Class members form teams and establish a “work world” symbiotic relationship with a local business firm while acting as consultants to the assigned client. Total quality management and a team approach are emphasized. (*Fa, Sp*) Prerequisites: BUS 302 and senior standing.

### 480. Internship in Business

1-12 credits

An opportunity for students to apply theories and concepts to actual work experiences under the supervision of an external supervisor and the instructor. The purpose of the internship is to provide opportunities for students to improve managerial and leadership skills while adapting to the world of work. Students may substitute equivalent work experience or complete a work project with prior written approval of the instructor. (*Fa*, *Sp*, *Su*) Prerequisites: Junior standing required, Senior standing recommended, and approval of the instructor. The course may be repeated for a maximum of 12 credits given the student has substantially different work experiences. 40 hours of work are needed for each credit. Minimum of 4 credits is required. S/U graded.

### 483. Internship Option – Prior Work Experience

4 credits

Sufficient prior managerial experience may be substituted for the internship. Prerequisites: Senior standing and approval of the Director of Internships.

### 485. Organizational Strategy and Social Entrepreneurship

4 credits

The student learns how to develop the organizational vision, its mission, goals, strategies, tactics and action plans. The course includes discussion on innovative, value-driven organizations that include civic missions or social purposes. (*Sp*) Prerequisites: BUS 475 and senior standing.

### 496. Business Policy

4 credits

A study of the process of decision-making and the development of business policies and strategies through the use of a business simulation game in a team-building environment. (*Fa*, *Sp*) Prerequisites: BUS 101, 301, 302, 304, 305, senior standing or consent of instructor.

### 398/498. Independent Study

1-4 credits

A course of study designed to widen the student's knowledge of business, organizational, and system theory. This develops the ability to study independently and demonstrate aptitude in the planning and production of original work. (*Fa*, *Sp*, *Su*) Prerequisites: Junior/Senior standing respectively, approval of the divisional dean and consent of instructor.

## Economics Minor

The Economics minor is intended for students who seek better understanding of how individuals and societies choose to employ scarce resources in the production, distribution and consumption of goods and services. This understanding facilitates application of economic principles to business and public-sector decision-making in domestic and global settings. All Carroll University students are eligible to complete the Economics minor.

Economics 124, Principles of Economics I – Microeconomics

Economics 225, Principles of Economics II – Macroeconomics

Economics 306, Microeconomic Theory

Economics 307, Macroeconomic Theory

One elective in Economics numbered above 300

- 105. History of Economic Thought** L6 4 credits  
A survey of major schools of economics and trends in economic thought from the time of mercantilism to the present. Emphasis is on the ideas and writings of Smith, Malthus, Ricardo, Marx, Keynes, and selected contemporary economists such as Galbraith and Friedman. (*Fa*)
- 110. Introduction to Economics** L3 4 credits  
This is a survey course designed to give the student a basic understanding of micro-economics and macroeconomics. The course provides an overview of the important topics of these two broad fields of economics. This course is open to non-business majors or to anyone interested in a basic understanding of economics. This course cannot be taken after a student has completed both ECO 124 and ECO 225. (*Sp*)
- 124. Principles of Economics I - Microeconomics** L3 4 credits  
An intensive analysis of the microeconomics theory that explains the market's determination of prices, resource allocation, and distribution of goods and services. (*Fa, Sp, Su, WW*)
- 212. Applied Statistics for Business** L1 4 credits  
This course builds on subject matter covered in MAT 112. Topics include one-sample and two-sample hypothesis testing, decision-making using payoff tables, ANOVA, non-parametric hypothesis testing, and regression. (*Fa, Sp, Su*) Prerequisite: CSC 107 and MAT 112 or equivalent.
- 225. (125) Principles of Economics II - Macroeconomics** L3 4 credits  
An intensive analysis of the macroeconomic theory that explains the aggregate behavior of our economy and its public and private policy implications. (*Fa, Sp, Su, WW*) Prerequisites: sophomore standing.
- 306. Microeconomic Theory** 4 credits  
An examination of modern price theory with specific emphasis on consumer demand, production and cost, the firm and market organization, and theory of distribution. (*Fa, odd years*) Prerequisite: ECO 124.
- 307. Macroeconomic Theory** 4 credits  
A study of the analytical core and the central issues of the measurement and determination of the level of national income, fluctuations, and growth. Fiscal and monetary policy effects on unemployment and inflation are examined. (*Sp, even years*) Prerequisite: ECO 225.
- 343. Money and Banking** 4 credits  
The nature of money, the behavior of commercial banks, and the function of the Federal Reserve System are examined. The role of money in the economy is analyzed within the framework of the classical, Keynesian, and monetarist theories of the demand for money. (*Sp, odd years*) Prerequisite: BUS 304.

**363. International Economics**

**4 credits**

A survey of the global economy, with emphasis on international trade theory, international finance, monetary markets, commercial policies, economic integration, and major international institutions. (*Sp, even years*) Prerequisite: ECO 124 or ECO 225.

**Global Studies Minor—International Business Track**

The International Business track of the Global Studies minor addresses political, economic and business issues that affect global commerce. A full description of the minor appears in the Politics and Global Studies section of the catalog. Business Administration majors are eligible to complete the Global Studies minor.

# DIVISION OF PROFESSIONAL AND GRADUATE STUDIES

## COMPUTER SCIENCE and INFORMATION TECHNOLOGY

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<b>Chenglie Hu</b>	Professor
<b>Gerald L. Isaacs</b>	Professor
<b>Michael G. Konemann</b>	Associate Professor
<b>Lopamudra Roychoudhari</b>	Visiting Assistant Professor

### **Mission Statement**

In accordance with the mission of Carroll University, the Computing and IT Programs provide an excellent and state-of-the-art educational opportunity for students based on their individual skill sets, interests and career goals in the areas of modern software development business problem solving and IT problem solving with the most current IT skills and technologies in supporting computing needs and infrastructure of any organization. Both programs enable students to combine their theoretical and technical understanding with their broad-based liberal-arts education to think analytically and critically when designing and implementing software or IT solutions.

### **Learning Outcomes for Computer Science Major**

Graduates of the Computer Science Program are able to:

1. Problem-solve (for business, scientific, Web, and recreational problems) through programming using multiple programming paradigms, enterprise resources, different software development frameworks, sound software design techniques and software engineering practices.
2. Successfully work in or be adapted to an organization in any business setting to meet technology challenges.
3. Further their academic pursuits and meet challenges in graduate schools by having the necessary body of theory that underpins the discipline of computer science.
4. Demonstrate an understanding of ethics as it applies to the discipline of computer science.
5. Work effectively as part of a team.

### **Learning Outcomes for Information Technology Major**

Graduates of the Information Technology Program are able to:

1. Think creatively and analytically in technological problem-solving.
2. Problem-solve using productivity software and through computer programming.
3. Demonstrate an understanding of information system and technology evaluation and management.
4. Demonstrate an understanding of the application of new and developing technologies with sensitivity for security and ethical issues at global, societal, organizational, and personal levels.
5. Work effectively as part of a team.

## COMPUTER SCIENCE

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The Computer Science and IT programs are grounded in the liberal arts tradition, balance theory and practice, and focus on the problem-solving skills necessary for life-long learning in a field characterized by rapid change in technology. We succeed in our mission by preparing our students through classroom work and appropriate external internships to secure fulfilling careers in the field of their choosing.

The world has been in an era of rapid technological advancement. The Internet and World Wide Web have increasingly become critically important in corporate strategies, people's social lives and personal development. We recognize this by integrating the latest technologies into the curricula. The curricula are designed to emphasize problem solving, multiple programming paradigms, and higher order thought processes that will always be needed by corporate America under any business models.

Several emphases and minors are available within the computer science or information technology program. Each allows students to begin taking required major courses during the fall semester of the freshman year.

Computer Science majors may select the:

- Software Engineering emphasis if interested in developing the skills necessary to design and build large and reliable software systems.
- Information Systems emphasis if they desire to work as system analysts in business.
- ABET-suggested curriculum emphasis if they wish to have a broader background in mathematics and natural sciences, in particular if they desire to further their study of computer science in graduate schools. This emphasis is designed based upon the computer science curriculum standards set by the Accreditation Board for Engineering and Technology. (ABET)

Information Technology majors may select the:

- Web Application Development emphasis if they wish to work as developers of Web applications, as network or database administrators.
- Business and Social Applications emphasis if they wish to work technologically as analysts in a business or social environment.
- Computer Networking emphasis if they wish to work as a computer network specialist to design computer networks, manage network security, and improve business data communications.

Computer Science or Information Technology minors complete the same core minor courses and select an additional set of courses based on personal interests.

Additionally, one interdisciplinary major in Software Engineering and Applied Mathematics (SEAM) is available and described in a separate section of the catalog. SEAM presents students solid foundation in software engineering, grounded in a mathematical infrastructure. Our programs have close ties with local industry and offer students the opportunity to participate in paid internships or cooperative programs with various companies for university credit.

Computer science and information technology students at Carroll work on state-of-the-art computing facilities with the latest software application packages. They have access to Microsoft, Macintosh, and Unix/Linux computing platforms, and Oracle or Microsoft SQL Server Database Management Systems via the campus-wide network. There is equipment exclusively available for the use of computer science and information technology majors.

### **Computer Science Major (64 to 80 credits)** **Bachelor of Science**

Students with any major emphasis must complete 16 credit hours of core courses for the Computer Science major along with the emphasis support and required support courses of their chosen emphasis in addition to all other university requirements.

#### **Core Courses for the Computer Science Major (16 credits)**

Computer Science 111, Introduction to Java  
Computer Science 226, Data Structures Using Java  
Computer Science 341, Software Design and Development  
Computer Science 450, Projects for Computer Science Majors

#### **Software Engineering Emphasis (48 additional credits)**

##### **CSC Support Courses for the Emphasis (32 credits)**

Computer Science 107, Problem Solving Using Information Technology (2 credits)  
Computer Science 109, Technological Productivity (2 credits)  
Computer Science 110, Problem Solving through Programming  
Computer Science 211, Database, Web Creation and Networks  
Computer Science 271, Computer Organization (2 credits)  
Computer Science 272, Computer Architecture (2 credits)  
Computer Science 323, Programming Languages  
Computer Science 351, Database Design  
Computer Science 440, Software Engineering  
Computer Science 480, Internship in Computer Science

##### **Required Support Courses (16 credits)**

Communication 101, Principles of Communication  
Mathematics 160 and 161, Calculus I and II or  
Mathematics 140 and Mathematics 112  
Mathematics 205, Discrete Mathematics

#### **Information Systems Emphasis (56 additional credits)**

##### **CSC Support Courses for the Emphasis (28 credits)**

Computer Science 107, Problem Solving Using Information Technology (2 credits)  
Computer Science 109, Technological Productivity (2 credits)  
Computer Science 110, Problem Solving through Programming  
Computer Science 211, Database, Web Creation and Networks  
Computer Science 220, Information Systems  
Computer Science 351, Database Design

## COMPUTER SCIENCE

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Computer Science 409, Information Technology Management in an  
E-Commerce World  
Computer Science 480, Internship in Computing

### **Required Support Courses (28 credits)**

Accounting 205, Financial Accounting  
Business 101, Introduction to Business  
Communication 101, Principles of Communication  
Economics 110, Introduction to Economics  
Mathematics 112, Introduction to Statistics  
Mathematics 140, Calculus and its Applications  
Mathematics 205, Discrete Mathematics

### **ABET\*-Suggested Curriculum Emphasis (64 additional credits)**

#### **CSC Support Courses for the Emphasis (28 credits)**

Computer Science 271, Computer Organization (2 credits)  
Computer Science 272, Computer Architecture (2 credits)  
Computer Science 323, Programming Languages  
Computer Science 421, Algorithms

Choose four courses from the following list:

Computer Science 319, World Wide Web Programming  
Computer Science 303, Networking  
Computer Science 307, Operating Systems and Web Master Fundamentals  
Computer Science 351, Database Design  
Computer Science 431, Artificial Intelligence  
Computer Science 437, Computer Graphics  
Computer Science 440, Software Engineering  
Computer Science 436, Theory of Computation  
Computer Science 401, Network Communications Analysis  
Computer Science 402, Network Security

#### **Required Support Courses (36 credits)**

Mathematics 160, Calculus I  
Mathematics 161, Calculus II  
Mathematics 207, Calculus III  
Mathematics 205, Discrete Mathematics  
(Mathematics 206 acceptable instead of Mathematics 205 only for those who are  
pursuing a math minor)  
Mathematics 312, Theory of Probability and Statistics

Two laboratory-based science courses that are in a two-semester sequence from  
the following list (other combinations, while possible, are subject to approval):

Physics 203 and Physics 204, or  
Biology 120 and Biology 125, or  
Chemistry 101 and Chemistry 102, or  
Chemistry 109 and Chemistry 110

One additional laboratory-based science course  
Communication 101, Principles of Communication

\*ABET stands for Accreditation Board for Engineering and Technology

### **Information Technology Major (74 credits) Bachelor of Science**

Students must complete 34 credit hours of the core courses for the IT major along with 16 credit hours of the support courses and 24 credit hours of the required courses of their chosen emphasis in addition to all other university requirements.

#### **Core Courses for the Information Technology Major (34 credits)**

Computer Science 107, Problem Solving Using Information Technology (2 credits)  
Computer Science 109, Technological Productivity (2 credits)  
Computer Science 110, Problem Solving through Programming  
Computer Science 211, Database, Web Creation, and Networks  
Computer Science 220, Information Systems  
Computer Science 271, Computer Organization (2 credits)  
Computer Science 303, Networking  
Computer Science 409, Information Technology Management in an E-Commerce World  
Computer Science 451, Projects for Information Technology Majors  
Computer Science 480, Internship in Information Technology

#### **Required Support Courses (16 credits)**

Business 101, Introduction to Business  
Business 302, Principles of Management  
Communication 202, Small Group Communication  
Mathematics 112, Introduction to Statistics

#### **Web Application Development Emphasis (24 additional credits)**

Computer Science 112, Advanced Programming with C#  
Computer Science 307, Operating Systems and Web Master Fundamentals  
Computer Science 319, World Wide Web Programming  
Computer Science 351, Database Design  
Computer Science 352, Advanced Business Web Applications  
Graphic Communication 320, Introduction to Multimedia Production

#### **Business and Social Applications (24 additional credits)**

Accounting 205, Financial Accounting  
Business 301, Principles of Marketing  
Business 305, Principles of Operations Management  
Communication 370, Communication Technology and Society  
Psychology 316, Thinking, Problem Solving, and Cognition  
Sociology 217, Social Psychology

## COMPUTER SCIENCE

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### Computer Networking (24 additional credits)

- Computer Science 111, Introduction to Java  
or Computer Science 112, Advanced Programming with C#
- Computer Science 307, Operating Systems and Web Master Fundamentals
- Computer Science 304, Business Continuity Planning
- Computer Science 351, Database Design
- Computer Science 401, Network Communications Analysis
- Computer Science 402, Network Security

### Computer Science Minor (24 credits)

#### Required Core Courses

- Computer Science 111, Introduction to Java
- Computer Science 226, Data Structures using Java
- Computer Science 271, Computer Organization (2 credits)
- Computer Science 272, Computer Architecture (2 credits)
- Computer Science 341, Software Design and Development

#### Choose two courses from the following list:

- Computer Science 220
- Computer Science 303
- Computer Science 307
- Computer Science 319
- Computer Science 323
- Computer Science 351
- Computer Science 401
- Computer Science 402
- Computer Science 409
- Computer Science 421
- Computer Science 431
- Computer Science 437
- Computer Science 440

It is recommended that student refer to the following list to choose two courses based on an area of interest:

- Web Development: Computer Science 319 and Computer Science 351
- Computer Networking: Computer Science 303 and Computer Science 401
- Software Engineering: Computer Science 409 and Computer Science 440
- Computer Science Core: Computer Science 323 and Computer Science 421
- Information Systems: Computer Science 220 and Computer Science 409
- Information Technology: Computer Science 309 and Computer Science 351
- Computer Game Development: Computer Science 431 and Computer Science 437

**Information Technology Minor (26 credits)****Required Core Courses**

Computer Science 110, Problem Solving through Programming

Computer Science 211, Database, Web Creation and Networks

Computer Science 271, Computer Organization (2 credits)

Computer Science 409, Information Technology Management

**Choose three courses from the following list:**

Computer Science 111 or

Computer Science 112

Computer Science 220

Computer Science 303

Computer Science 304

Computer Science 307

Computer Science 319

Computer Science 351

Computer Science 352

Computer Science 401

Computer Science 402

Graphic Communication 295

Graphic Communication 320

Graphic Communication 360

It is recommended that students refer to the following list to choose three courses based on an area of interest:

- Web Development: Computer Science 112, Computer Science 319 and Computer Science 351
- Computer Networking: Computer Science 303, Computer Science 304 and Computer Science 401
- Server and Database Administrator: Computer Science 111 or Computer Science 112, Computer Science 309 and Computer Science 351,
- Digital Production: Graphic Communication 295, Graphic Communication 320 and Graphic Communication 360
- Network Security: Computer Science 303, Computer Science 304, and Computer Science 402

*Because of rapid advancement of computing technology, some computer science courses taken by students with one or more semester gaps between registrations (summer not included) and outside of a four year period may be subject to approval by computer science faculty before meeting graduation requirements.*

**107. Problem Solving Using Information Technology****2 credits**

This course provides a foundation in problem-solving skills using information technology. Students will use Microsoft Excel software to solve “real-world” problems. (Fa, Wn, Sp, Su)

### 109. Technological Productivity

2 credits

This course uses Microsoft Windows and the Office suite of application software as a foundation for personal and organizational productivity. Students will be presented with an overview of computing specifics at Carroll University, and when/how to take advantage of the tools available in the Office applications (Word, Access, PowerPoint). Note that Microsoft Excel is currently the focus of the CSC 107 course. (*Fa, Wn, Sp, Su*)

### 110. Problem Solving through Programming

4 credits

This course is designed as a first-semester foundation course for those students planning to major or minor in computer science and for others with an interest in the area. The course is about developing problem solving and structured programming skills, using the computer as a tool for solving problems. It covers the development of computer programs while focusing on the use of Dijkstra's structural programming principles with sequence, iteration, selection, and top-down structural program decomposition at its core. (*Fa, Sp*)

### 111. Introduction to Java

4 credits

This course studies the Java programming language, which is used to promote the student's understanding of object-oriented concepts (classes, methods, abstraction, inheritance, polymorphism, and encapsulation) in conjunction with algorithm design, style, debugging and testing. (*Sp*) Prerequisite: CSC 110.

### 112. Advanced Programming with C#

4 credits

The course has essentially the same objectives as for CSC 111 but uses the programming language C#. The course is designed to be a continuation of CSC 110, in which more advanced programming concepts, constructs, and problem solving skills are addressed. Topics include, but are not limited to, object-orientation, inheritance, polymorphism, exception handling, event-driven programming, files and streams, and collections. Fundamentals of the .NET framework may also be covered. (*Sp*) Prerequisite: CSC 110.

### 211. Database, Web Creation and Networks

4 credits

The primary objectives of this course are to develop database skills using Microsoft Access and Web development skills using HTML and Microsoft Web-authoring software Expression Web. E-commerce business problems will be solved using a web front end and database back end. A secondary objective is an introduction to networks concentrating on Ethernet and TCP/IP. Also covered is understanding the internals of personal computers to aid their purchase for home or organizational use. This course also continues the discussion on ethical use of technology. (*Fa, Sp, Su*) Prerequisite: CSC 107 or CSC 109.

### 220. Information Systems

4 credits

This course will provide the student with an understanding of the fundamental aspects of Information Systems. The student will be exposed to the various types of information systems found in a business environment; encompassing operational, tactical and strategic systems. The student will also learn of the developmental processes involved in creating, implementing and securing an information system. This class was formerly the two-credit CSC 201 and will meet this requirement from previous catalogs. (*Fa, Sp*)

**226. Data Structures Using Java****4 credits**

This course focuses on the object-oriented paradigm, with particular reference to the design and implementation of data structures such as: stacks, queues, linked lists, and trees. Java collections framework and searching algorithms are also introduced. The course builds on the concepts introduced in CSC 111 to allow students to use and write their own classes and objects. (*Fa*) Prerequisite: CSC 111 or equivalent.

**271. Computer Organization****2 credits**

This course is intended as a foundation in the installation, maintenance and support of PCs and their components. Terminology and fundamentals of the hardware, software and networks integrated with an Intel processor is to be mastered. Simulated experience with PCs and their components is the foundation of this class. (*Sp, even years*) Prerequisite: CSC 211.

**272. Computer Architecture****2 credits**

This course is the study of technology and its advancement, specifically, computer architecture. Computer architecture is the study of the structure and operation of digital computers. This study will concentrate on the acquisition, processing, storage and output of data, as well as the connection and interaction between computers. (*Sp, even years*) Prerequisite: CSC 271.

**303. Networking****4 credits**

This course provides a unified view (both theoretical and applied) of the broad field of data communications and networking. Topics: data transmission, data encoding, data link control, multiplexing, circuit switching, packet switching, radio and satellite networks, local area networks (LANs), wide area networks, and protocols. Networking trends for the future will be covered. (*Fa*) Prerequisite: CSC 211.

**304. Business Continuity Planning****4 credits**

This course is designed to help students develop the skills needed to respond to network intrusion incidents, understand the impact and plan for real life disaster recovery scenarios. Students will perform a thorough analysis of a business, prepare a Business Impact Analysis (BIA), develop a contingency plan, and understand crisis communication with employees, customers and vendors. This course will help students develop the skills needed to successfully recover from a serious incident and successfully plan for that event. (*Sp*) Prerequisite: CSC 303.

**307. Operating Systems and Web Master Fundamentals****4 credits**

This class covers the elements and design of Win32 and UNIX/Linux operating systems, the fundamentals of system administration, and the installation, configuration and maintenance of the Microsoft IIS and Apache Web Servers. Problems such as concurrence, communication, and security will be addressed. (*Fa*) Prerequisite: CSC 211.

**319. World Wide Web Programming****4 credits**

This hands-on course introduces the development of dynamic Web sites. It focuses on Web programming fundamentals and mastery of one of the current server-side technologies. The topics include, but are not limited to, CSS, JavaScript, data-handling using XML

and databases, multi-tier development environment, stateless programming, advanced development frameworks, Web services, and rich-user-experience applications. Development methodologies are also stressed. This class was formerly CSC 311 and CSC 312 and will meet those requirements from previous catalogs. (*Fa*) Prerequisite: CSC 211 and either CSC 111 or CSC 112.

### **320. Programming Using C++**

**4 credits**

This course assumes the student has had programming experience in some other language, and wishes to learn the C/C++ environment. It focuses on the object-oriented paradigm in the language C++, real-time programming, and provides an introduction to creating Windows Applications using Microsoft Visual Studio .NET. This class was formerly CSC 313 and CSC 314 and will meet those requirements from previous catalogs. (*Sp, even years*) Prerequisite: CSC 110 or equivalent.

### **323. Programming Languages**

**4 credits**

The objective of this course is to develop in students an understanding of the design and uses of different kinds of programming languages. Several programming languages will be examined including C, C++, Ada, and Lisp/Scheme. Issues considered include: the formal specification of programming language syntax, language design, translator design, and run time behavior of programs. Representatives of various kinds of languages such as assembly level, object-oriented, functional, logical, etc., are examined and students have the opportunity to solve problems in these languages. In addition, students may focus on a particular language of their choice to gain deeper understanding of its design issues. (*Sp, odd years*) Prerequisite: CSC 226.

### **341. Software Design and Development**

**4 credits**

This course presents a formal approach to state-of-the-art techniques in software design and development, and the means for students to apply the techniques. Formal models for capturing requirements for object-oriented and procedural designs are presented and used in the course. Other topics include Unified Modeling Language, Design Patterns, and various design principles and guidelines. (*Sp*) Prerequisites: CSC 226.

### **351. Database Design**

**4 credits**

The emphasis in this course is on the design and construction of databases as tools in business. Concepts covered include entity-relationship modeling, normalization, and efficient table design. Programming with SQL is stressed using a professional Database Management System. The role of databases in Web applications is particularly considered. (*Fa*) Prerequisites: CSC 111 or CSC 112 and CSC 211.

### **352. Advanced Business Web Applications**

**4 credits**

Students learn how to build web-based business applications by using the technologies introduced in CSC 319 and the skills they have developed. Students develop Web-based applications linking Web sites to back-end databases while also learning how to build distributed, component-based web applications. Web services issues will also be discussed. Applications that scale are stressed in the context of performance, business goals, security, and other relevant topics. The current Web software development principles and methodologies are also stressed. This class was formerly CSC 330 and CSC 331 and will

meet those requirements from previous catalogs. (*Sp*) Prerequisite: CSC 319 and CSC 351.

**390/490. Workshop in Computer Science and Information Technology 4 credits**

Prerequisite: Approval of the divisional dean and consent of instructor.

**391/491. Special Studies/Topics**

**1-4 credits**

This course offers a study of a selected topic not covered in regular curriculum with lectures and/or discussions. The topic will be announced prior to registration. Prerequisite: Consent of instructor.

**392/492. Seminar**

**4 credits**

This is an advanced course of study involving individual research. Discussion of this research takes place through informal group participation. Prerequisite: Approval of the divisional dean and consent of instructor.

**396/496. Research in Computer Science and Information Technology 4 credits**

Advanced research is designed to permit individual students or groups of students to undertake special projects related to their educational interests and goals. Prerequisite: Approval of the divisional dean and consent of instructor.

**398/498. Independent Study**

**1-4 credits**

Independent study is designed to offer a study of selected areas under the supervision of one or more faculty. Four credits maximum applied toward degree. Prerequisite: Approval of divisional dean and consent of instructor.

**401. Network Communications Analysis**

**4 credits**

This course teaches networking concepts by applying them to a type of network one might encounter on the job in a small-to-medium business or ISP. It prepares students to be able to make intelligent and informed decisions about moving data between locations. The course will examine both large scale communications systems such as public and private wide area networks and small scale systems such as local area networks, as well as network and protocol analysis, network management, security, and network design. This course also has a series of hands-on router and switch configuration/troubleshooting labs. (*Sp, even years*) Prerequisite: CSC 303.

**402. Network Security**

**4 credits**

This course provides students with an in-depth look at the security risks and threats to an organization's data in addition to a structured approach to address the safeguarding of critical electronic assets. The course provides the theoretical and historical background necessary to understand the various types of risks as well as practical hands-on techniques to securing your enterprise network. Throughout the course, students will be authoring a comprehensive security plan for a given corporate network scenario. Skills covered are intended for IT professionals who work in the typically complex computing environment of a medium to large company. The course is based on and will help the student prepare for the CompTIA Security+ certification exam. (*Fa, odd years*) Prerequisite: CSC 303.

### **409. Information Technology Management in an E-Commerce World 4 credits**

The emphasis of this class is on the management of information technology within an organization and the use of information technology from a strategic, tactical and operational perspective. The current trends towards e-business and e-commerce are integrated throughout. The class is concerned with the management issues surrounding information technology today. Topics include technology trends, IT planning and strategy, management of end-user computing, network management, asset protection, ethical considerations, in-house or outsourcing the hosting of a Web site, choosing a suitable host, Web site privacy issues/statements, and people management skills. (*Sp, odd years*) Prerequisite: Junior standing.

### **421. Algorithms 4 credits**

This course teaches essential strategies of algorithm design and analysis, including top-down design, divide and conquer, average and worst-case criteria, and asymptotic costs. Simple recurrence relations for asymptotic costs and choice of appropriate data structures such as arrays, lists, stacks, queues, trees, heaps, priority queues, graphs, hash tables may also be covered. Applications to sorting and searching, graph algorithms, matrix algorithms, shortest-path and spanning tree problems, and discrete optimization algorithms such as dynamic programming and greedy algorithms are also stressed. Prerequisite: CSC 226 and MAT 205.

### **431. Artificial Intelligence 4 credits**

This course provides an introduction to the basic theoretical concepts of artificial intelligence, emphasizing the role of AI techniques for game programming. Topics: history of AI, programming languages used in AI research, knowledge representation, expert systems, neural networks and learning. (*Sp, odd years*) Prerequisite: CSC 111.

### **436. Theory of Computation 4 credits**

This course is concerned with the theory of computers, i.e., the forming of several abstract mathematical models that describe computers and similar machines and their capabilities. Topics covered include: Finite Automata, Pushdown Automata, Turing machines, the Chomsky Hierarchy and P and NP problems. Prerequisite: CSC 226 and MAT 205.

### **437. Computer Graphics 4 credits**

For those students who wish to understand how graphics are used and created. The computer graphics fundamentals, transformations of objects, shape modeling, 3-D viewing, rendering for realism, and curve and surface design are studied. The OpenGL programming platform will be used. A major project is required with the student choosing either from traditional graphics application areas or from game applications. Prerequisite: CSC 226 and one of the following: MAT 207 or MAT 208.

### **440. Software Engineering 4 credits**

This course presents state-of-the art techniques in software design and development. Topics will include the software engineering lifecycle and current approaches to software development management, including formal methods, software metrics, agile methodologies and other innovative techniques. In addition the course will cover version con-

trol, software maintenance and quality assurance. A semester-long software development experience is provided. (*Fa*) Prerequisite: CSC 341.

**450. Projects for Computer Science Majors****4 credits**

This course requires students to work on a real-world project, and is a very demanding course open only to majors in their senior year. The course allows students to select, design, code, document and formally present a substantial project of their own choosing. Students should coordinate with an instructor of their choice to provide guidance and receive consent prior to registration. (*Sp, Su*) Prerequisites: Completion of ALL required CSC prefix coursework.

**451. Projects for Information Technology Majors****4 credits**

This course requires students to work on a real-world project of their own choosing, and is a very demanding course open only to majors in their senior year. The project allows students to use the knowledge gained in the coursework to produce a substantial product in the area of information technology by going through the entire development life-cycle. Students should coordinate with an instructor of their choice to provide guidance and receive consent prior to registration. (*Sp, Su*) Prerequisites: Completion of ALL required IT coursework.

**455. Projects for Computer Science Minors****4 credits**

This course gives the student a real world experience in a computer-related project and is designed for minors only. (*Sp, Su*) Prerequisites: Completion of ALL other minor requirements.

**480. Internship in Computer Science or Information Technology****1-12 credits**

The course provides professional work experience in computer science or information technology under the supervision of faculty and industry personnel. Written report is required at the end of internship. *S/U* graded. (*Fa, Sp, Su*) Prerequisites: Junior or senior standing and consent of instructor required prior to registration. The course may be repeated for a maximum of 12 credits, but each repetition requires a substantially different work experience. 40 hours of work is needed for each credit.

DIVISION OF PROFESSIONAL AND GRADUATE STUDIES

# COMPUTER SCIENCE and INFORMATION TECHNOLOGY

Bachelor of Science

## FIVE-YEAR DUAL DEGREE PROGRAM

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This program allows students to gain a solid computer science background and advanced professional software development skills on an accelerated pace and be ready for the challenges of the information technology industry upon graduation. The program allows students to be able to still finish a Bachelor of Science degree in four years or fewer should they choose not to continue with the five-year program.

### **Admission Requirement**

Students must major in Computer Science with emphasis in either Software Engineering or ABET-Suggested Curriculum to be eligible for this five-year program. Students may be admitted to the five-year BS-MSE dual degree program as freshmen. However, a combination of a GPA of 3.0 or higher in the major and an overall GPA of 2.75 or higher is required to remain in the five-year program. Alternatively, a student with a GPA of 3.0 or higher in the major and overall GPA of 2.75 or higher may be admitted to the five-year degree program any time before 80 undergraduate credit hours are completed. The latest that a student can apply for admission is during the second semester of his or her junior year.

## Sample Course Completion Schedule for CS/SE Emphasis

	Fall		Spring		Winter/Summer	
Year 1	FYS 100	4	ENG 170	4		
	CSC 110	4	CSC 111	4		
	MAT 160	4	MAT 161	4		
	LSP	4	CSC 211	4		
	CSC 107*	2	CSC 109*	2		
Year 2	CSC 226	4	CSC 323 (odd yrs) or			
	COM 101 (LSP 3)	4	CSC 271 & 272 (even yrs)	4		
	LSP	4	MAT 205	4		
	Elective	4	LSP	4		
			Elective	4		
Year 3	CSC 351	4	CSC 323 (odd yrs) or			
	Elective	4	CSC 271 & 272 (even yrs)	4		
	LSP	4	CSC 341	4		
	LSP	4	LSP	4		
			CSC 480*	4		
Year 4	CSC 440/640	4	CSC 560	3	CSC 680	6
	CSC 506	3	CSC 600	3		
	Elective	4	Elective	4		
	Elective	4	CSC 450 *	4		
Year 5	CSC 591	3	CSC 650	3	MSE elective	3
	CSC 550	3	CSC 602	3	CSC 651	3
	CSC 603	3	CSC 643	3		

Note: Courses with an asterisk may be taken during winter and/or summer sessions.

## BS-CSC AND MSE DUAL

### Sample Course Completion Schedule for CS/ABET-Suggested Curriculum Emphasis

	Fall		Spring		Winter/Summer	
Year 1	FYS 100	4	ENG 170	4		
	LSP	4	CSC 111	4		
	MAT 160	4	MAT 161	4		
	LSP	4	LSP	4		
Year 2	CSC 226	4	CSC 323 (odd yrs) or			
	COM 101 (LSP 3)	4	CSC 271 & 272 (even yrs)	4		
	LSP	4	MAT 205	4		
	MAT 207	4	LSP	4		
			CSC Elective	4		
Year 3	MAT 312	4	CSC 323 (odd yrs) or			
	CSC Elective	4	CSC 271 & 272 (even yrs)	4		
	CSC Elective	4	CSC 341	4		
	LSP	4	CSC 421	4		
			CSC 480*	4		
Year 4	CSC 440/640	4	CSC 560	3	CSC 680	6
	CSC 506	3	CSC 600	3		
	CSC Elective	4	Elective	4		
	CSC Elective	4	CSC 450 *	4		
Year 5	CSC 591	3	CSC 650	3	MSE elective	3
	CSC 550	3	CSC 602	3	CSC 651	3
	CSC 603	3	CSC 643	3		

Note: (1) Courses with an asterisk may be taken during winter and/or summer sessions.  
 (2) Despite the provided sample schedules, five-year program students always should consult with their advisors for possible modifications based upon their individual situations.

# DIVISION OF PROFESSIONAL AND GRADUATE STUDIES

## EDUCATION

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RoseAnn Donovan	Assistant Professor
Kimberly K. Hofkamp	Assistant Professor
Kathrine A. Kramer	Assistant Professor
Elise Riepenhoff	Assistant Professor
Wilma J. Robinson	Associate Professor
Rachel Stickles	Visiting Assistant Professor
Bruce L. Strom	Associate Professor
Edie M. White	Assistant Professor
Kimberly White	Assistant Professor

### Undergraduate Program in Education

Mission Statement: The Teacher Education Program at Carroll University prepares reflective, culturally sensitive teachers who are capable of creating and implementing an interdisciplinary, multicultural curriculum. The intellectual foundation of the program is embedded in constructivist practice. The Wisconsin Department of Public Instruction (DPI) approves the Teacher Education Program at Carroll.

The Education Department believes that the combination of a strong liberal arts background with the scholarly application of theory, methods, and skills related to learning is integral to the program. We foster in students a commitment to the idea that all children can learn. Students are expected to demonstrate the following guiding principles as learning outcomes throughout their coursework and clinical experiences:

- *Constructivism; Cultural Sensitivity; Curricular Integration; Multiculturalism; and Reflection*

In addition, students are expected to demonstrate proficiency in:

- Knowledge of subjects they are teaching
- Knowledge of how children grow
- Understanding that children learn differently
- Knowledge of how to teach
- Ability to effectively manage a classroom
- Effective verbal and nonverbal communication techniques
- Ability to plan different kinds of lessons
- Knowledge of formal and informal assessment strategies
- Ability to self-evaluate
- Fostering relationships with school colleagues, parents, and community agencies

Because DPI may revise its requirements for teacher licensing at any time, the Teacher Education Programs are subject to change. Students must maintain contact with their education adviser to learn about changes related to licensure requirements.

## EDUCATION

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### **Admission and Retention in the Teacher Education Program (TEP)<sup>1</sup>**

The Wisconsin Department of Public Instruction requires all teacher education students in the state of Wisconsin to meet certain standards to be admitted and retained in a TEP and to be admitted to a student teaching semester. Admission to the Carroll University TEP requires formal application by all students seeking licensure. Full-time Carroll undergraduate students should apply in the spring of their sophomore year. All other students should apply as soon as they have completed 40 credits, including at least 12 credits in Carroll University courses. An appointment should be made with an Education adviser to obtain information regarding policies and procedures for the application process. Students are cautioned that early application to the program and careful planning are necessary to avoid the addition of extra summers or semesters to finish the program.

#### **Program Admission**

To be eligible for program admission, students need to have completed at least 40 undergraduate credits with a minimum grade point average of 2.50. Students will need 150 documented clock hours of work with children as well as a grade of C or better in English 170 and a minimum of four LSPs (or equivalent) completed with a C or better. Students also need to have completed the Pre-Professional Skills Tests (PPST) in mathematics, reading, and writing with passing scores in all three areas. Students submit their Phase I portfolio to provide initial evidence of their development as a teacher and learner. Students are admitted to the TEP before enrolling in upper-level education courses beyond Education 301. Students who leave the University for one year or more are required to reapply for admission to the TEP. The criteria for readmission will be those in effect at the time of reapplication. Application deadlines are October 1 or February 1 each year. A small percentage of students may be admitted to the program or to the student teaching semester on exception if they meet all other criteria and meet either the GPA or Praxis I requirement.

Students who have already completed a bachelor's degree and who are attending Carroll only for teacher certification may obtain a waiver from the PPST, provided their cumulative undergraduate grade point average is 2.75 or above. The course requirements for Wisconsin teaching licensure are the same, but transfer and prior course work are evaluated and considered in the overall plan for certification. All students are required to successfully complete the PRAXIS II Content Exam for their certification area(s) prior to application to student teach.

#### **Program Guidelines**

Students who plan to enter and complete the TEP are expected to demonstrate appropriate ethical and professional behavior throughout their university years, and particularly during their course work, fieldwork, and other professional experiences in education. A pattern of ethical lapses might affect admission to or retention in the TEP in respective stages. In their Phase I portfolios, submitted upon application to enter the

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<sup>1</sup> Admission, retention and student teaching requirements are summarized here. [The Teacher Education Handbook](#), available from [www.carrollu.edu/programs/education](http://www.carrollu.edu/programs/education) or the Education Office, contains all specific requirements.

TEP, students are asked to demonstrate evidence of their existing commitments to the field of education.

This is accomplished, in part, by documenting high school and/or university experiences with children prior to entering the TEP. One hundred fifty clock hours of involvement are required. Experiences may include teaching, coaching, tutoring, or other forms of educational service to children or to schools. Volunteer and service work that is done to benefit children is also considered evidence of existing commitment. The TEP Handbook contains further information on this requirement and its documentation.

All students are expected to:

- Engage in formal or informal experiences, service work with children or in schools prior to applying to the TEP.
- Present all required program application materials by established deadlines.
- Submit satisfactory Phase I, II and III portfolios, each with a maximum of one revision.
- Pass each segment of the PPST on either the first or the second attempt. (Subsequent attempts are at the student's option.)
- Complete EDU 210, 311, and 312 (optional with the adaptive education minor) with an overall maximum of one unsatisfactory experience.
- Undergo a background and criminal history check in EDU 100 and once each academic year in which the student is enrolled in an education course.
- Demonstrate punctuality, dependability, and professional courtesies in the completion of courses and course assignments, and in all field placements. (Note: Students should be aware that deadlines for field experience forms occur the semester prior to placement/enrollment: Fall enrollment – May 15, Winter Session Enrollment – November 15, Spring Enrollment – December 15, Summer I Enrollment – March 30)
- Follow university rules pertaining to social conduct, classroom conduct, and academic integrity.
- Maintain ethical, professional, and respectful behavior in all contacts with school children, school personnel, university peers and faculty, and professional colleagues.

Students who are denied admission to, or continuation in, any part of the TEP have the right of appeal, using the grade appeal procedure contained in the Student Handbook. Students who reapply to the program have the right to appear at an education faculty meeting to request readmission, if they so request. All students who are unsuccessful in the TEP have access to alternative career counseling through their education advisers or through Career Services, or both.

### **Program Retention**

The TEP requires that students demonstrate knowledge, skills and dispositions toward teaching. All major/minor course work in education must be completed with a grade of C or better. In addition to a minimum overall GPA of 2.50, students must demonstrate professional behavior throughout their university years. Reference to these cri-

## EDUCATION

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teria can be found in the Teacher Education Handbook. The Education Department reserves the right to counsel students out of the program when appropriate.

### Student Teaching Admission

Admission to the student teaching semester requires a grade of C or better in all major/minor courses in education and a minimum overall GPA of 2.75 or a combined 2.75 in the major and the DPI-Approved Teaching Minor. All students are required to successfully complete the PRAXIS II Content Exam for their certification area(s) prior to application to student teach. Students applying for student teaching must submit their Phase II portfolio. The education program may admit a small percentage of students to student teaching on exception if they meet all other criteria and they meet either the GPA or the Praxis I requirement. Admission deadlines are September 1 or February 1 each year. Those students who are not accepted into student teaching and who wish to complete an elementary major may add coursework in early childhood courses to earn the major in Elementary Educational Studies. No teaching license is granted with this major.

One semester in the senior year must be reserved solely for student teaching. All required coursework for the major and minor must be completed prior to student teaching. No other courses may be taken during any part of the student teaching semester. The Coordinator of Field and Student Teaching placements arranges student teaching assignments in schools within approximately a 30 mile radius of the campus. Students must provide their own transportation to the placement site(s).

The student teaching semester is a full-time, semester-length experience, which follows the semester calendar used by the school in which the student is placed. School calendars are frequently very different from the university calendar. Fall student teachers may begin as early as mid-August and finish in late January. Seniors who student teach in the spring may participate in the graduation ceremony in May and receive their diplomas when student teaching is completed. Students who complete their student teaching during the spring semester are required to teach into June to be recommended for a Wisconsin teaching license.

Due to the complexities of both university and state requirements, students need to meet with an education adviser very early in their university programs in order to develop a workable program plan of coursework. Carroll University TEPs may be completed in four years only with very careful and early planning. Winter and/or summer attendance may be necessary. Because education students engage in significant amounts of fieldwork in conjunction with the coursework in education, the planning process is also extremely important to permit scheduling of fieldwork. Students need to maintain continual contact with an education adviser in order to update their plans and to ensure that any changes in the DPI requirements are incorporated into the student's program.

To obtain a Wisconsin teaching license, students must meet all applicable DPI requirements, including any new requirements, which may be introduced by the DPI while

the student is enrolled in a Carroll University program. Any substitutions of courses or variations in a student's program must be approved by the Registrar and by the Department Chair to assure eligibility for a teaching license. Students must complete all TEP requirements and all university degree requirements to receive any teaching license.

Two majors and three minors are offered within the education program:

Major, Elementary Education (57 credits)

Major, Elementary Educational Studies (45-46 credits)

(This major excludes the student teaching term and does not lead to a teaching license)

Minor, Adaptive Education (23 credits)

Minor, Early Childhood Education (22 credits)

Minor, Secondary Education (44-46 credits)

Students may complete coursework leading to a Carroll University degree and to a Wisconsin license in any of the following areas:

### **License including Early Childhood through Middle Childhood levels (approximate ages - birth through 11)**

Students major in Elementary Education and minor in Early Childhood (see below). This minor, combined with successful completion of placements in both early childhood and elementary, permits students to earn a license to teach in pre-kindergarten through sixth grades. An extended student teaching semester is required for completion of this certification.

### **License including Middle Childhood through Early Adolescence level (approximate ages - 6 through 12 or 13)**

Students major in Elementary Education and extend their license to include the middle-school level. This extension requires completion of a DPI-Approved Teaching Minor in French, German, health, language arts, mathematics, science, social studies, or Spanish. Students seeking certification in an international language or health must also successfully pass the PRAXIS II Content Knowledge Exam for that area. The extended license also requires completion of EDU 304, Secondary School Methods, and successful placements in both elementary and middle school settings during the student teaching semester.

### **License in Early Adolescence through Adolescence level (approximate ages - 10 through 21)**

Students who wish to earn a license in early adolescence through adolescence complete the minor in Secondary Education and an approved major in another Carroll University program. They are placed at both middle and high school sites during their student teaching semester. Currently, approved majors for secondary licensure are available in biology, chemistry, computer science, English, environmental science, and mathematics. Students majoring in a science area are encouraged to do the additional coursework required to earn the Broad Field license. There are also approved majors in history, politics, psychology, and sociology, but students earning majors in these areas

## **EDUCATION**

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are urged to do the additional coursework required to earn the Broad Field Social Studies license, which will significantly improve their hiring potential upon graduation. See your Education adviser for additional information regarding the Broad Field Science and Social Studies licenses.

The Early Adolescence through Adolescence level license allows students to teach secondary school subjects in their approved major after successful completion of student teaching. Students may extend the subject areas they are licensed to teach by completing one or more DPI-approved teaching minors or concentrations in Broad Field Areas. (See available DPI Minors - Secondary, listed on page 289). In addition, students seeking additional licenses will need to successfully complete the PRAXIS II Content Knowledge Exam in the teaching area prior to application to student teach.

### **Additional License in Adaptive Education**

Students who wish to earn an additional license in adaptive education complete the initial requirements in their major/minor certification areas and the DPI-approved minor in Adaptive Education. This additional license better prepares the student to meet the diverse needs of all students within the general education classroom. Careful planning allows this licensure to be completed within four years. Summer and/or winter attendance may be necessary.

### **License in Art, Music, Theatre Arts, Spanish, or Physical and Health Education**

(early childhood through adolescence level - a wide range of all  
ages in public schools)

Students who wish to earn a license in any of these areas complete the Secondary Education Minor and an approved major in Spanish, art, music, theatre arts, or physical and health education. Successfully completed placements in both elementary and secondary school settings are required during the student teaching semester.

### **Elementary Education Major (53-57 credits) Bachelor of Science**

#### **Courses in the Major**

Education 100, Introduction to Education (2 credits)

Education 203, Educational Psychology

Education 209, Education in a Multicultural Context

Education 210, Field Experience in Education I (1 credit)

Education 261, Education of the Exceptional Child

Education 265, Applying Educational Technology to K-12 Instruction

Education 301, Democracy, Schools, and Society

Education 304, Secondary School Methods (required for MC-EA licensure)

Education 311, Field Experience in Education II (1 credit)

Education 321, Teaching Social Studies in the Elementary/Middle School (3 credits)

Education 323, Language Arts and Children's Literature in the Elementary/Middle School

Education 324, Literacy in the Elementary/Middle School

Education 326, Teaching Mathematics in the Elementary/Middle School (3 credits)  
Education 327, Science Methods for Elementary/Middle School (3 credits)  
Education 419, 420, Student Teaching in Elementary Education (12 credits)

**Required Support Courses**

Art 223, Creative Arts for Children (2 credits)  
Music 350, Materials and Techniques of Elementary Music (2 credits)  
Physical Education 328, Elementary Physical Education Activities and Health  
Education (3 credits)

**Required Core and Liberal Studies Program Area Courses**

FYS 100 or FYS 100H, First Year Seminar  
English 170, Writing Seminar  
Computer Science 107, Problem Solving Using Information Technology  
Mathematics 104, Foundations of Elementary Mathematics  
Mathematics 201, Foundations of Elementary Mathematics II  
Environmental Science 120, Conservation and Environmental Improvement  
(LSP I or II)  
One laboratory course in Biology, Chemistry, Environmental Science or  
Physics (LSP I or LSP II)  
Politics 141, Introduction to American Politics (LSP III)  
One English Literature course from LSP IV and any course from LSP VII or  
one English Literature course from LSP VII and any course from LSP IV  
Any Art, Music or Theatre course from LSP V  
History 105, America to 1877 or  
History 106, America Since 1877 (LSP VI)  
One core or LSP distribution course, or an elective course must be a Non-Western  
course from:  
Art 103, Art History (LSP V)  
English 164, American Indian Literature and Cultures (LSP IV or VII)  
English 165, (Formerly WST 101), Readings in Race and Gender (LSP IV)  
English 226, Africa: Literature and Culture of Its Many Nations (LSP IV or VII)  
English 255, Postcolonial Literature (LSP IV or VII)  
Environmental Science 138, Cultural Geography (LSP IV)  
Environmental Science 160, World Regional Geography (LSP IV)  
History 108, Understanding Our Contemporary World (LSP IV)  
History 110, The History of Modern China (LSP IV)  
Politics 201, Politics of the World's Nations (LSP IV)  
Religious Studies 106, Understanding Religion (LSP IV)  
Religious Studies 306, Asian Religions (LSP IV)  
Sociology 110, Cultural Anthropology (LSP III or IV)  
A non-Western NCEP course approved by the education program

## EDUCATION

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### Elementary Educational Studies Major (49-50 credits)

#### Bachelor of Science

Students in this major complete all requirements for the Elementary Education Major as shown above, except for the student teaching semester. Additional requirements for Elementary Educational Studies include:

- Education 248, Home, School, and Community Relationships,
- An Early Childhood Field Experience, and
- Education 400, Capstone in Educational Studies

The Educational Studies major culminates with a capstone experience involving a thesis or major project connecting the Education Program's Guiding Principles with experiences in an educational practicum setting other than a PK-12 school. Application deadlines for the capstone practicum coincide with applications for the student teaching semester. Application procedures are available in the Education Department Office.

### DPI-Approved Teaching Minors - Elementary

A student majoring in Elementary Education must complete one of the elementary minors listed below. Each elementary minor requires a minimum of 22 credits of coursework.

Caution: The course requirements in most elementary DPI-approved teaching minors are different from those listed in the catalog for Carroll University minors in the same areas. Therefore, students are strongly advised to obtain information on course requirements in DPI minors from the Education Office.

The DPI teaching minors certify the Elementary Education Major to teach either at the early childhood through middle childhood level (ages birth through 11) or at the middle childhood through early adolescence level (ages 6 through 12 or 13):

Early Childhood Education	Teaching license includes early childhood through middle childhood level
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These minors license students to teach at the middle childhood through early adolescence level (the student teaching semester must include placement at both the elementary and middle school levels to complete eligibility for the license):

- English-Language Arts
- Mathematics
- Science
- Social Studies

The following licenses require successful completion of PRAXIS II Content Knowledge Exam in addition to the PRAXIS II Middle School Content Knowledge Exam.

- French
- German
- Health
- Spanish

### **Adaptive Education Minor (23 credits)**

The Adaptive Education Minor prepares a student for an additional license to meet the diverse needs of all students within the general education classroom. This minor is in addition to the first license and at this time does not require an additional PRAXIS II Content Knowledge Exam.

#### **Courses in the Minor**

Education 261, Education of the Exceptional Child

Education 312, Field Experience in Adaptive Education (1 credit)

Education 330, Introduction to Diagnostic Assessment of Students with Exceptional Needs

Education 332, Instructional Strategies for an Inclusive Classroom

Education 334, Language Development and Disorders of the Exceptional Child

Education 336, Collaborating with Families of Students with Disabilities (3 credits)

Education 338, Career Development & Vocational Education Development for Students with Exceptional Needs (3 credits)

### **Early Childhood Education Minor (22 credits)**

Students who complete coursework for the Elementary Education Major elect the Early Childhood Education Minor to be licensed to teach pre-kindergarten through grade 6 (early childhood through middle childhood level).

#### **Courses in the Minor**

Education 246, Development, Observation, and Assessment in Early Childhood

Education 248, Early Childhood Education: Home, School, and Community Relationships

Education 341, Integrated Curriculum in Early Childhood I: Physical and Logico-Mathematical Knowledge (5 credits)

Education 342, Integrated Curriculum in Early Childhood II: Social and Socially Constructed Knowledge (5 credits)

Education 347, Seminar in Contemporary Issues in Early Childhood Education

### **Secondary Education Minor (44-46 credits)**

Students complete the Secondary Education Minor and one of the approved majors listed for the license for early adolescence through adolescence level. This qualifies the student to teach school subjects related to their major in grades 6 to 12 (early adolescence through adolescence level - approximate ages of 10 through 21). Students who complete the Secondary Education Minor with an approved major in art, music, physical education, theatre arts, or Spanish and who have placements in both elementary and secondary school settings during the student teaching semester are eligible for licensure in their subject area in pre-kindergarten through grade 12 (early childhood through adolescence level - a wide range of all ages in public schools).

#### **Courses in the Minor**

Education 100, Introduction to Education (2 credits)

Education 203, Educational Psychology

Education 209, Education in a Multicultural Context

## EDUCATION

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Education 210, Field Experience in Education I (1 credit )  
Education 261, Education of the Exceptional Child  
Education 265, Applying Educational Technology to K-12 Instruction  
Education 301, Democracy, Schools, and Society  
Education 304, Secondary School Methods  
Education 306, Literacy in Secondary School Content Areas (2-3 credits)  
Education 311, Field Experience in Education II (1 credit)  
Education 353, Special Methods in Teaching Secondary School Subjects (2 credits) or  
Education 355, Special Methods in Teaching Elementary and Secondary Subjects:  
Modern Languages (required for languages - 3 credits)  
Education 409, 410 Student Teaching (12 credits)

### Required Core and Liberal Studies Program Area Courses

FYS 100 or FYS 100H, First Year Seminar  
English 170, Writing Seminar  
Competency in Math: BA degree – MAT 106 or higher; BS degree – either MAT 112, or  
MAT 140 or higher  
Computer Science 107  
One physical lab science course (Chemistry, Environmental Science or Physics) from  
either LSP I or LSP II and one laboratory course in Biology from the other LSP  
area. Students planning to teach in a science or social science subject must take  
Environmental Science 120, Conservation and Environmental Improvement, and  
one lab course in Biology, Chemistry, Environmental Science or Physics from  
LSP I or LSP II  
Politics 141, Introduction to American Politics (LSP III)  
One English Literature course from LSP IV and any course from LSP VII or one English  
Literature course from LSP VII and any course from LSP IV  
Any Art, Music or Theatre course from LSP V  
Any American or European History course from LSP VI  
One core or LSP distribution course, or an elective course, must be a Non-Western  
course from:  
Art 103, Art History (LSP V)  
English 164, American Indian Literature and Cultures  
English 165, Readings in Race and Gender (LSP IV)  
English 226, Africa: Literature and Culture of Its Many Nations (LSP IV or VII)  
English 255, Postcolonial Literature (LSP IV or VII)  
Environmental Science 138, Cultural Geography (LSP IV)  
Environmental Science 160, World Regional Geography (LSP IV)  
History 108, Understanding Our Contemporary World (LSP IV)  
History 110, The History of Modern China (LSP IV)  
Politics 201, Politics of the World's Nations (LSP IV)  
Religious Studies 106, Understanding Religion (LSP IV)  
Religious Studies 306, Asian Religions (LSP IV)  
Sociology 110, Cultural Anthropology (LSP III or IV)  
A non-Western NCEP course approved by the education program

### DPI-Approved Teaching Minors - Secondary

Students can increase the number of subject areas in which they are licensed and enhance their employment prospects by completing either an additional DPI-approved secondary minor or a set of approved courses, which lead to a DPI Broad Field License. Broad Field licensure is available in either social studies or science. The course requirements for broad field licensure are available from the Education office.

Caution: Since many secondary DPI-approved teaching minors must be matched with particular Carroll University majors, students should also contact the Education faculty for advice regarding selection of teaching minors. Students majoring or minoring in any natural science subject, or in any social science subject, which they intend to teach, must take ENV 120. Students seeking licensure in a minor must also successfully complete the PRAXIS II Content Knowledge Exam for that area prior to application to student teach.

DPI-approved secondary minors may be chosen from those listed below:

Biology <sup>1</sup>	Health Education <sup>2</sup>
Chemistry <sup>2</sup>	History <sup>1</sup>
Communication (Speech Education) <sup>2</sup>	Mathematics <sup>2</sup>
Computer Science <sup>2</sup>	Physics <sup>1</sup>
Earth and Space Science <sup>2</sup>	Politics <sup>1</sup>
English <sup>1</sup>	Psychology <sup>1</sup>
Environmental Studies <sup>2</sup>	Sociology <sup>1</sup>
French <sup>1</sup>	Spanish <sup>2</sup>
Geography <sup>2</sup>	Theatre Arts <sup>2</sup>
German <sup>1</sup>	

Any education course taken more than seven years prior to enrollment at Carroll University will be subject to the approval of the department chair.

#### 100. Introduction to Education

**2 credits**

An overview that will introduce the students to topics related to the teaching profession in general and the Carroll University Teacher Education Program specifically. The Program's Guiding Principles and Wisconsin Teacher Standards will be introduced in this course. The qualities needed to be an effective educator will be explored and students will analyze their personal suitability to be a teacher. Open only to second semester freshmen and upper class members, or with the consent of the instructor. A background and criminal history check will be conducted which must be deemed satisfactory. (Required course fee) (*Fa, Wn, Sp, Su*)

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<sup>1</sup> The courses required in these DPI-approved teaching minors are not listed in this catalog. See the Education office for current lists of course requirements.

<sup>2</sup> These are university-and DPI-approved secondary minors. Course requirements for these minors are listed in this catalog by their respective programs.

## EDUCATION

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### 203. Educational Psychology

4 credits

Study of physical, mental, emotional, and social development of children and adolescents; individual differences; principles and theories of learning; testing and evaluating; research; technological literacy as applied to education. Concurrent enrollment in EDU 210 is strongly suggested. (*Fa, Sp, Su*) Prerequisite: EDU 100.

### 209. Education in a Multicultural Context

4 credits

Critically examines multicultural policies and perspectives to heighten the pre-service teachers' cultural awareness at the individual, system and global levels. Inquiry and analysis of the intersection of theory and practice related to multicultural and global issues associated with ethnicity, race, class, religion, sexual orientation, gender, and linguistic diversity. Aims to develop culturally relevant, responsive knowledge, skills and dispositions that encourage socially just advocacy in both individuals and institutions. A required component of this course is a ten-hour experience in an approved multicultural setting. (*Fa, Sp, Su*) Prerequisite: EDU 100.

### 210. Field Experience in Education

1 credit

A pre-student teaching practicum in an assigned classroom in an area school. Grade level or subject is determined by the student's certification intentions. Throughout the semester, students complete a minimum of 40 student contact clock hours in the assigned classroom. This is achieved by attending a minimum of ten (10) full school days. Seminars accompany experiences in the school. Students must attend all seminars to receive course credit. An urban placement, determined by the Coordinator of Field and Student Teaching Placements, is required in either EDU 210 or EDU 311. Students may choose whether the urban placement occurs in 210 or 311. Students are responsible for their own transportation to urban (and other) placements not within walking distance of campus. *S/U* graded. (*Fa, Wn, Sp, Su*) Prerequisites: EDU 100. Completion of or concurrent enrollment in EDU 203 is strongly suggested and satisfactory results of a T.B. test and background and criminal history check are required.

### 246. Development, Observation, and Assessment in Early Childhood

4 credits

The study of principles and theories of child development from birth to age eight in cognitive, affective, psychomotor, social, and language domains. Cross-cultural perspectives of development are considered. Includes strategies for observation and its uses both as a curriculum guide and as an assessment tool. Offers an overview of other forms of assessment, including criterion-referenced and standardized tests. Students use developmentally appropriate assessment tools. (*Fa, Sp*) Prerequisite: EDU 203.

### 248. Early Childhood Education: Home, School, and Community Relationships

4 credits

Focuses on development of skills in communicating with, working with, and educating parents, families, advisory groups, community resource agencies, pupil services, and support staff. Surveys early childhood program alternatives including Montessori schools, Headstart programs, Waldorf schools, family day care, and infant day care. Explores day care administration and policy issues, nutrition and safety. Includes study of career explorations, practical applications of basic skills, and employability dispositions, as appropriate

for children. Examines home and classroom behavior management strategies appropriate for young children. (*Fa, Sp*) Prerequisite: EDU 203.

**261. Education of the Exceptional Child**

**4 credits**

Introduction to special education and teaching students with exceptional needs. This course provides an overview of legal issues, identification and assessment of students with special needs. Emphasis is placed on teaching strategies used to educate students who have diverse learning and behavioral needs. (*Fa, Sp, Su*) Prerequisite: EDU 209.

**265. Applying Educational Technology to K-12 Instruction**

**4 credits**

Provides opportunities for students to become proficient in 21st century teaching and learning. These skills will be integrated into lesson creation and teaching methods at all levels. In addition, students will become familiar and/or proficient in specific hardware, software and Web 2.0 tools used in PK-12 classrooms. (*Fa, Sp, Su*) Prerequisites: CSC 107, EDU 203.

**301. Democracy, Schools, and Society**

**4 credits**

The study of social, political, philosophic, and historical issues and antecedents of K-12 schooling and curriculum. Consideration of traditional, alternative, and innovative approaches to curriculum. Study of social concerns affecting the schools; the organization, administration, and financing of schools; alternative schooling; the world of work and the future of education. (*Fa, Sp, Su*) Prerequisite: EDU 203.

**304. Methods in Middle/Secondary Schools**

**4 credits**

This course is designed for pre-service teachers who will work with early adolescents and /or adolescents. Students will examine teaching methods appropriate for the middle and high school levels based on developmental needs and research. A repertoire of strategies for curriculum development, implementation and evaluation will be explored. Other topics emphasized include classroom management, motivation, providing for individual needs and cooperatives. (*Fa, Sp*) Prerequisites: EDU 203 and admission to the TEP. Concurrent enrollment in EDU 311 is suggested.

**306. Literacy in Middle/Secondary School Content Areas**

**2-3 credits**

The study of methods which middle school and high school teachers can use to guide their students in interaction with textual materials in secondary school content areas and in other functional reading contexts. Includes study and experience with both teacher-directed and learner-centered strategies which scaffold instruction to guide and support content literacy. Examines materials appropriate to the varied interests and reading levels of secondary students. Develops skills in authentic assessment of student learning, particularly through the use of portfolios. (Two credits for K-12 specialist students in art, music, and physical education, and three credits for all other middle/secondary education students, including Spanish and theatre arts—includes a practicum in schools). (*Fa, Sp, Su*) Prerequisite: EDU 203, 209, and admission to the TEP.

## EDUCATION

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### 311. Field Experience in Education II

1 credit

A pre-student teaching practicum in an assigned classroom in an area school. Grade level or subject is determined by the student's certification intentions. Throughout the semester, students complete a minimum of 40 student contact clock hours in the assigned classroom. This is achieved by attending a minimum of ten (10) full school days. Seminars accompany experiences in the school. Students must attend all seminars to receive course credit. The 311 field experience is distinguished from the 210 experience by an added measure of student responsibility for active involvement in classrooms. Seminars will emphasize preparation for and discussion of the added involvement. An urban placement, determined by the Coordinator of Field and Student Teaching Placements, is required in either EDU 210 or EDU 311. Students are responsible for their own transportation to urban (and other) placements not within walking distance of campus. This experience must be completed at Carroll. *S/U* graded. (*Fa, Wn, Sp, Su*) Prerequisites: Successful completion of EDU 210, completion of or concurrent enrollment in a methods course, satisfactory results of a T.B. test, a background and criminal history check and admission to the TEP are required.

### 312. Field Experience in Adaptive Education

1 credit

A pre-student teaching practicum in a non-categorical special education setting where children are also in inclusive classrooms. Students work between four and six hours per week for a semester total of 40 clock hours. Monthly seminars accompany experiences in the school. This course is to be taken in the final semester of course work for the adaptive education minor. (*Fa*) Prerequisites: EDU 100, 203, 210, 261, 330, 332, 334, 336, 338, satisfactory results of a T.B. test, a criminal history and background check, and admission to the TEP.

### 321. Social Studies in the Elementary/Middle School

3 credits

This course is an examination of the objectives and techniques of teaching social studies in the elementary/middle school. Instruction includes the study of curriculum materials, methods, assessment and evaluation. Students are challenged to develop lessons and use instructional strategies that help prepare children for active citizenship in a democratic and multicultural society. (*Fa, Sp, Su-occasionally*) Prerequisites: Completion of HIS 105 or 106 and POL 141 recommended, EDU 203, 209, and admission to the TEP.

### 323. Literacy 1: Language Arts and Children's Literature in the Elementary/Middle School<sup>1</sup>

4 credits

Study of the principles of language development and learning, curricular materials, and teaching practices for elementary/middle school language and literature programs. Emphasis on planning, organizing, and evaluating instruction in the communication arts, and in selecting and using appropriate literature for pupils of primary through middle school age throughout the elementary and middle school curriculum. Includes a handwriting module designed to develop the personal writing competencies needed

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<sup>1</sup> A transfer student who has satisfied the Children's Literature portion of Education 323 may register for an independent study to complete the language arts portion. See the instructor concerning this option.

by prospective teachers. Concurrent enrollment in EDU 311 is advised either at this point or during EDU 324. (*Fa, Sp*) Prerequisites: EDU 203, 209, and admission to the TEP.

**324. Literacy 2: Literacy in the Elementary/Middle School** **4 credits**  
 Study of the development of language from childhood through adolescence, and how this development relates to the acquisition of literacy. Develops knowledge about the language learning of elementary and middle school children: about the nature of reading instruction as a self-monitoring process; about diagnosis and prescription of reading ability; about programs, materials, and methods for literacy instruction; about the assessment of student progress, and how phonics fits into literacy development for the pre-service teacher concerned with literacy learning. A ten-hour tutoring practicum in an elementary school is required. (*Fa, Sp*) Prerequisites: EDU 323 and admission to the TEP.

**326. Mathematics in the Elementary/Middle School** **3 credits**  
 Students will develop ways to initiate, implement, and institutionalize an elementary/middle school math curriculum based on NCTM standards and student appropriate/effective assessments. Emphasis will be on active learning and constructivism and their implications to mathematics instruction, as well as incorporating manipulatives, technology, literature (integrated curriculum) into problem-based lesson planning. Fieldwork required. (*Fa, Sp, Su-occasionally*) Prerequisites: EDU 203, MAT 201, and admission to the TEP.

**327. Science Methods in the Elementary/Middle School** **3 credits**  
 This course is designed to develop competencies in selecting methods and resources for teaching elementary and middle level science. All strands of science including environmental education will be explored. Students will gain knowledge and skills to successfully develop science lessons appropriate for various grade levels based on state and national academic standards. An emphasis is placed on effective instructional strategies, assessment and the relationship of science to all other subject areas. An outreach project requires an additional ten hours to facilitate science learning for K–8 students. (*Fa, Sp, Su-occasionally*) Prerequisites: EDU 203, 209, admission to the TEP. Completion of LSP I and LSP II (ENV 120) courses is recommended.

**330. Introduction to Diagnostic Assessment of Students with Exceptional Needs** **4 credits**  
 This introductory course provides core theoretical and practical background necessary to evaluate students having exceptional educational needs. An overview of educational assessment and diagnosis of individuals with disabling conditions will be provided. Emphasis will be placed upon testing for IEP development and teaching. (*Fa*) Prerequisites: EDU 261, 209 and admission to the TEP.

**332. Instructional Strategies for an Inclusive Classroom** **4 credits**  
 This course is designed to facilitate the education student's knowledge, skills and disposition to increase the effectiveness of teaching for the inclusion of children with special needs in the classroom. This will include content, strategies, and structuring the

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environment to make inclusion a viable experience for the special needs student. Classroom management will also be explored as it relates to the special needs of the students. (*Fa*) Prerequisites: EDU 261 and admission to the TEP.

### **334. Language Development and Disorders of the Exceptional Child 4 credits**

This course is designed to present background information about normal language development as a foundation for evaluating speech and language disorders in children. Emphasis will be placed on current techniques for the identification of language disorders in school-age children as well as methods for enhancing their language skills. (*Sp*) Prerequisites: EDU 261 and admission to the TEP.

### **336. Collaborating with Families of Students with Disabilities 3 credits**

This course is designed to facilitate the education student's knowledge, skills and disposition to increase the effectiveness of interactions with parents and community agencies for the purpose of serving children in the context of a learning environment. (*Sp, Su-occasionally*) Prerequisites: EDU 261 and admission to the TEP.

### **338. Career Development & Vocational Education for Students with Exceptional Needs 3 credits**

This course will explore effective practices for assisting individuals with disabilities in making successful transitions between grade levels and from school to post-secondary training and/or employment. Emphasis will be placed on career development, assessment, self-advocacy and self-determination. (*Sp, Su occasionally*) Prerequisites: EDU 261 and admission to the TEP.

### **341. Integrated Curriculum in Early Childhood I: Physical and Logico-Mathematical Knowledge 5 credits**

Focuses on facilitating the development of physical and logico-mathematical knowledge in young children based on their developmental and cultural characteristics. Considers curricular areas of science, physical education, mathematics, and the creative arts, and their integration. Presents models for curriculum planning, instructional strategies, and assessment including inquiry, project approaches, direct instruction, constructivism, center based learning, and experiential learning. Explores the use of technology in curriculum delivery. Examines children's interests and readiness as opportunities to employ emergent curriculum and incidental teaching. (*Fa, Sp*) Prerequisites: EDU 246 and admission to the TEP.

### **342. Integrated Curriculum in Early Childhood II: Social and Socially Constructed Knowledge 5 credits**

Focuses on facilitating the development of social and socially constructed knowledge in young children based on their developmental and cultural characteristics. Considers curricular areas of social studies, environmental education, literacy (reading, language arts, children's literature), and affective/social behavior, and their integration. Examines epistemological issues of curriculum construction and decision making: What knowledge is of most worth? Who decides? Whose purposes does it serve? Includes perspectives on hidden curriculum, integrated curriculum, and lived experience curriculum. Explores the use of technology in curriculum delivery. Provides expe-

riences in curriculum development and assessment. (*Fa, Sp*) Prerequisites: EDU 246, 341 and admission to the TEP.

**347. Seminar in Contemporary Issues in Early Childhood Education** **4 credits**

A study of current issues, and historical and philosophical perspectives on classroom practice and on social and educational policy affecting young children. Includes examination of developmentally appropriate practice, culturally responsive pedagogy, readiness, the nature and practice of play in the curriculum, technology in the early childhood classroom, and school to work issues. (*Fa, Sp*) Prerequisites: EDU 246, 248, 341, and admission to the TEP.

**353. Special Methods in Teaching Secondary School Subjects** **2 credits**

Daytime clinical experiences in a secondary school required. Examination of models of learning and instruction in specific subject-matter areas, including 25 hours of clinical field work to directly apply methodology while working with high school students. Special emphasis upon selection, use, and preparation of equipment, materials, teaching aids, and other resources especially designed for the various areas. Attention given to evaluating pupil progress, working with pupil services, the use of media in schools, educational research in curriculum development and evaluation. Required in student's certifiable major and minor. (*Fa*) Prerequisite: EDU 203, 301, 304, 306 or permission from the Department Chair, and admission to the TEP.

**355. Special Methods in Teaching Elementary and Secondary Subjects: Modern Languages** **3 credits**

Application of general principles and methods to specific subject-matter areas. Special emphasis upon selection, use, and preparation of equipment, materials, teaching aids, and other resources especially designed for the various resource areas. Examination of models of learning and instruction in specific subject-matter areas, including 25 hours of clinical field work to directly apply methodology while working with high school students. Attention given to evaluating pupil progress, working with pupil services, the use of media in schools, educational research in curriculum development and evaluation. Required for all Modern Language majors and minors. (*Fa*) Prerequisites: EDU 203, 301, 304, 306 or permission from the Department Chair, and admission to the TEP. (MC-EA minors do not complete EDU 306 or 25 hours of clinical field work.)

**398. Independent Study in Education** **1-4 credits**

Extensive study of an approved subject area, or problem in education, in which the student has a special interest or need. (*Fa, Sp, Su*) Approval of divisional dean and consent of instructor.

**400. Capstone in Elementary Educational Studies** **4 credits**

A seminar and practicum culmination of the academic and experiential work of the Elementary Educational Studies major. Students complete a major project that explores the Education Program's Guiding Principles in connection with gateways to educational employment outside of PK-12 schools. Individual practicum placements are

## EDUCATION

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made to capitalize on student interests and abilities. Placements are normally 8-12 weeks long. Students in practicum experiences follow the calendar of the placement site with respect to their hours, days, and dates of participation. Open only to Elementary Educational Studies majors. Prerequisites: Instructor's consent and Senior Standing. (*Fa, Sp*)

### **409, 410. Secondary and K-12 Student Teaching** **12 credits**

A supervised practicum in which students engage in planned teaching and various other duties as designated by the cooperating teacher. Placement is limited to schools that are within 30 miles of Carroll. Placement within walking distance of Carroll cannot be guaranteed; therefore, students must have transportation. Student teaching is considered a full load; no other courses should be added. Because of state requirements several weeks will be added to the Carroll semester to coincide with school district semesters. Fall student teachers will begin in August and teach into January. Spring student teachers will begin in January and teach after Carroll's graduation ceremony. (*Fa, Sp*) Prerequisites: Successful completion of appropriate PRAXIS II Content Knowledge Exam(s), admission to the student teaching program, education faculty approval, satisfactory physical exam, TB test, and criminal history and background check.

### **419, 420. Early Childhood/Elementary Student Teaching** **12 credits**

A supervised practicum in which students engage in planned teaching and various other duties as designated by the cooperating teacher. Placement is limited to schools that are within 30 miles of Carroll. Placement within walking distance of Carroll cannot be guaranteed; therefore, students must have transportation. Student teaching is considered a full load; no other courses should be added. Because of state requirements several weeks will be added to the Carroll semester to coincide with school district semesters. Fall student teachers will begin in August and teach into January. Spring student teachers will begin in January and teach after Carroll's May graduation ceremony. (*Fa, Sp*) Prerequisites: Successful completion of appropriate PRAXIS II Content Knowledge Exam(s), admission to the student teaching program, education faculty approval, satisfactory physical exam, T.B. test, and background and criminal history check.

### **422. Special Student Teaching Practicum** **1-5 credits**

A practicum for the licensed student who is extending teaching certification beyond his/her present license. University supervised student teaching at the level(s) and/or subject for which additional certification is desired. A portfolio and demonstrated proficiency in the Wisconsin Teacher Standards is also required. (*Fa, Sp*) Prerequisites: Successful completion of appropriate PRAXIS II Content Knowledge Exam(s), successful background and criminal history check, and education faculty approval.

# DIVISION OF PROFESSIONAL AND GRADUATE STUDIES

# ORGANIZATIONAL LEADERSHIP

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Gregory J. Schultz      Assistant Professor  
Mary Ann Wisniewski    Professor

## Preparing Leaders for Global Challenges

The Organizational Leadership program provides superior educational opportunities that increase leadership effectiveness and career success in complex organizational environments.

## Learning Outcomes for Organizational Leadership

Graduates of the Organizational Leadership Program are able to:

1. Define and describe leadership-related terminology and concepts.
2. Solve complex leadership problems using appropriate tools and techniques.
3. Formulate leadership and not-for-profit organization policies and strategies and evaluate their effectiveness.
4. Integrate global considerations in leadership decisions.
5. Work effectively in team environments.
6. Demonstrate appropriate habits, behaviors and attitudes in leadership situations.

Both the public and the private sectors demand competent leadership for their increasingly complex organizations. Change is constant, and corporate boardrooms, public agencies, and government offices are looking for individuals who can provide an effective, constructive force for their organizations.

This program integrates the study of effective leadership to provide students with a broad perspective on the challenges and opportunities related to leadership. The program is designed to strengthen students' abilities to create a compelling vision, translate that vision into action, and lead others in creating new ventures or in revitalizing existing ones. In short, the program is designed to create a new generation of leaders—characterized by passion, integrity and competence.

Organizational leadership enhances students' potential for leadership positions in careers such as public management, community service, health promotion, law, and human resource management.

Organizational Leadership majors are not eligible to earn the Business Management minor.

## ORGANIZATIONAL LEADERSHIP

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### Organizational Leadership Major (68 credits) Bachelor of Science

#### Core Courses

Business 101, Introduction to Business  
Business 260, Ethics in Business, Government and Society  
Business 250, Culture and Diversity in Organizations or  
    Business 265, Human Resource Management  
Business 301, Principles of Marketing  
Business 302, Principles of Management  
Business 315, Organization Behavior  
Leadership 302, Leadership: Theory and Practice  
Leadership 480, Leadership Internship  
Leadership 499, Leading Change: Capstone  
Politics 231, Financial Management in Nonprofit Organizations (2 credits)  
Politics 232, Resource Development in Nonprofit Organizations (2 credits)  
Politics 233, The Law and Governance of Nonprofit Organizations (2 credits)  
Politics 234, Critical Issues in Nonprofit Management (2 credits)  
Politics 332, Public Policy  
Politics 335, Public Administration

#### Support Courses

Accounting 205, Financial Accounting  
Computer Science 107, Problem Solving Using Information Technology (2 credits)  
Economics 110, Introduction to Economics or  
    Economics 124, Principles of Economics I- Microeconomics  
Mathematics 112, Introduction to Statistics

### Organizational Leadership Minor

Business 260, Ethics in Business, Government and Society  
Business 302, Principles of Management  
Leadership 302, Leadership: Theory and Practice  
Politics 332, Public Policy  
Politics 335, Public Administration

#### 302. (191) Leadership: Theory and Practice 4 credits

This course facilitates development of the student's capacity to become an effective leader in a business, public/government organization, or nonprofit agency. Through an examination of various approaches to leadership, students identify key principles, competencies, and qualities characteristic of effective leaders and integrate these concepts into a personal leadership style. (Required course fee) (*Fa, Sp*) Prerequisite: junior standing.

#### 480. Leadership Internship 1-12 credits

This course provides an opportunity to apply leadership theories and concepts to actual work experiences under the supervision of an external supervisor and the Director of the Organizational Leadership program. The internship provides opportunities for

the students to improve leadership skills while adapting to the world of work. Prerequisites: LEA 302, BUS 101, BUS 260, BUS 302, BUS 315, BUS 360. To be taken concurrently with LEA 499. (*Fa, Sp*) The course may be repeated for a maximum of 12 credits if the student has substantially different work experiences. Minimum of 4 credits is required. 40 hours of work are needed for each credit.

**499. Leading Change: Capstone**

**2 credits**

This course integrates prior academic experiences and provides students with an experimental, comprehensive approach to leadership. The processes of developing a vision, strategic thinking and planning, communicating the vision, empowering employees, and appreciating differences are applied and utilized within an actual organizational setting as a means of integrating academic knowledge with leadership skills. Prerequisites: LEA 302, BUS 101, BUS 260, BUS 302, BUS 315, BUS 360. (*Fa, Sp*)

# SPECIAL ACADEMIC PROGRAMS

## HONORS

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**Lynne L. Bernier**

Associate Professor of Politics and  
Global Studies, Director

A description of the Honors Program is in the Academic Program and Policies section, page 18.

**Biology 200H. Human Biology: Health and Disease** L2 4 credits

This honors course is designed to improve the ability of non-biology majors to access scientific information and use this information to make informed decisions regarding personal and social health issues. Students build their knowledge in the field of human biology and then use this knowledge to investigate, learn about, and then share practical information about current topics related to cancer, cardiovascular disease, and the role of genetics in medicine. Four hours lecture/discussion and three hours laboratory. (Required course fee) (*Fa, odd years*)

**English 170H. Writing Seminar.** 4 credits

Required for all first year honors program students. Students develop effective approaches to writing to an advanced degree. (*Sp*)

**English 222H. Playing Crazy: Cultural Constructions  
of Madness** L3, L7 4 credits

An interdisciplinary exploration of the ways in which cultural institutions like the medical and legal establishments and organized religion shape our understanding of concepts like madness, eccentricity, and the normal. (*Fa, even years*)

**English 255H. Postcolonial Literature** L4, L7 4 credits

Literature of indigenous world cultures (non-Western-Eurocentric literature), to consider relationships between place and cultural identity, constructions of cultural difference, relationships between cultures, and operations of domination and resistance. The course also looks at the roles writers play in establishing or reestablishing cultural identity and addresses issues of ethics and morality in crossing cultures. (*Fa, even years*)

**Environmental Science 120H. Conservation and  
Environmental Improvement** L1, L2 4 credits

This course investigates the science behind environmental issues ranging from waste management to conservation biology to water quality to renewable and nonrenewable energy. Through lectures, discussions, field trips, and laboratory investigations, we explore environmental problems and their potential solutions. (Required course fee) (*Sp, even years*)

**First Year Seminar 100H.****4 credits**

Required for all first year honors program students. Initiates students into the academic life of Carroll, introducing intellectual ideas at the heart of Liberal Studies and developing abilities needed for academic achievement. Topics vary. (*Fa*)

**History 224H. The World since 1945****L4****4 credits**

A discussion-based study of themes and conflicts that have shaped the world global society since the end of World War II. Students use primary documents, autobiographies, oral histories and other sources of their own choosing to examine the Cold War, the developing world, genocide and other topics. (*Fa, even years*)

**Music 231H. Fin de Siècle:****Birth of the Modern Age in Paris and Vienna****L5****4 credits**

This interdisciplinary honors course traces the fine arts between 1885 and 1914. While concentrating on music and visual arts, the course also presents an intellectual, literary, and social portrait of Europe. (*Sp, even years*)

**Philosophy 206H. Ethics****L7****4 credits**

An introductory investigation of alternative systems for determining and justifying ethical values. The course explores both theories of conduct (What should I do?) and theories of character (Who should I be?) through a study of the contemporary significance of theorists such as Aristotle, Kant, and Mill. (*Sp, odd years*)

**Politics 210H. The Origins of Democratic Thinking****L6****4 credits**

An examination of democratic thinking in 5th century BC Athens through the study of some of its greatest literature. The course focuses on Thucydides' History of the Peloponnesian War and several works for the theater. (*Sp, even years*)

**Psychology 250H. Brain, Mind, and Behavior****L2****4 credits**

An interdisciplinary approach to the study of the brain, mind, and behavior. Material will draw from psychology, evolutionary biology, neuroscience, anthropology, philosophy, robotics, artificial intelligence, and other relevant disciplines. The goal of the course is to better understand the nature of mind and behavior by examining the extent to which they are both grounded in and extend beyond the brain. Lectures, guest speakers, discussions, and laboratories will be used to introduce students to current methods and findings. Four hours of lecture/discussion and one three-hour laboratory. (Lab fee required) (*Sp*)

**Honors 400H. Senior Honors Colloquium****1 credit**

Required of honors program seniors. To be taken concurrently with a Senior Honors Experience (capstone coordinated by the student with a faculty mentor). Three Sunday evenings each semester, the Colloquium brings together Honors Scholars for discussion of the topics, methods, and challenges of conducting research or creative projects in various fields. At the last meeting, students formally present the results of their learning experiences to the Honors Committee and faculty mentors. (*Fa, Sp*)

## HONORS

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### Honors Contract Course

L1-7 (varies)

4 credits

With specific approval, a student may arrange to contract with the instructor of an existing LSP course to take it for honors credit. Completed applications for contract courses must be submitted to the Honors Committee for approval no later than one week after registration in the semester prior to taking the course, and should clearly state how the course has been modified to fit honors program criteria. Only one of the three required general education honors courses may be taken as a contract course, and students are strongly encouraged to make every effort to enroll in honors courses before submitting a contract course application. (*Fa, Sp with approval of the Honors Committee and instructor*)

# SPECIAL ACADEMIC PROGRAMS

## STUDY ABROAD AND NEW CULTURAL EXPERIENCES PROGRAMS (NCEP)

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<b>Katherine Hammett</b>	Director
<b>Katie Cizauskas</b>	International/Study Abroad Advisor
<b>Erik Myers</b>	International Admissions and Programs Coordinator

International education programs are an integral part of Carroll's academic offerings. The Office of International Education (OIE) directs semester, summer and academic-year study abroad programs, as well as NCEP (New Cultural Experiences Program) courses.

### Study Abroad Programs

Students with a cumulative grade point average of 3.0 or higher, sophomore status and at least 16 completed Carroll University credits may apply for approval to enroll in a study abroad program.

Approved study abroad students remain enrolled at the university during the semester or academic-year study abroad period. Applications for study abroad are due at least one semester prior to the semester in which the student intends to study; however, students are advised to apply for study abroad a full year ahead of their intended study. Details about the programs, eligibility, applications and costs are available on the Carroll University Web site under Academic Programs or from OIE.

International study abroad opportunities include three types of programs: exchange, affiliated and non-affiliated.

#### 1. Exchange Programs

Exchange programs are programs in which the school abroad sends us their students and we, in turn, send our students for a semester or academic year.

**Aberystwyth University:** Founded in 1872, Aberystwyth was the first university to be established in Wales. AU is located on the coast in central Wales and has more than 7,000 registered students. All courses are taught in English. Aberystwyth has excellent academic and cultural opportunities; students can take courses in any discipline.

**Burgundy School of Business (BSB), France:** BSB, located in Dijon, is an international business school that attracts students from all over the world. It provides students with an opportunity to study business in a town and region known for its cultural and

## STUDY ABROAD AND NEW CULTURAL EXPERIENCE

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historical contributions to Europe. BSB courses that are taught in English include business law, economics, marketing, entrepreneurship, sociology, psychology, finance and market research.

**Ewha Womans University, Korea:** Located in Seoul, with over 120 years of rich history, Ewha is Korea's oldest all-women's university. Carroll students, both men and women, can study in English at Ewha. Over 20% of undergraduate courses are taught in English. These include art history, Asian studies, business, ceramics, economics, international studies, Korean studies, literature, media studies, politics, psychology, religion and women's studies. Carroll students are housed on the beautiful Ewha campus in the newly built International House dormitory.

**Institut d'Etudes Politiques de Bordeaux (IEP), France:** IEP enrolls 1,300 students who study history, political science, economics and law. Visiting international students may choose courses from any discipline. All IEP courses are taught in French; hence the student needs to be approved by faculty in French, as well as by the IMCC committee.

**Management Center Innsbruck (MCI):** Located in beautiful Innsbruck, Austria, MCI has a strong international and business focus on academics and offers classes taught not only in German, but in English and other languages as well. The special exchange program classes offered in English are available during the spring semester only.

**Universidad de La Salle Bajío (ULS), Mexico:** Located in León, ULS is a private school that offers a wide range of coursework including psychology, education, communication, business and information technology. Carroll students may take courses in any discipline. All ULS courses are taught in Spanish; therefore, Carroll students must receive a recommendation from the Spanish faculty, as well as the IMCC committee.

**Hong Kong Baptist University (HKBU):** Located in Kowloon, the heart of Hong Kong, HKBU is a vibrant campus of more than 5000 undergraduate students. The university offers a wide range of courses taught in English and Chinese, including Arts, Business, Communication, Science, and Social Sciences. Students may enroll for either semester or for the academic year.

**Lingnan University:** Known as "The Liberal Arts University of Hong Kong," Lingnan is located on a small, beautiful campus in the New Territories. Offering strong courses in the Humanities, Arts, Business and Sciences, the university has a "whole-person" approach to education and offers many co-curricular activities, including many service learning opportunities.

**Philippe-Universität Marburg:** Students have the opportunity to take classes in either German or English at Philippe-Universität Marburg. The university has 17 different departments offering a broad range of courses. This 500 year old institution enrolls 20,000 students, 12 percent from countries other than Germany. The university is located in the beautiful, historic city of Marburg in the state of Hessen.

**University of Hull, England:** Hull is located about 3 hours from London. The university has 14,000 students and is noted for its excellence in teaching and research. Study abroad students can choose coursework from many disciplines including the humanities, social sciences, sciences, business, and the arts.

### 2. Affiliated Programs

**Lancaster University, England:** Lancaster is in the northwest of England, 250 miles from London. It is the preferred location to study environmental and natural sciences. Other coursework for international students includes applied sciences, arts, humanities, business and social sciences.

**Macquarie University, Sydney, Australia:** Macquarie has 24,000 students including 4,000 international students. They offer a wide range of courses including humanities, social sciences, biology, psychology and business.

**La Trobe University, Melbourne, Australia:** La Trobe is located 9 miles from Melbourne and has 17,000 students. They offer undergraduate courses in a variety of areas including humanities, social sciences, communications, business, education, and health sciences. Agreement expected to be finalized in 2010.

**University of Canterbury, New Zealand:** Canterbury is located in Christchurch, the largest city on New Zealand's South Island. A range of subjects is taught by the 38 departments which are grouped into seven faculties: arts, commerce, engineering, forestry, law, music & fine arts and science. There are many services on campus available for the 1,600 international students.

**National University of Ireland - Galway, Ireland:** NUI Galway has 13,000 students and nearly 1,000 international students attend the university each year. Because of its dynamic and pioneering role in theatre, arts and culture, Galway has earned the title 'Cultural Capital of Ireland'.

**National University of Ireland - Maynooth, Ireland:** NUI Maynooth is an innovative university of 5,500 students from every county in Ireland, as well as an increasing number of international students. Situated 25km west of Dublin, it is located in Ireland's only university town, Maynooth.

**University of Stirling – Scotland:** The highly rated University of Stirling offers international students the chance to receive a quality Scottish education. The university is proud of its international community which comprises 12 to 15% of the student population.

**Foundation for International Education (FIE):** With programs in London, Dublin and Madrid, FIE offers students a number of highly selective learning opportunities. FIE's specialized academic and internship programs provide opportunities for Carroll students in all academic disciplines.

## STUDY ABROAD AND NEW CULTURAL EXPERIENCE

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**Study Abroad Italy (SAI) - Florence:** In affiliation with Florence University of the Arts (FUA), SAI offers students the opportunity to study in one of the leading educational and cultural centers of Europe. FUA is located in the historic center of Florence and offers English-taught courses in areas such as business, economics, liberal arts, environmental studies, human services, natural sciences, mathematics, fine and visual arts.

**Study Abroad Italy (SAI) - Sicily:** SAI offers Carroll students opportunities to study in English-speaking programs at the Mediterranean Center for Arts and Sciences. The Center specializes in Greek and Roman history, art, architecture and archeology; philosophy; environmental studies; European history; creative writing; drawing; photography; and Italian studies. The school is located in a restored 17<sup>th</sup> century palace that is adjacent to the Mediterranean Sea.

### 3. Non-affiliated Programs

Non-affiliated programs are programs that students independently identify as a preferred study abroad option. Students sometimes want a study abroad experience that is not available through our Exchange or Affiliated Programs. Students need approval for a non-affiliated program in order to remain a Carroll University student while abroad.

### New Cultural Experience Programs (NCEP)

Since the 1970s, Carroll University has offered short-term study abroad courses led by Carroll faculty. NCEP courses carry academic credit and generally take students abroad during the January interim or in the summer. Prior to going abroad, students spend a full semester in academic preparation. Each NCEP course has a specific academic focus along with a particular emphasis on understanding new cultures.

**Eligibility:** Students interested in NCEP courses must submit an NCEP application and have a minimum of 16 completed credit hours from Carroll University and sophomore status. Some NCEP courses may have additional eligibility requirements. Enrollment is determined by the course instructor and OIE who review student records to ensure that the applicant is in good standing related to both academics and conduct.

Tuition for NCEP courses varies according to the program. Applications and additional information for NCEP courses are available on the university's Web page under Academic Programs or from the OIE in A. Paul Jones Scholars Hall.

### NCEP Course Offerings

NCEP course offerings are announced each spring for the next academic year. NCEP courses may vary from those listed below depending on availability of faculty.

#### NCEP 207. Practicing Intercultural Communication in Thailand 4 credits

This context course is an introduction to the cultural dimensions of human communication, leading to a better understanding of the ways in which shared patterns of perception and belief affect the ways we create and share meaning. We will examine the complex relationship between culture and communication from a variety of conceptu-

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## STUDY ABROAD AND NEW CULTURAL EXPERIENCE

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al perspectives. While we will cover the basic intercultural communication principles, the specific application of this study will be Thailand. For those who have already completed COM 207: Intercultural Communication, an advanced version of the class will be offered simultaneously. This will allow you to review and build on your previous course experience and still have the opportunity to travel to Thailand.

**NCEP 302. Russia and Central Asia: History, Environment and Geography Halfway Around the World** 4 credits

This course is designed to provide students the opportunity to study and have first-hand experience in Russia and Central Asia. Students will have a better understanding of the region's culture, history, geography and environment. We visit St. Petersburg and Moscow in Russia and Kokshetau, Kazakstan and their surrounding regions. We study the interrelationship of historical events, cultural characteristics and environmental quality. We will be working with St. Petersburg University, Moscow State University, Kokshetau State University, the Peace Corps, and the Waukesha Area Sister City Association.

**NCEP 305/BIO 385. Reefs, Rainforests and Ruins of Belize L1, L2** 4 credits

This course focuses on tropical reef biology and rainforest ecology. Students are introduced to these topics in the fall followed by a three-week winterim experience in Belize. While in Belize, students explore the world's second largest barrier reef and trek through a tropical rainforest to observe bullet trees, howler monkeys and exotic birds. While at these sites, students design and perform investigative experiments to gain an understanding of the scientific method. In addition, students experience the ancient Mayan civilization visiting the ruins at Lamanai, Caracol and Tikal. This course meets the LSP I or LSP II requirement.

**NCEP 309. Germany, Poland and Hungary** 4 credits

This course examines personal and communal treatment of "the other" in Eastern Europe, where recent history has left not only deep scars, but also a strong commitment to social justice and tolerance. Guided by visits to historical sites, guest speakers, one-on-one conversations and individual observations, students examine how questions of tolerance and intolerance have shaped and still inform Eastern European culture and society.

**NCEP 312. China: Its Modern Reality** 4 credits

This course examines Chinese culture with an emphasis on the roles China currently plays on the international stage. Specific attention is given to China's reform that has brought about great changes taking place in its economy and the social lives of the people. Important current issues in semi-capitalism, U.S. business outsourcing and internationalism in education will be stressed.

**NCEP 313. Revising Italy: Travel Writing and the Italian Tradition** 4 credits

This course is designed as an advanced-level writing class intending to explore various craft elements related to the subgenre, and allow students to create their own new travel essays within the Italian tradition. By subsequently traveling to Italy and interacting with the "place," the people, and the other aspects of the culture, students will be able to

## STUDY ABROAD AND NEW CULTURAL EXPERIENCE

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reflect on the works they read during the semester as they seek their own “meaning” of the place/self.

### **NCEP 315. Australia: The Land and the People Down Under** **4 credits**

This course explores the geographic and demographic forces that have shaped Australia by focusing on the amazing geographic diversity and how the peoples of Australia have left their mark on contemporary culture. The course will review the economic, political, religious, environmental and social realities of Australia and its neighboring Oceanic Islands.

### **NCEP 316. Multicultural South Africa** **4 credits**

This course builds on the material covered in the prerequisite course. A truly interdisciplinary experience, the course incorporates discussions of politics, history, economics and language in an attempt to understand the nature of power, particularly as it is exercised within the context of racial and ethnic oppression of indigenous peoples. Prerequisite: ENG 226, Africa: Literature and Culture of Its Many Nations.

### **NCEP 317/ENV 490. The Cultural and Environmental Geography of Alaska** **4 credits**

The purpose of this academic field study is to explore the environmental resources and cultural heritage of America’s final frontier. Spring coursework will ground students in an understanding of Alaska’s history, physical landscape, Native American heritage, and current natural resource base. The three-week May itinerary will include cultural activities in Sitka, Fairbanks and Anchorage involving Tlingit, Athabascan and Inuit Indian groups, plus environmental field investigations that include Denali National Park and the historic Yukon mining region.

### **NCEP 318. Mexico: Culture, Health and Human Services** **4 credits**

This course has been designed for students who are interested in careers where they will work in health or human service settings that serve Hispanic populations. Using Mexico as a central focus, students will gain an understanding of Mexican and Mexican-American culture and customs. In May students will study in Cuernavaca, Mexico, where they will live with families, participate in seminars related to health, social services, migration, medical anthropology and politics. Intensive language classes are optional for those with near-native fluency.

### **NCEP 319. Research in Art: Art and Culture of the Ancient and Modern Maya** **4 credits**

In this course, students will spend the first half of the spring semester at Carroll studying ancient Mayan history, culture and art/architecture. Over spring break, students will spend 10 days in Mexico exploring the world they have studied. Upon return to Carroll, the second half of the semester will involve developing written and artistic projects that reflect what they have learned on campus and abroad.

### **NCEP 320. Paris: Art and Culture** **4 credits**

This course traces the civilization and culture of France through the centuries, beginning with the Gallo-Roman times and progressing to the present. While in Paris, stu-

dents will experience first-hand the wealth of art and architecture which Paris has to offer. Students will be introduced to various artistic movements born in France and will investigate how history is reflected by the many monuments in the “City of Light.” Previous knowledge of French is not required. Note: Students planning to use NCEP 320, Paris: Art and Culture, for credit toward their French language minor need to work with the course instructor in the semester before they plan to take the course to develop a plan for ways to adapt their coursework to incorporate and demonstrate appropriate use of the language.

**NCEP 321. Contemporary Germany: Its culture, economy, and politics** **4 credits**

This course fosters an appreciation of German culture, language and history in an effort to prepare students to interact with people and organizations from Germany and other German-speaking countries (i.e. Austria, Switzerland, Lichtenstein). A semester-long prep course introduces history, culture and politics through readings, discussions and group projects. The in-country experience is focused in Marburg, Germany, where Carroll students will learn alongside students, faculty and staff of the Philipps-Universität. Day trips to surrounding cities and sites round out the 14-day experience. There are no prerequisites. Note: Students planning to use NCEP 321, Contemporary Germany: Its Culture, Economy, and Politics, and planning to use those courses for credit toward their German language minor need to work with the course instructor in the semester before they plan to take the course to develop a plan for ways to adapt their coursework to incorporate and demonstrate appropriate use of the language.

**NCEP 322. The Historical Evolution of Culture, Trade and Economics within the British Isles** **4 credits**

This course offers an examination how cultures in England, Ireland and Scotland evolved through the centuries as their economies advanced toward their current state in the global environment. The course fosters an appreciation of the differences in culture—as well as the multifarious ways in which “culture” is to be understood—and the history of the British Isles through readings, discussions and projects while including a three-week hands-on experience to Ireland and the London cultural and business centers.

**NCEP 323. Travel Journals: Italy** **4 credits**

Writing and drawing both require refined observational skills. This course seeks to develop these skills in an interrelated, experiential workshop format, partially taught off campus. By reading and viewing journals from the travel experiences of others, we will seek to uncover the way writers/artists influence our perceptions of place and culture. Our travel to Italy provides an opportunity to practice observational and expressive skills, and to develop a new way of being in the world—a traveler rather than a tourist. The process of keeping a travel journal as well as the final essay and/or series of visual works about this experience will reflect this new awareness of place and self. This course is also offered as ART 306: Advanced Drawing or ART 313: Travel Journals.

## STUDY ABROAD AND NEW CULTURAL EXPERIENCE

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### **NCEP 324. Identity, Culture and the European Union**

**4 credits**

This NCEP examines the themes of identity and culture within the European Union through an examination of how the arts and political structures disseminate and define culture. The preparatory portion of the course provides students a background in the history, politics, and cultures of the EU, France, Germany, and Belgium. The on-site portion of the course immerses students within the two "capital cities" of the EU: Brussels, Belgium and Strasbourg, France where we will meet various local, national and EU officials. Students will also spend time experiencing the two capital cities and countries that have shaped the EU more than any others since its inception: Paris, France and Berlin, Germany where we will focus on visiting major historical and cultural sites.

### **Domestic Off-campus Study Opportunities**

The **Washington Semester** program at **American University** includes a four-credit internship in the public, private or nonprofit sectors of Washington D.C.

The **Washington Center** program includes an internship of at least 30 hours per week supplemented by enrollment in a single course during the semester. International opportunities are also available.

The **Wisconsin Universities** program, conducted during a six-week summer term, concentrates the study of the United Nations in a two-week intensive course at the University of Wisconsin - Milwaukee followed by a four-week session in New York City. Students participating in this program earn six credits which may be transferred to Carroll.

# ADMISSION

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Admission to Carroll University is offered to those for whom academic and personal success seems likely. Each candidate is evaluated individually. Evidence of good character and demonstrated ability to do university level work is essential.

## Options for Attending Carroll

Students who wish to attend Carroll University may choose from two basic options.

**Full time** - students who carry 12 credits or more per semester.

**Part time** - students who carry 11 credits or fewer per semester. There are two types of part-time students.

**Degree seeking** - students working toward a Bachelor of Arts, Bachelor of Science, Bachelor of Science in Music Education, Bachelor of Science in Nursing, Master of Education, Entry-level Doctor of Physical Therapy or Master of Software Engineering degree.

**Non-degree seeking** - students taking courses for enrichment or skill-building purposes. Courses may be taken for credit or audited (students do not receive university credit for their work).

Note: Students may move between full-time and part-time status. However, they should be aware of implications for tuition and fees, financial aid, housing, etc. **Part-time students who wish to attend the University as full-time students must apply through the Office of Admission. Questions should be directed to the appropriate offices.**

Students come to Carroll from different environments. Some matriculate directly from secondary schools or transfer from other institutions. Other students enroll at Carroll as working adults.

Carroll offers classes during the day, in the evening, on Saturdays, and online. Students at Carroll may choose from more than 46 areas of study or they may design their own major. Nine majors can be completed through evening courses. For more information, contact the Office of Admission.

## Procedures for Admission - Full-Time Freshmen

The following credentials must be submitted to the Office of Admission:

1. **Application for admission**, which may be submitted at any time following the successful completion of the junior year in secondary school.
2. **Transcript from an accredited secondary school** that shows progress toward, or the completion of, graduation requirements.
3. **School Report Form**, which consists of a personal evaluation by the secondary school guidance counselor.

## ADMISSION

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4. **SAT or ACT scores:** these tests are administered by the College Entrance Examination Board and the American College Testing Program, respectively.
5. **Nursing students** must submit a transcript from an accredited secondary school that shows satisfactory completion of coursework in algebra II, chemistry and biology.

Decisions are made on applications when they are complete, and applicants are notified promptly through the Office of Admission. In some instances, the files of prospective students are referred to the Admission Committee for review and action. That body may grant admission to the University provided certain conditions are met or may require the student to satisfy specified criteria. Final admission to the Carroll athletic training, nursing, and physical therapy programs is contingent upon the ability of the applicant to comply with the technical standards as listed in the catalog under each area of study, as well as the health standards listed on the Carroll University health forms.

University applicants with disabilities bear no obligation to disclose their disabilities during the application process. However, an applicant may choose to disclose his/her disability to the Office of Admission if the student believes that he/she does not meet the University's regular admission requirements. The disability may be taken into consideration in relationship to the student's overall achievement, the effect of the disability on his/her academic achievement, and the likelihood of the student's success in the University's programs, courses and activities.

Following acceptance, students intending to enroll must pay a \$200 **confirmation deposit** and submit a statement of medical insurance coverage. All students are required to have medical insurance coverage as listed in the Catalog under Student Life, Health Insurance.

Those who also apply for financial aid are not required to declare their intention to enroll until after they have been notified of their final financial aid award.

### Application Deadline

Students are **encouraged** to file applications for admission to the first semester (fall) before March 15. Applications will be considered and qualified candidates will be accepted as long as there are openings in the entering class. Applications and all supporting documents for admission to the second semester should be filed before November 1.

To assure early notification of admission, either the ACT or SAT should be taken before March 15. Ordinarily, the SAT is administered seven times a year in October, November, December, January, April, May and June. The ACT is administered five times a year in October, December, February, April and June.

Test scores obtained in the junior year may be submitted. Students should contact their guidance counselor or write the testing agency to obtain test registration forms.

## Admission Options

Carroll recognizes the varying needs of individual students with the following options:

**Early admission** may be granted following the completion of three years of secondary school, provided the secondary school indicates that it is in the applicant's best interest to do so. The applicant may or may not have completed the coursework required for secondary school graduation at the time of admission, but must show unusual promise and achievement.

**Deferred admission** may be offered to students who want to delay university study for a semester or full year after graduating from secondary school.

## Advanced Placement

Applicants will be considered for advanced placement according to the policies established by Carroll University. The applicant's advanced standing is determined individually and is based on an evaluation of all prior academic work. Options for advanced placement are:

1. Advanced placement exams administered in high school.
2. Retroactive credit for modern languages and math.
3. CLEP exams (College Level Examination Program).
4. Program exams.
5. Challenge exams to complete requirements in specified nursing courses or portions of courses.
6. Credit for prior learning application.

## Procedures for Admission - Full-Time Transfer

Transfer students must submit the following credentials:

1. **Transfer application** for admission, which may be submitted at any time. Transfer applicants to the Bachelor of Science in Nursing program should contact the Office of Admission regarding application deadlines.
2. **Official transcripts** of coursework taken at all post-secondary institutions attended.
3. **University Academic Report Form** from the post-secondary institution most recently attended.
4. **Transcript from the last secondary school attended.**

Students must normally be eligible to return in good standing (be free of academic or disciplinary probation) to all institutions previously attended.

**All transfer students must complete the last 32 credits at Carroll. Students must complete at least one-fourth of their major credits and at least one-fourth of the courses in their declared minor at Carroll.**

All transfer students from a two-year accredited college-level institution may receive up to 64 credits provided:

1. These transfer courses at least parallel courses offered at Carroll University.
2. All courses accepted in transfer and applied to graduation hours are graded C or better.

## ADMISSION

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Transfer credit will be evaluated under the following provisions:

1. A course in which a student received a grade of D may be used to complete a general education, liberal studies, major or minor requirement, but the credit hours will not count as hours toward graduation. All D and F graded courses normally acceptable for transfer credit will be figured into the calculation of the cumulative grade point average.
2. A course in which a student received a D or F grade may be repeated for credit and only the last grade earned will be used in the grade point average calculation.
3. Transfer students with an Associate of Arts or an Associate of Science degree with at least 52 hours of acceptable transfer credit will meet all general education and liberal studies program requirements, except for one course in LSP VII.
4. A student who completes an advanced modern language course with a grade of B or better may be eligible for retroactive credit. See the Modern Language section of the current Catalog for specific information.
5. Technical college programs, other than general education programs, are evaluated on a course by course basis. General education and liberal studies program requirements must be completed by either transfer or Carroll University credit.
6. If a student repeated a course in which s/he initially received a grade of C or better and the repeated course had an unsatisfactory grade (D or F), s/he will receive the last grade earned. The final grade will be used in the grade point average calculation.

**Transfer credit policy after enrollment at Carroll University:** It is necessary to obtain permission **in advance** from the Carroll University Registrar's Office in order to have coursework from another institution accepted in transfer. All coursework must be graded at C or better to be accepted. Grade point deficiencies at Carroll University cannot be made up with transfer course credit. Note: Full-time and part-time students are required to complete their final 32 hours at Carroll.

The Carroll Nursing Program requires that C/D grades or any grade less than C in biology, chemistry, health sciences and nursing from another accredited college of nursing must be repeated. The Nursing Program requires the student to repeat practicum courses in which the corollary theory course transfers with less than a satisfactory grade (less than C).

USAFI credits and/or any other accredited correspondence experiences are evaluated against course offerings at Carroll, and credit is assigned accordingly. Ordinarily, not more than two such courses may receive credit toward a degree at the University.

### **Procedures for Admission - Part-Time Students**

All students carrying 11 credits or less are considered part-time students. An application for admission and official transcripts from all post-secondary institutions attended are required of all degree-seeking part-time students. Students interested in taking credit courses but not earning a degree must submit a part-time student application. Part-time applicants to the Carroll Nursing Program are required to submit transcripts from an accredited secondary school and the university academic report form.

Part-time students who wish to apply to the University as full-time students must do so through the Office of Admission. If possible, this process should be completed one full semester prior to anticipated full-time enrollment.

### **Returning Students**

After the lapse of one or more semesters, students seeking to return to Carroll on a full-time basis must reapply. Students who have been suspended from the University and have become eligible to apply for readmission must do so through the Office of Admission. The Admission Committee reviews each application and determines the current status of the student and the conditions of readmission.

### **On-Track Program**

Students from UW-Waukesha who want to transfer to Carroll at the end of two years may wish to consult their UW-Waukesha counselor about On-Track programs. These cooperative programs allow UW-Waukesha students to be enrolled concurrently in selected courses at Carroll University in order to complete their required courses in the desired sequence and time span.

Carroll University maintains articulation agreements with a number of Wisconsin institutions of higher learning in various areas of study. More information is available from the Office of Admission.

### **Athletic Training Education Program Admission**

The athletic training program admits qualified students regardless of race, color, creed, sex, age, sexual orientation, marital status, national or ethnic origin or handicap that does not interfere with the performance of professional athletic training practice as provided by law.

Applications and credentials for admission to the athletic training program must be submitted for processing to the Carroll University Office of Admission. Applicants must be in good standing (be free of academic and or disciplinary probation) at all institutions previously attended. Decisions on applications are made by a selection committee comprised of the athletic training faculty/staff members. Applicants are notified of their status through the Office of Admission.

Students who meet the admission and prerequisite professional phase criteria are granted admission to the professional phase of the athletic training program. Students must also fulfill technical standards and caregiver background and criminal history check to be admitted to the professional phase of the athletic training program.

Students who fail to meet the professional phase admission criteria, who fail to meet technical standards requirements, or who do not pass the caregiver and background criminal history check can be denied admittance to the professional phase of the athletic training program.

## ADMISSION

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Students can enter the athletic training program in one of two ways:

**Direct Admission** - Individuals can be admitted to the program as freshmen. Selection decisions for direct admission are based on evaluation of the following:

- a. Carroll University application form
- b. Transcript from an accredited secondary school that shows seven semesters of coursework. In addition, the following high school courses must be completed by graduation:  
Required:
  1. Three or more years of mathematics
  2. One or more years of high school biology
  3. One or more years of high school chemistry
  4. One or more years of high school English
  5. One or more years of high school history
  6. Two or more years of high school foreign languageRecommended:
  1. One or more years of high school physics
- c. ACT composite score of 21 or SAT total score of 990

To advance to the professional phase of the program in their junior and senior year, direct admission students must satisfy all of the following requirements during their freshman and sophomore years at the University:

- a. A cumulative and semester grade point average (GPA) of 2.75 or higher
- b. Pre-professional science courses (PHY 101 and 102, CHE 101 and 102, BIO 130 and 140, PSY 101) GPA of 2.5 or higher
- c. A minimum course grade of "C" is required in all coursework used to calculate pre-professional GPA.
- d. Completion of the following courses prior to the beginning of the professional phase of the program in the students' junior year:
  1. First Year Seminar 100
  2. English 170
  3. Physics 101 and 102
  4. Chemistry 101 and 102
  5. Athletic Training 101 and 102
  6. Psychology 101
  7. Biology 130 and 140
  8. Health Sciences 101 or the equivalent of First Aid and CPR for the Professional Rescuer certification with AED certification, HSC103, HSC120
  9. Communication 207
- e. Submission of transcripts, cover letter, résumé, and three letters of reference: one from a professor, one from an athletic trainer, and one character reference.
- f. Completion and submission of technical standards form and criminal history check.
- g. Participation in university, community service, or athletic training activities.
- h. May only repeat a course once and not be on academic probation.
- i. Admission and progression standards are subject to change based on regulatory, licensing, and/or certification needs.

**Delayed Admission** - Students who enroll at Carroll, not having been admitted to the program through direct admission, can be accepted by meeting the athletic training program progression standards including:

- a. A cumulative and semester GPA of 2.75 or higher
- b. A pre-professional course (PHY 101 and 102, CHE 101 and 102, BIO 130 and 140, PSY 101) GPA of 2.5 or higher
- c. A minimum course grade of "C" is required in all coursework used to calculate pre-professional GPA.
- d. Completion of the following courses or equivalent prior to the beginning of the professional phase of the program:
  1. First Year Seminar 100
  2. English 170
  3. Physics 101 and 102
  4. Chemistry 101 and 102
  5. Athletic Training 101 and 102
  6. Psychology 101
  7. Biology 130 and 140
  8. Health Sciences 101 or the equivalent of First Aid and CPR for the Professional Rescuer certification with AED certification, HSC103, HSC120
  9. Communication 207
- e. Submission of transcripts, cover letter, résumé, and three letters of reference: one from a professor, one from an athletic trainer, and one character reference.
- f. Completion and submission of technical standards form and criminal history check for athletic training.
- g. Participation in university, community service, or athletic training activities.
- h. May only repeat a course once and not be on academic probation.
- i. Admission and progression standards are subject to change based on regulatory, licensing, and/or certification needs.

### **Diagnostic Medical Sonography Admission**

Entry into the professional phase of the curriculum is done in conjunction with the Aurora Health Care School of Diagnostic Medical Sonography and its associated clinical sites. Admission to the Aurora Health Care professional phase of the program is highly competitive and dependent upon completion of multiple requirements. The acceptance of students into the professional phase of the curriculum lies with the Aurora Health Care School of Diagnostic Medical Sonography Admissions Committee.

Entrance into the professional program has the following minimum requirements:

- a. Carroll University general education requirements.
- b. A minimum cumulative grade point of 3.0, a required science course grade point of 3.0, and a minimum grade of "C" in all required science courses.

Required Science Courses

1. BIO 130, Introduction to Human Anatomy & Physiology I
2. BIO 140, Introduction to Human Anatomy & Physiology II
3. CHE 101, General Chemistry
4. CHE 102, Biological Chemistry
5. BIO 224, Bioethics

## ADMISSION

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6. MAT 112, Introduction to Statistics
  7. NRS 100, Health Care and Nursing
  8. NRS 230, Health Assessment
  9. NRS 236, Human Pathophysiologic Responses
  10. PHY 101, Introductory Physics I
  11. PHY 102, Introductory Physics II
- c. Proof of Certified Nursing Experience (CNA) certificate (at the student's own expense).
  - d. Accumulation of at least 500 hours of direct patient care prior to application.
  - e. Completion of a drug-screening consent form.
  - f. Three letters of professional reference.
  - g. Transcripts from all schools attended including high school.
  - h. An autobiography covering the past four years of the applicant's life.
  - i. A documented job shadowing experience of at least 8 hours at Aurora St. Luke's Medical Center.

Students are admitted to the professional program once per year in the fall semester. Students must apply for a position in the Aurora DMS class one year prior to transferring. Students typically apply in the fall of the sophomore year. A complete application file must be sent through the Carroll University Health Sciences 2+2 Advisor to the Aurora Health Care School of Diagnostic Medical Sonography. The application file is due to the Carroll University Health Sciences and 2+2 Advisor no later than November 15. The applications are then reviewed by the Aurora Health Care Admissions Committee. Qualified students may then be contacted for a personal interview. Notification of acceptance occurs in the spring of sophomore year. If accepted, the student would begin the two-year professional program at Aurora Health Care School of Diagnostic Medical Sonography. Subsequent progression standards are at the discretion of the host institution. At the end of the professional program the student would receive a certificate in Diagnostic Medical Sonography and a Carroll University Bachelor of Science degree with a major in Health Sciences: Diagnostic Medical Sonography. Due to the highly specialized nature and requirements of this program the students should work closely with the Carroll University Health Sciences 2+2 Program Advisor.

### **Bachelor of Science in Nursing Degree Admission**

The nursing program admits qualified students regardless of race, color, creed, sex, age, sexual orientation, national or ethnic origin or handicap that does not interfere with the performance of professional nursing as provided by law. Students can enter the nursing program in one of two ways:

**Direct Admission** - Individuals matriculate directly from high school into the nursing major with successful completion of the following:

1. One year of high school Algebra II, biology and chemistry (grade C or better).
2. Attain an ACT of 21 or higher and high school cumulative GPA 2.75 or higher.
3. Applicants who have English as a Second Language are required to take the TOEFL and achieve a score of 550, unless satisfactory SAT/ACT scores are available.

4. Submission of the Technical Standards for Admission to and Progression in the Nursing Program and the Background Information Disclosure forms.
5. In some instances, applicant files are referred to a Selection Committee for review and action. That body may grant admission provided certain conditions are met or may require the student to satisfy specified criteria.
6. Admission and progression standards are subject to change based on regulatory, licensing and/or certification needs.

**Delayed Admission** - Students who enroll at Carroll, not having been admitted to the program through direct admission, including pre-nursing, change of major and transfer student applicants, may be accepted to the nursing program by meeting the nursing program application criteria as listed below.

1. Submission of an application for the Nursing Program, and if a transfer student, submission of a Carroll University application.
2. Submission of transcripts from an accredited secondary school and all post-secondary institutions attended. Applicants must be eligible to return in good standing (be free of academic or disciplinary probation) to all institutions previously attended as documented on the university academic report form.
3. A cumulative GPA of 2.75 or higher.
4. Successful completion (grade C or better) of the following courses:
  - a. Biology 130
  - b. Chemistry 101
5. Submission of the Technical Standards for Admission to and Progression in the Nursing Program and the Background Information Disclosure forms.
6. Written statement to include reason for seeking the BSN degree.
7. Admission and progression standards are subject to change based on regulatory, licensing and/or certification needs.

Applications and credentials for admission to the nursing program must be submitted to the Office of Admission. Decisions are made by a selection committee and applicants are notified through the Office of Admission. Students not admitted to the nursing program are encouraged to seek career counseling through the Career Center.

#### **Registered Nurse Admission**

Registered nurses who have graduated from accredited associate degree nursing programs may be admitted to the nursing program as transfer students. These students may receive transfer credit for applicable university courses provided they were completed in an accredited junior or senior college and are accompanied by an official transcript from the institution(s).

Registered nurses who wish to enter the nursing program to earn their Bachelor of Science in Nursing degree must meet the following requirements:

1. Graduation from an accredited associate degree program.
2. Current RN license in the state of Wisconsin.
3. A cumulative GPA of 2.75 or higher.
4. Grades of C or better in all required biology, chemistry, health science and nursing courses.

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The following credentials are required:

1. Submission of a Carroll University application
2. Submission of transcripts from an accredited secondary school and all post-secondary institutions attended
3. Current RN license, State of Wisconsin
4. Submission of a Carroll Health History Physical Evaluation Form
5. Submission of the Technical Standards for Admission to and Progression in the Nursing Program form
6. Written statement to include:
  - a. Reason for seeking the bachelor's degree
  - b. Self identified professional and academic strengths and weaknesses
  - c. Professional interest area(s) and area of employment

Completion students may earn up to 34 block nursing credits from previous nursing coursework upon successful completion or challenge of Nursing 230, Health Assessment and Nursing 236, Human Pathophysiologic Responses. Please contact the director of the nursing program to obtain a syllabus of the material covered on the challenge examinations. The nursing program reserves the right, in special circumstances, to require the student to successfully complete an evaluation process to validate the probability of successful program completion. Special circumstances include, but are not limited to, a GPA below 2.75 and /or no recent work history as a registered nurse.

### **Pre-Occupational Studies/Therapy Program Admissions**

Students interested in Occupational Therapy spend two years satisfying general education requirements and prerequisites at Carroll University required for the professional years of study at the University of Wisconsin-Milwaukee. To progress into the undergraduate junior year, Carroll University pre-occupational therapy students must apply for admission to the University of Wisconsin-Milwaukee's occupational studies professional program in the spring of their sophomore year.

Entrance into the UW- Milwaukee Occupational Studies professional program is highly competitive with the following minimum requirements:

- a. Completion of UWM's General Education Requirements before the fall semester of the professional years.
- b. Verification that the following Carroll University equivalent courses will be completed before the fall semester of the professional years:
  1. Freshman Year Seminar (FYS 100)
  2. Writing Seminar (ENG 170)
  3. Introduction to Human Anatomy & Physiology I (BIO 130)
  4. Introduction to Human Anatomy & Physiology II (BIO 140)
  5. Introduction to Logic (PHI 105) (LSP 1)
  6. Introduction to Psychology (PSY 101) (LSP 3)
  7. Statistics and Experimental Design (PSY 205)
  8. Life-Span Psychology (PSY 221)
  9. Elementary Functions (MAT 130) (Provided Math 101 proficiency is met.)
  10. Problem Solving Using Information Technology (CSC 107)
  11. Introductory Physics (PHY 101) (LSP 2)

12. Psycho-Social Aspects of Physical Activity (PED 421)
  13. Four Liberal Studies Program Courses (LSP 4, 5, 6 and 7)
- c. Students must achieve a 2.75 GPA in the courses listed above and must obtain a C or better in each of these courses for entrance into the Occupational Studies Program at the University of Wisconsin-Milwaukee. No more than three courses may be repeated. It must be emphasized that a 2.75 GPA is a minimum GPA of 2.75 and does not guarantee admission into the professional program. A cumulative GPA of 2.75 is also required and will be based upon all courses taken including transfer credits and courses that have been repeated. Since students who complete the Bachelor of Science in Occupational Studies program must meet all eligibility requirements for graduate study, they are strongly encouraged to maintain at least a 3.0 cumulative GPA throughout their undergraduate years.
  - d. To ensure that students entering the professional occupational studies program have a basic understanding of "disability" and the impact of a disability on a person, a minimum of 70 hours in a disability-related experience is a requirement of the admission process. A disability is defined as a mental and/or physical impairment which interferes with participation in activities of daily living, work, and leisure. The 70 hours must be in an environment where the applicant directly observes and interacts with a person with a disability. The following situations qualify as a disability-related experience:
    1. Personally experiencing a disability,
    2. Involvement with a person with a disability,
    3. Working in a disability-related environment, or
    4. Volunteering in a disability-related environment.This experience must be documented on a form provided by the College of Health Sciences Office of Student Affairs by the first Monday in March of the year of application.
  - e. Completion of a written application due the first Monday in March. Students are encouraged to submit an application if they plan to have all requirements listed above completed before the fall semester of application. Students are admitted to the professional program once per year in the fall semester only.

Admission to the Occupational Studies program is determined by the University of Wisconsin-Milwaukee O.T. Admissions Committee. Following admission to the Occupational Studies program subsequent progression standards are at the discretion of the host institution.

All students admitted to the Occupational Studies Program will be required to complete a Background Information Disclosure form (HFS-64). A background check, which identifies a past criminal record, does not necessarily preclude an individual from pursuing studies in occupational therapy or becoming a successful practitioner. Should there be a discrepancy between the information reported by the student on HFS-64 and the reports issued by the Department of Justice and the Department of Health and Family Services, the student will be subject to dismissal from the occupational therapy program and the reported to DHFS per HFS 12.20 (1)©, Wis. Adm. Code.

### Pre-Physical Therapy and Entry-Level Doctor of Physical Therapy Program Admission

The entry-level Doctor of Physical Therapy Program admits qualified students regardless of race, color, creed, gender, age, sexual orientation, national or ethnic origin, or disability that does not interfere with the performance of professional physical therapy practice as provided by law. Applications and credentials for admission to the physical therapy program must be submitted for processing to the Carroll University Office of Admission. As decisions are made on applications, applicants are notified through the Office of Admission. Students can enter the physical therapy program in one of three ways: direct admission, transfer admission, or non-traditional admission.

**Direct Admission Option** - Carroll University will admit freshmen, matriculating directly from high school, to an existing undergraduate major with a pre-physical therapy emphasis and the Physical Therapy Program. Selection decisions will be based on evaluation of the following:

- a. Carroll University application form
- b. The Safety and Technical Standards Form
- c. ACT composite score of 23 or higher and high school cumulative GPA 2.75 or higher
- d. Transcript from an accredited secondary school which shows six semesters of coursework. In addition, the following high school courses must be completed by graduation:

#### **Required**

1. Three or more years of mathematics
2. One or more years of high school biology
3. One or more years of high school chemistry
4. One or more years of high school English
5. One or more years of high school history
6. Two or more years of high school foreign language

#### **Recommended**

1. One or more years of high school physics

During their freshman, sophomore and junior years at the University, students with direct admission status earn credits toward undergraduate degrees in existing Carroll majors which have a pre-physical therapy emphasis. To advance into the professional phase of the program in their senior year, students with direct admission status must satisfy all of the following requirements during their freshman, sophomore and junior years at the university:

- a. A university cumulative grade point average of 3.0 or higher.
- b. A pre-professional course grade point average of 3.0 or higher. Courses include:
  1. 4 semesters of Biology, including BIO/HSC 402 and 403
  2. 2 semesters of Chemistry, either CHE101/102 or CHE109/110
  3. 2 semesters of Physics, either PHY101/102 or PHY203/204
  4. Up to 2 semesters of Psychology, at least one course 200-level or higher
- c. A minimum course grade of "C" is required in all coursework used to calculate pre-professional GPA.

- d. Completion of the following courses prior to beginning of the professional phase of the program in the student's senior year:
  - 1. First Year Seminar
  - 2. Writing Seminar
  - 3. 4 semesters of biology including one semester of human anatomy (BIO 402) and one semester of human physiology (BIO 403)
  - 4. 2 semesters of physics (Physics 101, 102)
  - 5. 2 semesters of chemistry (Chemistry 109, 110 or Chemistry 101, 102)
  - 6. One course from each of the seven LSP areas
  - 7. One semester of statistics (Math 112 or Psychology 205)
  - 8. The majority of required and elective courses in the undergraduate major
- e. Evidence that the bachelor's degree will be awarded at the completion of the senior year.
- f. GRE total score (Verbal, Quantitative and Writing).
- g. Participation in a clinical observation experience. A Clinical Experience Documentation Form must be submitted to the program.
- h. Submission of three letters of reference: one from a physical therapist, one from a university professor, and one that attests to the student's character.
- i. Participation in university or community service activities.
- j. Admission and progression standards are subject to change based on regulatory, licensing, and/or certification needs.

If, for any reason, a direct admission student does not advance into the professional phase of the program, career counseling will be provided through the Walter Young Center.

**Transfer Student Option** - If a high school senior is not admitted directly to the physical therapy program as a freshman or if a high school senior is uncertain that he/she wants to pursue an Entry-Level Doctor of Physical Therapy degree, another option is available. The individual will be able to apply, anytime during his/her junior year, for one of the transfer slots in the professional phase of the program. Applicants completing a bachelor's degree at Carroll University receive a calculated preference in consideration for Phase 1 admission.

Selection decisions will be based on evaluation of the following:

- a. The Application for Admission to the Entry-Level Doctor of Physical Therapy Program Professional Phase which includes:
  - 1. Clinical Experience Documentation Form.
  - 2. Three letters of reference: one from a physical therapist, one from a university professor, and one that attests to the student's character.
  - 3. Essay question(s).
  - 4. Course Work in Progress Form.
  - 5. Participation in university or community service activities.
  - 6. The Safety and Technical Standards Form.
- b. A university cumulative grade point average of 3.0 is required to make application to the program.
- c. A 3.0 GPA or higher in pre-professional course work is required to make application to the program. Courses include:

## ADMISSION

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1. 4 semesters of Biology, including BIO 402 and 403
2. 2 semesters of Chemistry, either CHE101/102 or CHE109/110
3. 2 semesters of Physics, either PHY101/102 or PHY203/204
4. Up to 2 semesters of Psychology, at least one course 200-level or higher
- d. A minimum course grade of "C" is required in all coursework used to calculate pre-professional GPA.
- e. A university transcript that includes five semesters of coursework. In addition, the following courses must be completed prior to beginning the professional phase of the program in the senior year:
  1. First Year Seminar
  2. Writing Seminar
  3. 4 semesters of biology including one semester of human anatomy (BIO 402) and one semester of human physiology (BIO 403)
  4. 2 semesters of physics (Physics 101/102)
  5. 2 semesters of chemistry (Chemistry 109, 110 or Chemistry 101, 102)
  6. 1 course from each of the seven LSP areas
  7. 1 semester of statistics (Math 112 or Psychology 205)
  8. The majority of required and elective courses in the undergraduate major
- f. Evidence that the bachelor's degree will be awarded at the completion of the senior year.
- g. GRE total score (Verbal, Quantitative and Writing).
- h. Admission and progression standards are subject to change based on regulatory, licensing, and/or certification needs.

**Non-Traditional Student Option:** For those Carroll University students planning to apply to the Physical Therapy Program following the completion their undergraduate degree, please refer to the Graduate catalog for the Non-Traditional Student requirements for admission. Applicants completing a bachelor's degree at Carroll University receive a calculated preference in consideration for Phase I admission

### Radiologic Technology Program Admissions

The professional phase of the Radiologic Technology Program is done in conjunction with the Radiology Alliance – Froedtert Hospital, Columbia-St. Mary's Hospital and Wheaton Franciscan – St. Joseph. Admission to the Radiology Alliance professional phase of the program is highly competitive and dependent upon completion of multiple requirements. The acceptance of students into the professional phase of the curriculum lies with the Radiology Alliance Admissions Committee. Radiology Alliance Students are admitted to the professional phase program once per year in the fall semester of their junior year.

Application requirements include but are not limited to the following:

- a. Minimum overall and science GPA of 3.0, a grade of 'C' or better in physical science courses, and completion of all required and elective courses within the first two years.

Required Science Course

1. BIO 130, Introduction to Human Anatomy & Physiology I
2. BIO 140, Introduction to Human Anatomy & Physiology II

3. PHY 101, Introductory Physics I
  4. PHY 102, Introductory Physics II
  5. CHE 101, General Chemistry I
  6. CHE 102, Biological Chemistry II
  7. CHE 208, Nutrition
- b. Three written references from people who are not family members.
  - c. Transcripts from all schools attended including high school.
  - d. A personal statement describing why you would like to be a radiologic technologist.
  - e. A job shadowing experience at one of the Radiology Alliance hospitals.

Students must apply for a position in a Radiology Alliance hospital school of Radiologic Technology one year prior to transferring. This means that typically in the fall of the sophomore year an application must be sent to 1, 2 or 3 of the Radiology Alliance hospitals (Froedtert, Columbia-St. Mary's, and/or Wheaton-St. Joseph). The due date to have all of the information to the Carroll University Health Sciences and 2+2 Advisor is November 15. The advisor will process all information and send to the school or schools that the student is interested in attending. The applications will be reviewed by the Admissions Committee at the Radiology Alliance and qualified students will be called for an interview. The determination of which students will be called for an interview and which students will be accepted lies solely with the Radiology Alliance Admissions Committees. Notification of acceptance occurs in the spring of sophomore year. If accepted, the student would begin the two-year professional program at an affiliated Radiology Alliance hospital. Subsequent progression standards are at the discretion of the host institution. At the completion of the program the student would receive a certificate in Radiologic Technology and a Bachelor of Science degree with a major in Health Sciences: Radiologic Technology from Carroll University. Due to the highly specialized requirements of this program, students should work closely with the Carroll University Health Sciences and 2+2 Program Advisor.

### **Air Force ROTC Information**

Carroll University students have the opportunity to fully participate in the Air Force Reserve Officers Training Corps program. Students enrolled in the Air Force ROTC program attend AFROTC courses at Marquette University.

Through this program, Carroll University offers its students the opportunity to prepare for initial active duty assignments as Air Force Commissioned Officers. In order to receive a commission, AFROTC cadets must complete all university requirements for a degree and courses specified by the Air Force. AFROTC offers four-, three-, and two-year programs leading to a commission as an Air Force officer. Four-year program students complete the general military course and the professional officer course, in addition to a four-week summer field training between their second and third years in the program. Two-year students complete only the professional officer course, but have a five-week summer field training before entering the professional officer course. General qualifications:

- be a full-time student
- be a United States citizen (for scholarship appointment)

## ADMISSION

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- be in good physical condition
- be of good moral character
- for pilot or navigator training, fulfill all commissioning requirements before age 26 1/2
- for scholarship recipients, fulfill commissioning requirements before age 27 on June 30 in the estimated year of commissioning
- for non-scholarship students, fulfill all commissioning requirements before age 30

**General Military Course:** The first- and second-year educational program in Air Force Aerospace Studies consists of a series of one-hour courses designed to give students basic information on world military systems and the role of the U.S. Air Force in the defense of the free world. All required textbooks and uniforms are provided free. The general military course is open to all students at Carroll University without advance application and does not obligate students to the Air Force in any way.

**Field Training:** AFROTC Field Training is offered during the summer months at selected Air Force bases throughout the U.S. and provides leadership and officer training in a structured military environment. Major areas of study include physical training, drill and ceremony, marksmanship, and survival training. The Air Force pays all expenses associated with field training.

**Professional officer course:** The third and fourth years of Air Force Aerospace Studies are designed to develop skills and attitudes vital to the professional officer. Students completing the professional officer course are commissioned as officers in the U.S. Air Force upon university graduation. All students in the professional officer course receive a nontaxable subsistence allowance of \$200 per month during the academic year. Students wanting to enter the professional officer course should apply early in the spring semester in order to begin this course of study in the following fall semester.

**Leadership Laboratory:** Leadership laboratory is a cadet-centered activity. It is largely cadet planned and directed, in line with the premise that it provides leadership training experience that will improve a cadet's ability to perform as an Air Force officer. The freshman and sophomore leadership laboratory program introduces Air Force customs and courtesies, drill and ceremonies, wearing the uniform, career opportunities in the Air Force, education and training benefits, the life and work of an Air Force officer, and opportunities for field trips to Air Force installations throughout the U.S. Initial experiences include preparing the cadet for individual squadron and flight movements in drill and ceremonies and for the field training assignment prior to the junior year.

The junior and senior leadership laboratory program involves the cadets in advanced leadership experiences. Cadet responsibilities include planning and directing the activities of the cadet corps, preparing briefings and written communications, and providing interviews, guidance, information and other services which will increase the performance and motivation of other cadets.

**AFROTC College Scholarship and Scholarship Actions Programs:** These programs provide scholarships to selected students participating in AFROTC. While participating in

AFROTC, students receive \$200 per month along with paid tuition, fees, and a fixed text-book reimbursement. To be eligible for either of these programs, students must:

- Be a U.S. citizen.
- Be at least 17 years of age on the date of enrollment and under 27 years of age on June 30 of the estimated year of commissioning.
- Pass an Air Force physical exam.
- Be selected by a board of Air Force officers.
- Have no moral objections or personal convictions that prevent bearing arms and supporting and defending the Constitution of the United States against all enemies, foreign and domestic. (Applicants must not be conscientious objectors.)
- Achieve a passing score on the Air Force Officer Qualifying Test.
- Maintain a quality grade point average.

High school students can apply for scholarships late in their junior year or early in their senior year; pre-applicant questionnaires are available from high school guidance counselors or any Air Force recruiting office. Completed pre-applicant questionnaires should be mailed as soon as possible (to meet the earliest selection board) but will not be accepted if mailed after December 1 of the year before entering university. For students already enrolled at Carroll, three- and two-year scholarships are available. Submit applications directly to the Department of Aerospace Studies at Marquette University. For more information, call 414.288.7682.

# FEEES

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## Full-Time (12-19 credits)

The charges listed begin with the Summer I 2010 session and continue through the Spring 2011 semester. Full-time status is determined at the end of the first week of classes on the date indicated in the calendar as the last day to add classes.

### Tuition

Tuition .....	\$23,582
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### Residency Requirement

Beginning in fall 2008, full-time students who enroll at Carroll are subject to a junior residency requirement. This requirement remains in effect until a student has achieved senior standing (92 credits) by the beginning of the academic year.

Full-time students who enrolled prior to fall 2008 will be held to the pre-existing sophomore residency requirement. This requirement remains in effect until a student has achieved junior standing (60 credits) by the beginning of the academic year.

Each year, full-time students who wish to live off-campus must submit a petition to be released from the residency requirement and must receive approval through the Office of Residence Life and Housing. If the petition is denied, the student will be subject to the corresponding requirement above.

Students who have not been approved for release from the requirement and/or fail to submit a Housing and Meal Plan Contract will be charged for a standard double room and 140 Block Meal Reservation meal plan until the terms of the residency requirement have been satisfied.

### Residence Hall Room

#### Carroll University Room Plans

Double room .....	\$4,023
Single room .....	4,700
Triple room .....	2,882
Carroll Street Apartments double (9 months) .....	5,006
Carroll Street Apartments triple (9 months) .....	4,608
Charles House single room.....	4,700
Charles House double room .....	4,023
College Avenue Apartments double (9 months) .....	5,006
College Avenue Apartments triple (9 months) .....	4,396
East House single room .....	4,700
707 Grand.....	5,480
Hartwell single (9 months).....	5,102
Hartwell double (9 months) .....	4,841
Hartwell triple (9 months) .....	4,608

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The Landing .....	5,580
New Hall .....	4,888
Pioneer Hall .....	5,480
The Ramada .....	3,923
Wright House single .....	4,700
Wright House double .....	4,023

## Board

### Carroll University Meal Plans

Carroll's 2010-11 Standing Reservations meal plans feature:

- A guaranteed number of meals per week or a block of meals for the semester – you decide!
- The flexibility to use your meal plan at all dining locations in the Campus Center and Pioneer Hall during regularly scheduled and posted transfer hours.
- Dining Dollars that can be used anytime and anywhere, including Second Cup, Pioneer Hall and the Campus Center.

Standing Reservations meal plans offer students a multitude of options and maximum flexibility. Simply choose the plan that best fits your schedule and dining habits. We hope you'll agree that there is something for every appetite!

### Meal Plan Policies

- All Carroll students who are subject to the residency requirement are also required to participate in a resident meal plan. Students living in The Ramada may also choose the 90 Meal Block Reservation. Only students living in 707 Grand, The Landing, Carroll Street, College Avenue and Hartwell Avenue Apartments are exempt from this policy.
- Students may "increase" their meal plan at any time. Meal plan increases must remain within weekly or block selection (i.e. 10 Meal Weekly Reservation can be upgraded to 14 Meal Weekly Reservation but not to 160 Meal Block Reservation). The deadline to "decrease" or cancel a meal plan is the last day to add classes each semester as published in the university catalog and academic calendar.
- Students who select a meal plan for fall semester will automatically be billed for the same plan for spring semester unless they make a change prior to the deadline.
- Weekly meal plans offer a guaranteed number of meals per week and may be redeemed by the cardholder only. Block meal plans offer a guaranteed number of meals per semester and may be used for guest meals. All meal plans include Dining Dollars and allow meal transfers during posted hours.
- Weekly meals may be used Sunday through Saturday each week and are not transferable to the following week. Each semester is 15 weeks in length and 18 meals will be served each week in the Pulse on Dining Main Dining Room.
- Unused meals are not transferable from fall to spring semester. Unused Dining Dollars will be transferred from fall to spring semester. Dining Dollars must be used by the end of Summer Session I. Unused meal plans and Dining Dollars are not refundable.

## FEES

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G. Only currently enrolled Carroll students may participate in a meal plan. Students who withdraw or leave the University are no longer eligible to use their selected meal plan and will be held responsible for outstanding charges as published in the University Catalog.

### Resident Meal Plan Reservations and Rates

Students who are subject to the residency requirement and who are not living in the Carroll Street, College Avenue or Hartwell Avenue Apartments must choose one of the resident meal plans.

<i>Cost/Year</i>	<i>Reservation</i>	<i>Meals/Semester or Week</i>	<i>Dining Dollars/ Semester</i>
\$2,980	10 Meal Weekly Reservation	10 meals/week	\$250
\$2,980	140 Meal Block Reservation	140 meals/semester	\$250
\$3,348	14 Meal Weekly Reservation	14 meals/week	\$225
\$3,348	160 Meal Block Reservation	160 meals/semester	\$350
\$3,548	18 Meal Weekly Reservation	18 meals/week	\$200
\$3,548	180 Meal Block Reservation	180 meals/semester	\$375
\$3,998	220 Meal Block Reservation	220 meals/semester	\$425

### Commuter Meal Plan Reservations and Rates

Students who are not subject to the residency requirement may choose any of the resident or commuter meal plans.

<i>Cost/Year</i>	<i>Reservation</i>	<i>Meals/Semester</i>	<i>Dining Dollars/ Semester</i>
\$776	30 Meal Block Reservation	30 meals/semester	\$100
\$1,438	60 Meal Block Reservation	60 meals/semester	\$150
\$2,088	90 Meal Block Reservation	90 meals/semester	\$200

### Dining Locations

- *Pulse on Dining (PoD) Main Dining Room* – our newly renovated all-you-care to eat dining facility in the Campus Center.
- *Pioneer Indoor Terrace (PIT)* – our freshly remodeled retail dining facilities, featuring Coyote Jack's Grill, Naked Pear Café and 2.Mato – in the lower level of the Campus Center.
- *Second Cup* – our exciting new coffee concept – make Second Cup your second home in the Ganfield Browsing Room of the Todd Wehr Memorial Library.
- *Verde!* – your source for convenience items, cappuccino or a snack on the go – proudly serving Milwaukee's own Alterra coffee at the PoD entrance.
- *Pioneer Hall* – a great location to grab a cup of coffee to start your day.

## BookCHARGE

### Charge Textbooks and Supplies to your Student Account

Currently enrolled students who have a PiONEer Card, have no holds on their student account, and have completed the Financial Responsibility Agreement are eligible.

It starts 10 days prior to the start of the semester and ends one week after the semester begins. You will need to show your PiONEer Card at the cash register. Your PiONEer Card will be swiped, which will verify your charge eligibility and then you will sign a charge receipt.

You are allowed to charge books, supplies and merchandise to your student account up to \$750 per semester. Please be responsible about your purchases. Remember, your charges will be reflected on your student account and will be billed to you.

### Other Fees and Deposits

Residential deposit (credited to student's account) .....	\$100
This sum is required to be submitted with the housing contract. When this deposit is paid, residence hall reservations are confirmed. It will not be refunded except in cases of illness or exceptional circumstances that make it impossible for a student to attend the University in the semester for which the student has been accepted.	
Residential cancellation penalty .....	500
This fee will be assessed if a student withdraws from a housing contract. A sliding scale will be implemented for cancellations occurring during the summer of 2010 based upon the following schedule:	
Deposit Post Date – May 6, 2010 .....	loss of \$100 housing deposit
May 6 – June 15, 2010 .....	loss of deposit and \$200 cancellation fee
June 15 – July 31, 2010 .....	loss of deposit and \$300 cancellation fee
Aug 1 – start of 10-11 academic year..	loss of deposit and \$500 cancellation fee
Confirmation deposit (credited to student's account) .....	200
This sum is due and payable within 30 days after the date the applicant is notified of admission to the University or after financial aid is determined for those who are aid applicants. This deposit is collected only from new full-time students or from part-time students moving to full time status. It is generally not refundable.	
Registration and Orientation fee .....	200
New full-time students will be assessed this fee on their first billing. It is generally not refundable.	
Comprehensive fee .....	333
This fee is collected from full-time undergraduate students and is used directly by the University to address needs common to the student body.	
Activity fee .....	150
This fee is collected by the University at the request of the Student Senate and is distributed by the Senate to eligible student organizations.	
Security deposit for Carroll University students .....	100
New students are required to post a \$100 deposit which is held as security against unpaid damages and fines. The deposit is refunded when a student graduates or when a student withdraws after at least one full semester. Security deposits are nonrefundable for disciplinary or academic dismissals. While students are continuing at Carroll, damages, fines and special charges are to be paid within 10 days of notification; otherwise such amounts will be added to the billing for the semester. Damages, fines, and	

## FEES

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special charges which remain unpaid will be charged against the security deposit if the student is not returning.	
Nursing program fee .....	425
This fee is assessed to all full- and part-time nursing students with a Nursing major.	
Professional liability insurance .....	20
This fee is assessed to Health Sciences majors who are required to carry professional liability insurance when enrolled in any clinical course.	
Completion fee .....	75
The fee will be charged whether a student participates in the graduation ceremony or not, to cover diplomas, diploma covers, degree audits and other associated costs.	
Parking permit for resident Carroll students - other lots .....	153-241
Resident students may apply for parking permits for residence hall lots. Because parking spaces are limited, they are assigned by the safety office according to established criteria.	
Stop Payment Fee (subject to change based on bank fees) .....	30
NSF Fee (subject to change based on bank fees) .....	25
<i>Interest: 1% interest (12% APR) will be added to balances not paid within 30 days.</i>	
Non-refundable registration fee	
for International and Off-Campus Programs .....	250
NCEP Course Fee .....	260
Study Abroad Fee (per semester) .....	500
Auditing (per credit) .....	79
Auditing (Nursing-per credit) .....	97
Credit for work experience (per credit) .....	150
Credit for work experience (Nursing-per credit) .....	184
Internship(per credit) .....	298
Internship (Nursing-per credit) .....	377
Internship: Written Project (per credit) .....	150
Internship: Written Project (Nursing-per credit) .....	184
Credit by examination (per credit) .....	147
Credit by examination – Nursing courses (per credit) .....	184
Prior Learning Assessment (per credit) .....	150
Prior Learning Assessment (Nursing-per credit) .....	184
Tuition per credit for additional credits – non-nursing (greater than 19 credits) ..	298
Tuition per credit for additional credits – nursing (greater than 19 credits) .....	377
Language Credit Abroad Programs (4-11 credits) .....	260
Language Credit Abroad Programs (12-16 credits) .....	520
Course fees (per course) .....	43-70
These fees are required for classes with expendable material costs, as well as other costs unique to the course, and include, but are not limited to, lab courses.	
Chemistry 098/Mathematics 098 .....	404
A student spends an estimated \$1000-1500 per year on books.	

### Athletic Training Program Fees

Junior Program Fee .....	\$360
Senior Program Fee .....	260

### Applied Music Fees

The academic year charges for individual instruction in voice, piano, organ, strings, winds and percussion are:

One-half hour lesson per week .....	\$440
One hour lesson per week .....	880

No refunds of applied music fees will be made after the second week of classes.

### ADDITIONAL EXPENSES – NURSING PROGRAM

Nursing is a practice discipline and students enrolled in the nursing program must plan for additional costs that are directly related to the program. These include uniforms, nursing textbooks, health requirements, CPR certification, liability insurance, and transportation costs associated with clinical experiences.

- Uniform cost will vary depending on vendor used. Uniform patch is available through the bookstore. Also required for clinical nursing courses: watch with a second hand, white nurses shoes (or all white athletic shoes), bandage scissors and stethoscope.
- Students are required to carry professional liability insurance when enrolled in any clinical course. Cost varies according to plan selected and agency used.
- Nursing pin. Cost varies depending on quality ordered.
- For graduating seniors desiring registration and licensure in Wisconsin:
  - Registration fee for NCLEX exam
  - Application for State Board
  - Work permit for graduates working in Wisconsin
  - State Board registration photograph
  - Class composite photograph (optional)

### Payment of Student Accounts

It is the responsibility of all Carroll University students to read and complete the Carroll University Financial Responsibility Agreement. This can be found online at [my.carrollu.edu](http://my.carrollu.edu)>Student>My Info>Financial Responsibility Agreement. Charges for tuition, fees, room and board are the obligation of the student upon registration and are to be paid no later than the first day of the semester/session. A student may attend classes, take examinations, and be entitled to the benefits of a fully registered student only when all charges have been paid or satisfactory financial arrangements have been approved by the Business Office.

Course and Fee statements will be available online at [my.carrollu.edu](http://my.carrollu.edu). Click on Student>Billing and Payment. Full payment of the balance must be made by the first day of the semester/session unless payment plan arrangements have been approved by the business office. Due Dates are Fall 2010: September 1, 2010; Winter 2011: January 3, 2011; Spring 2011: January 18, 2011; Summer Session I, 2011: May 9, 2011;

## FEES

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Summer Session II, 2011: May 31, 2011; and Summer Session III, 2011: July 13, 2011. If additional charges are incurred during a semester, a statement available online at [my.carrollu.edu](http://my.carrollu.edu) will show those supplemental charges. These charges are due upon receipt of the billing.

**Interest Charges:** The University will use a monthly periodic rate of 1%, which corresponds to an ANNUAL PERCENTAGE RATE of 12% to compute the FINANCE CHARGE. The University calculates finance charges by applying the periodic rate to the adjusted balance of a student account. The adjusted balance is equal to the prior balance shown on the monthly statement less any payments and credits received on or before 30 days from the first day of the month. The student may pay the balance in full at any time. If the current balance shown on the monthly statement is paid on or before 30 days from the first day of the month, the student will incur no FINANCE CHARGE. If the full payment is not made by that date, a FINANCE CHARGE is imposed on the balance of the account. Interests and late fees will be capitalized on a monthly basis and interest will be charged on the entire amount thereafter. A student with an unpaid balance will not be allowed to register for the next semester or participate in study abroad programs until that balance is paid in full. In the event of default, the University may refer the account to a credit reporting agency, a collection agency, and/or initiate legal action to recover any outstanding debt. The student will be responsible for the costs of collection, including, without limitation, interest, penalties, collection agency fees, court costs and attorney fees. Additional information can be obtained in the Business Office.

Diplomas and transcripts of credits and credentials will be issued only to students who have settled all obligations to the University, including tuition, fees, fines and signatures on loan documents. Any student who is delinquent on a payment plan will have the above credentials held.

### **How payments are applied to student accounts**

Credits to students' accounts are applied in the following manner:

Financial aid in the form of grants and scholarships is the first item credited to the student's account and will be applied in the following order:

Tuition, program fees, other fees, board charges, room charges

Cash payments (other than student loans) will be applied to fines and incidental charges.

The remaining cash and/or loan proceeds made to student accounts are applied against charges not covered by grants and scholarships in the following order:

Tuition, program fees, other fees, board charges, room charges

Information regarding payment plan options may be obtained from the Business Office of the University. Students are invited to contact the Business Office if they have any questions concerning payments due to the University.

## Veterans' Benefits

Veterans eligible for education benefits should apply with the appropriate agency prior to registering for classes. After applying for benefits, veterans should contact the institution's Veterans Certifying Official to notify them of their intent to collect benefits. Federal benefits paid under chapters 30, 35, 1606, or 1607 will be paid directly to the student. Recipients of such payments are advised to anticipate a delay of about two months before receiving the first payment. Students receiving benefits under these chapters should be prepared to pay all expenses since payments are made directly to the veteran. Chapter 33 (Post 9-11 GI Bill) and the Yellow Ribbon Benefits will be paid directly to the higher education institution.

### Part-time (Less than 12 Credits)

#### Tuition

Undergraduate course per credit.....	\$298
Nursing course per credit .....	377
*Undergraduate OCICU course per credit .....	377
Auditing per credit .....	79
Auditing Nursing per credit .....	97
Credit by examination (per credit) .....	147
Credit by examination – Nursing courses (per credit).....	184

These charges do not apply to full-time students who drop a course after the first week of a semester.

\*Please refer to the University's Web site for information pertaining to Carroll's online consortium (OCICU) courses.

Students contemplating dropping and substituting courses involving online programs may substitute another section of the same course as long as it is in the same term ("term" applies to the period during which the course is offered, beginning to ending date). Traditional courses and courses offered through the Online Consortium of Independent Colleges and Universities (OCICU) have different start and end dates and drop policies even though they may be equivalent courses. Students contemplating dropping or substituting an OCICU course with a traditional course or an OCICU course must contact the registrar at 262.524.7211 or e-mail [ahandfor@carrollu.edu](mailto:ahandfor@carrollu.edu) for policy and cost information.

**Interest Charges:** The University will use a monthly periodic rate of 1%, which corresponds to an ANNUAL PERCENTAGE RATE of 12% to compute the FINANCE CHARGE. The University calculates finance charges by applying the periodic rate to the adjusted balance of a student account. The adjusted balance is equal to the prior balance shown on the monthly statement less any payments and credits received on or before 30 days from the first day of the month. The student may pay the balance in full at any time. If the current balance shown on the monthly statement is paid on or before 30 days from the first day of the month, the student will incur no FINANCE CHARGE. If the full payment is not made by that date, a FINANCE CHARGE is imposed on the

balance of the account. Interest and late fees will be capitalized on a monthly basis and interest will be charged on the entire amount thereafter.

A student with an unpaid balance will not be allowed to register for the next semester or leave on a study abroad program until the account balance is paid in full. Diplomas and transcripts of credits and credentials will be issued only to students who have settled all obligations to the University including tuition, fees, fines and signatures on loan documents. The student will be responsible for the costs of collection, including, without limitation, interest, penalties, collection agency fees, court costs and attorney fees. Additional information can be obtained in the Business Office.

Refer to the Graduate Catalog for information regarding the graduate programs.

### **Internships**

The University offers three types of internships. It is the student's responsibility to register for the appropriate internship course.

1. Internship with approval and placement by the program instructor  
(Course 480) . . . . . \$298 per credit  
\$377 per credit - Nursing
2. Credit for work experience approved by the program instructor  
(Course 483) . . . . . \$150 per credit  
\$184 per credit - Nursing
3. Written project completed at work site and approved by the program  
instructor (Course 482) . . . . . \$150 per credit  
\$184 per credit - Nursing

### **Refund Policies**

Full-time status is determined at the end of the first week of classes on the date indicated in the calendar as the last date to add classes. A full-time student who drops below 12 credits after this date will continue to be billed at full-time rates unless the student withdraws from the University.

To begin the withdrawal process the student must fill out the withdrawal form. This form may be obtained from the Office of Student Success in the Financial Aid Office. This form must be returned to the Office of Student Success so that the University can calculate the refund, if any, of institutional charges and determine the amount of aid that may need to be refunded to the various sources.

Refunds may be available for students with Title IV federal aid who withdraw from the University.

Students with federal aid who withdraw from the University will have their charges recalculated in accordance with guidelines established by the U.S. Department of Education derived from the October 7, 1998, Reauthorization of the Higher Education Act. The "Federal Refund" calculation includes tuition, fees, room, board and other charges.

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The federal formula provides a return of the Title IV aid if the student received federal financial assistance in the form of a Pell Grant, Supplemental Education Opportunity Grant, National SMART Grant, Academic Competitiveness Grant, Perkins Loan or Subsidized and Unsubsidized Stafford Loans or PLUS Loans and withdraws on or before completing 60% of the semester. The percentage of Title IV aid earned is equal to the number of calendar days completed in the semester divided by the number of calendar days in the semester. Scheduled breaks of five or more days are excluded.

If any refund remains after the required return of Title IV aid, the refund will be used to repay Carroll funds, state funds, other private sources and the student in proportion to the amount paid by each non-federal source as long as there is no unpaid balance due at the time of withdrawal. If there was an unpaid balance, then all aid sources will be repaid before any refund is paid the student.

If a student who receives Title IV HEA program assistance other than Federal Work Study is owed a refund, the University will allocate that refund in the following order:

1. Federal Unsubsidized Stafford Loan Program
2. Federal Subsidized Stafford Loan Program
3. Federal Perkins Loan Program
4. Federal PLUS Loan Program
5. Federal Pell Grant Program
6. Federal Academic Competitiveness Grant
7. Federal National SMART Grant
8. Federal SEOG Program
9. Any other assistance awarded to the student under programs authorized by Title IV HEA
10. Other federal, state, private or institutional financial assistance programs
11. The student

For purposes of repayment, if funds are released to a student because of a credit balance on the student's account, then the student may be required to repay some of the federal grants released to the student. Until the repayment is resolved, the student is ineligible for further Title IV assistance and the repayment must be reported on any financial aid transcript completed. These refund policies are based upon the rules and regulations of the U.S. Department of Education and are subject to change. Worksheets used to determine the amount of refund or return of Title IV aid are available upon request at the Carroll University Business Office.

Example: A student withdraws on the tenth day of classes. The semester is 100 days. The percentage of earned Title IV funds would be 10%, 10 days/100 days. The unearned aid would be 90%. The semester charges include \$11,791.00 for tuition and \$241.50 for fees. The total \$12,032.50 is paid as follows:

- \* \$1,750 Stafford Loan
- \* \$1,100 Federal Pell Grant
- \* \$2,000 Carroll University Grant

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- \* \$1,000 Carroll University Scholarship
- \* \$6,182.50 Student Payment

Under the Federal "Return of Title IV Aid" policy, \$1,750 would be returned to repay the Stafford Loan and \$815 would be returned to the Federal Pell Grant. In addition to this, under Carroll University refund policy for students receiving Title IV aid, the Carroll aid would be reduced by \$2,700.00. According to the refund policy, the charges for the semester will be reduced by \$10,829.25. An administrative fee of 5% (not to exceed \$100) will be charged to the student's account. The student in this example would receive a refund of \$5,464.25 minus any incidental charges that may be on the student's account.

Financial aid for part-time students will be adjusted to reflect the final number of credits for which the student is enrolled on Wednesday, September 8, 2010, for the fall semester or on Tuesday, January 25, 2011, for the spring semester. If enrollment on either one of these dates is for fewer than six credits, no financial aid will be available for the term.

Although the Financial Aid Census date (adjustment date for financial aid) is one week after the semester begins, we are required by federal law to review any students who received the Federal Pell Grant. Under federal regulations, students can only receive Federal Pell Grants for the classes they attended. The regulation states the following: If a student begins attending some but not all of his or her classes, the Financial Aid Office will have to recalculate the student's Pell Grant award based on the student's actual enrollment status. Therefore, if you receive a Federal Pell Grant, we will review your enrollment status throughout the semester.

### Tuition refunds:

- Full or part-time students without federal aid who withdraw from the university may be eligible for a tuition refund.
- Part-time students who drop courses may be eligible for a tuition refund.

Fall 2010		Spring 2011	
<u>Drop on or before</u>	<u>Refund</u>	<u>Drop on or before</u>	<u>Refund</u>
Tuesday, August 31	100%	Monday, January 17	100%
Monday, September 13	80%	Monday, January 31	80%
Monday, September 20	60%	Monday, February 7	60%
Monday, September 27	40%	Monday, February 14	40%
Monday, October 4	20%	Monday, February 21	20%

Refunds of room and board fees are available if a resident student officially withdraws from the University. The amount is determined by the refund calculations listed above or, in the case of board fees, actual use, whichever is greater.

All refunds will be reduced by a 5% administrative fee (not to exceed \$100).

All scholarships, grants, and loans must be credited to a student account before a refund check will be issued.

**No refund** of tuition, fees, room or board will be made to students dismissed or suspended from the University for disciplinary or academic reasons. Refunds of study abroad program registration fees are subject to regulations available in the Office of International Education.

**Refund policy for military reservists called to active duty:** The University recognizes the sacrifices that those in the armed services make while serving our country. We are proud to have these individuals as a part of our campus community and therefore maintain the following policy:

- The student must provide the Registrar's Office copies of official military orders. The student will then be automatically withdrawn from all of his/her courses for the given semester. The academic record will reflect the non-punitive "W."
- The student will be eligible for a full refund for tuition and course fees for that semester.
- Any room and board charges will be prorated based on the period in the semester when the student is required to leave and the remaining amount will be refunded.

**All students** adding or dropping a course must do so in writing through the Registrar's Office. Refunds are based on the date of the postmark of withdrawals sent by mail or on date of delivery of those brought in personally to the registrar's office. If a student drops from a credit class to an audit, the refund will be based on the credit course fee according to the refund policy. If a class is cancelled due to lack of enrollment, students registered for that class will be given a full refund.

# FINANCIAL AID

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The U.S. Department of Education has stated that Carroll University may participate in those student financial assistance programs authorized by Title IV of the Higher Education Act of 1965, as amended. You may contact the Director of Financial Aid at the telephone number or address listed below, if you would like to review a copy of the most current Program Participation Agreement.

Financial aid is available to students who are enrolled at least on a half-time basis per semester (some students may qualify for a Pell Grant if enrolled less than half time), are degree seeking, and meet all other guidelines established by the University and the U.S. Department of Education. For financial aid purposes, half-time status (6-8 credits) is a minimum of six credit hours per semester, three-quarter-time is 9-11 credits and full-time status is a minimum of 12 credit hours per semester. The University participates in four types of financial aid programs: scholarships, grants, loans, and employment. The following pages provide more information about the various financial aid programs and how to apply. More detailed information is available on the University's Web site and upon request by contacting the Office of Financial Aid at 262.524.7296 locally, or at 1-800-Carroll. You may also write to us at the following address: Carroll University Office of Financial Aid, 100 N. East Ave., Waukesha, WI 53186.

Note: Students may be eligible for student financial assistance program funds for attending a study abroad program that is approved for credit by the Carroll University Registrar. For more information, contact the Office of Financial Aid as described above.

## Application for Aid

The University uses the results of the Free Application for Federal Student Aid (FAFSA) as the basis for determining a student's eligibility for federal, state, and institutional funds. The FAFSA must be entirely completed and sent to the federal processor. Carroll University's address and Title IV code (003838) must be listed on the FAFSA in order for the University to receive a copy of the results from the federal processor. Students are encouraged to complete the FAFSA by April 1 for September enrollment, and by November 1 for January enrollment.

In order to receive financial aid, students must have their financial aid paperwork (including the FAFSA and any additional information required by the Financial Aid Office) completed by the following dates for the applicable term:

Summer	June 15
Fall	November 15
Spring	April 15

The information reported on the FAFSA is used to determine a student's expected family contribution (EFC), an amount the student and parent(s) or spouse are expected to

contribute toward their education. The EFC is subtracted from a student's cost of attendance to determine his/her financial need. A financial aid counselor will attempt to put together a financial aid package that comes as close as possible to meeting a student's demonstrated financial need. However, due to limited funds, the amount awarded to a student may fall short of the amount for which she/he needs. The University attempts to distribute financial aid to students in a fair and equitable manner among the various student populations.

About 30% of the students who complete the FAFSA will be randomly selected for a process known as verification. When selected for verification, the student and parent(s) or spouse must complete a federal verification document and submit signed federal income tax information to the Carroll University Office of Financial Aid. The University is required by the U.S. Department of Education to review the documents to ensure the information reported on the FAFSA is correct.

### **Scholarships**

Carroll University recognizes outstanding student accomplishments by awarding a number of scholarships. There are two categories of scholarships: academic and additional. For additional scholarship information, please see the University's Web site.

### **Grants**

Grants are awarded based upon a student's demonstrated financial need as determined by the Free Application for Federal Student Aid (FAFSA). A student can receive a grant from the Federal Government, the State of Wisconsin (if a Wisconsin resident), and Carroll University. Like scholarships, grants are considered gift aid that does not need to be repaid. For additional grant information, please see the University's Web site.

### **Loans**

Students who obtain a loan must adhere to the terms of the loan. The terms include repayment, entrance and exit counseling, and conditions under which students may obtain deferral or partial loan repayment for volunteer service. For additional loan information, please see the University's Web site.

### **Student Employment**

University employment opportunities allow students to earn an hourly wage and receive a monthly paycheck while attending Carroll. Students may work from five to 14 hours each week. The number of hours a student may work depends upon the student's financial aid award. Students eligible for federal work-study are given first preference for employment positions. Students eligible for federal work study are encouraged to participate in off-campus community service positions. For additional student employment information, please see the University's Web site.

# PART-TIME STUDIES

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Carroll University is committed to helping adults gain and utilize knowledge which will enrich their personal and professional lives. The University offers the opportunity for students to earn a Bachelor's degree or certification through part-time study. Day, evening, and Web-based classes are offered, allowing students the flexibility to combine work and family responsibilities with continuing study. The curriculum is designed to provide part-time students with educational opportunities that are comparable in quality and purpose to those offered to traditional, full-time undergraduates.

Part-time students considering enrollment at Carroll will work closely with an adviser to design their academic programs. Evening and Saturday appointments are available through the Office of Admission. The Bachelor's degrees are awarded upon completion of 128 credits with the last 32 credits and one-fourth of the major(s) and minor(s) completed at Carroll. The credits can be comprised of transfer credit, Carroll credit, and, in many instances, CLEP and/or Prior Learning credit. A maximum of 64 credits may be transferred from an accredited two-year institution. A minimum grade point average of 2.00 is required for graduation (this includes the cumulative GPA as well as the Carroll GPA).

All majors are available to part-time students with the ability to take day classes. Part-time students can also complete the degree requirements for nine majors by attending exclusively in the evening or by combining online courses with evening attendance. A majority of the certificate programs are also offered in the evenings.

## Evening Degree Options

Accounting  
Business Administration (Management emphasis only)  
Commercial Art  
Communication  
Computer Science  
Education\*  
Graphic Communication  
Organizational Leadership  
Psychology

\*It is recommended that Part-Time Studies students coordinate with the Education Office for advising as soon as possible for current DPI requirements.

## General Education Requirements

Part-time students complete the following general education courses:

- English 170, Writing Seminar
- Mathematics 106 or higher is required for all students pursuing a Bachelor of Arts degree and Mathematics 112 is required for all students pursuing a Bachelor of Science in Nursing degree. Students pursuing a Bachelor of Science

degree are required to complete either Mathematics 112, or Mathematics 140 or higher.

- The Liberal Studies Program (LSP) requirements are part of a part-time student's course of study regardless of his or her major and are intended to impart the breadth of learning that is the hallmark of a liberal education. All degree candidates must complete one course from each of the seven areas listed on pages 11-14.
- Capstone Experience: Each discipline offers its own Senior Capstone to serve as a bridge to graduate study and/or career. This gateway experience represents the culmination of each student's major course of study by providing opportunities to bring together the learning that has occurred during their years of study at Carroll. Students must complete the Senior Capstone in each of their majors.

### **Degree-Specific Requirements**

The required courses for each major are identified in the appropriate section of this catalog.

### **Special Policy for Part-time Students Enrolled in Student Teaching**

Carroll students who have been enrolled part time (11 credits or less) for at least three consecutive semesters (fall and spring only, excluding winter and summer sessions) immediately preceding the student teaching semester, will be charged the part-time tuition rate for the 12-credit semester. All other students will be charged the regular full-time rate for the student teaching semester.

### **Special Academic Sessions**

#### **Summer Sessions**

Carroll University offers three summer sessions that provide students with additional flexibility in scheduling their academic programs. The summer sessions make it possible for part-time students to study year round. Summer I begins after Commencement in the second week of May and lasts for three weeks. Students can take a maximum of four credits during Summer I. Summer II and III are each six weeks long and run from early June until mid-July and from mid-July to the end of August, respectively. Students can take a maximum of eight credits in each of the six-week sessions. Visitors from other institutions are welcome to enroll in summer courses.

#### **Winter Session**

Winter Session is a three-week term in early January. It is a good time to explore new subject matter, fulfill a requirement, or speed up progress toward graduation. Winter Session includes courses from a variety of majors. Students can take a maximum of four credits during Winter Session.

#### **Web-based Classes**

Carroll University Web-based courses are designed to provide students with the highest quality learning experience. Web-based courses include a variety of online and hybrid courses, combining online with on-campus instruction. Many of the online courses are accelerated eight-week courses offered through the Online Consortium of

## **PART-TIME STUDIES**

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Independent Colleges and Universities (OCICU). The University's membership in OCICU offers students a wider variety of online courses in collaboration with other private colleges and universities. OCICU courses have different add/drop policies, pricing, refund policies, and start and end dates. OCICU courses meet during six eight-week terms throughout the year. Information on Web-based courses is available on the University's Web site.

### **Certificate Programs**

Because many adults have learning needs best served by short course sequences, Carroll University offers a number of certificate programs. Certificates are awarded upon completion of a cluster of courses in a relevant field. Students must notify the Office of Part-Time Studies when they have completed the required courses. After a review of academic credentials, certificates are issued to students that have met all certificate requirements. Official transcripts detailing the completed coursework must be requested in writing from the Registrar's Office.

Certificates currently available include:

- E-Commerce
- Nonprofit Management
- Programmer Analyst
- World Wide Web

The Office of Part-Time Studies is a division of the Admission Office and is located in Voorhees Hall 105. Part-Time Studies can be reached by calling 262.524.7220.

# PUBLIC SAFETY

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Our mission is to assist the Carroll community in creating a safe and secure environment for learning, living, and working. The Department of Public Safety maintains staffing 24 hours a day including personnel in the dispatch office, Public Safety Officers, and off-duty Waukesha County Sheriff Deputies. Public Safety both produces and co-sponsors various events during the year to help enhance the knowledge of the community related to personal safety both on campus and off.

Carroll University provides an annual security report that includes statistics for the previous three calendar years concerning reported crimes that occurred on campus; in certain off campus buildings or property owned or controlled by Carroll University; and on public property within or immediately adjacent to, and accessible from, the campus. The report includes institutional policies concerning campus security, such as policies concerning alcohol and other drug use, crime prevention, the reporting of crimes, sexual assault, and other matters. The report also includes fire safety policies and statistics, emergency notification procedures, and protocols for missing persons. The report is available in an electronic version by accessing the following website: <http://www.carrollu.edu/campus/safety/clearyact.pdf>.

You can obtain a paper copy of this report by contacting the Public Safety Office located in the Campus Center on the first floor or by calling 262.524.7300.

# STUDENT AFFAIRS

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## Counseling Services

Personal confidential counseling is available to all full-time students at the Walter Young Center on the Carroll campus. Experienced, masters level therapists assist students with concerns regarding family, relationships, self-esteem, academic difficulties and other issues. The counseling center offers solution focused short term counseling. Students needing longer-term treatment are referred to a community resource.

## Disability Policy for Students

Carroll University is committed to making otherwise qualified students with disabilities full participants in its programs, courses, services and activities. We are guided by the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990. Individuals will receive reasonable accommodations according to their needs and the documentation of their disability.

## Accommodation Request Process

Accommodation requests should be made through the Walter Young Center. In order to be eligible for reasonable accommodation(s) from the University, the student must provide recent, relevant and comprehensive documentation of the disability, and the disability's impact on the student's participation in a course, program or activity. Should documentation from the student be inadequate or incomplete, the University reserves the right to require additional documentation. The cost of providing additional documentation will be borne by the student. However, if documentation is complete, but the University seeks a second professional opinion, the University will pay for the cost of that second opinion. The University also reserves the right to deny accommodation until necessary documentation is received. Requested accommodations will be approved or disapproved by the Disabilities Services Office at the Walter Young Center following a Reasonable Accommodation Conference. Any accommodation decision may be appealed in writing to the Dean of Students within five (5) days of the decision. Any request for additional or modified accommodations must be made in writing to the Disabilities Services Office.

## Diversity

At Carroll University, diversity is a critical part of the campus culture. International and multicultural students, faculty, and staff are a vital component of the campus' richness. The university's goal is to create an environment that is open and welcoming for all people.

Carroll University is committed to supporting a diverse student body by providing comprehensive student support services and programs that allow students to explore diversity on campus, in the surrounding communities, and across the globe.

The Office of Cultural Diversity offers services and programs that support diversity such as cultural programming and activities, pre-college and mentor programs, diversity training, classroom presentations and more. These programs and services directly

benefit the Carroll student body, faculty, and staff, as well as the Waukesha community. In turn, they provide the whole community with opportunities to gain a greater appreciation for the diversity represented on and off campus.

### Student Health Center

The Health Center at Carroll is staffed by nurse practitioners who treat students for a variety of minor illnesses and injuries. The nurse practitioners can also perform well physicals and pap smears, tuberculosis (TB) skin tests, complete travel forms, and give vaccines. There are charges to see the nurse practitioners, receive medications, have lab tests, vaccines, etc. The charges are billed to the student account, unless the student has enrolled in the insurance plan offered by the University provided by United Health Care Student Resources. Students enrolled under a parent's insurance plan can request a receipt that can be submitted to their insurance. Students needing further treatment are referred to local clinics, Waukesha Memorial Hospital, or their primary M.D. and are responsible for any associated costs.

### Insurance

**Health Insurance** - Carroll University is concerned about the health and welfare of all its students. Carroll requires all full time undergraduate students to have health insurance for necessary protection in case of unexpected health needs. Students are automatically enrolled in the University sponsored student health insurance plan unless they demonstrate proof of appropriate coverage before the first day of school. Students and parents can view Carroll's insurance policy plan brochure at the University's Student Health Center Web site.

Many HMOs do not provide coverage outside of a particular area, so students and their parents should review their coverage before waiving the University's plan.

**Student-Athletes** - the University carries an insurance policy that is secondary coverage for the student-athlete who may be injured during practice for, or while participating in, an intercollegiate athletic event. The student-athlete is responsible for any deductible.

**Vehicles** - the University carries insurance on all of its vehicles. Any student receiving permission to drive a university vehicle must be approved by the University's insurance company before he or she drives any of its vehicles.

**Property** - Carroll University's property insurance policy covers damage to, or theft of, University-owned property only. It does not cover any personal property belonging to students.

**Liability** - Certain students are required to carry professional liability insurance when enrolled in any clinical course. These students include, but are not limited to, professional phase physical therapy and nursing students. Cost varies according to plan selected.

### Intercollegiate Athletics

Carroll University is a member of the Midwest Conference and Division III of the National Collegiate Athletic Association. The institution offers intercollegiate sports in men's baseball and football, men's and women's basketball, cross country, golf, indoor and outdoor track and field, soccer, swimming, and tennis, and women's softball and volleyball. Student-athletes are required to maintain good academic and social standing as defined in the student handbook in order to participate in the intercollegiate athletic program.

### Residence Life & Housing

Living on campus is an important part of the University educational experience. Campus housing is staffed with live-in professionals and student resident assistants trained to engage students in the community and act as resources. Beginning in fall 2008, full-time students who enroll at Carroll are subject to a junior residency requirement. This requirement remains in effect until a student has achieved senior standing (92 credits) by the beginning of the academic year. Full-time students who enrolled prior to fall 2008 will be held to the pre-existing sophomore residency requirement. This requirement remains in effect until a student has achieved junior standing (60 credits) by the beginning of the academic year.

Each year, full-time students who wish to live off-campus must submit a petition to be released from the residency requirement and must receive approval through the Office of Residence Life and Housing. If the petition is denied, the student will be subject to the corresponding requirement above.

Students who have not been approved for release from the requirement and/or fail to submit a Housing and Meal Plan Contract will be charged for a standard double room and 140 Block Reservation meal plan until the terms of the residency requirement have been satisfied.

### Living Options

Carroll University offers many on campus housing options including apartments, houses, and both traditional and suite style housing facilities to suit the needs of residential students. All campus housing comes with phone and voicemail service, high speed internet access, basic room furniture, mail delivery, as well as on site laundry facilities.

**Carroll Street Apartments (225-227 Carroll Street):** These apartments offer double and triple units. All units have air conditioning, a private bathroom, living room area, full kitchen, and furniture (beds, dressers, and desks). Doubles have one bedroom and triples have two bedrooms. Storage is available in the lower level. Limited garage parking is available through Campus Safety.

**Charles House (201 N. Charles Street):** This co-ed house has single and double rooms available. The house offers common area bathrooms, kitchen, lounges, and email stations. All rooms have moveable room furniture (bed, dresser, desk, and wardrobe) and tiled floors.

**College Avenue Apartments (245 W. College Avenue):** These apartments offer double and triple units. All units have air conditioning, a private bathroom, living room area, full kitchen, and furniture (beds, dressers, and desks). Doubles have one bedroom and triples have two bedrooms. Storage is available in the lower level.

**East Avenue House (239 N. East Avenue):** This is an all female house that offers five single rooms. The house offers a full size kitchen and common bathrooms. Moveable furniture (bed, dresser, and desk) is included. Some rooms offer built in closets while others have wardrobes.

**Grand Avenue Apartments (707 Grand Avenue):** These apartments are located across the street from the Waukesha Public Library and are .7 miles from campus. There are double and triple units available. All units have air conditioning, private bathroom, living room area, full size kitchens, a washer and dryer, and furniture (bed, dresser, and desk). There is one free parking spot available for each apartment.

**Hartwell Apartments:** Located between Barney Street and Hartwell Avenue, single, double and triple apartments are available. All units have air conditioning, a private bathroom, living room area, full kitchen, and furniture (beds, dressers, and desks). Hartwell A & D are triples, Hartwell B are singles, and Hartwell C are doubles. Storage is available in the lower level.

**Kilgour Hall:** This all female traditional residence hall offers single and double rooms. The building offers a full size kitchen located on the second floor, study lounge on each floor, a full study lounge in the lower level, common area bathrooms, and an elevator. All rooms have tiled floors.

**The Landing:** These apartments, located in downtown Waukesha, offer double and triple occupancy units. All units have air conditioning, a private bathroom, living room area, full kitchen, and bedroom furniture (beds, dressers, and desks). Doubles have one bedroom and triples have two bedrooms. Residents will have access to pool and whirlpool as well as other amenities.

**New Hall:** This suite style residence hall is co-ed with each suite being sex specific. New Hall offers double rooms joined by a common bathroom. The building offers air-conditioning, elevator, and second and third floors each have a galley with microwave, toaster oven, and sink. All rooms have moveable furniture and microwaves are allowed in student rooms. All student rooms have tiled floors.

**North and South Bergstrom Halls:** This traditional style residence complex has sex specific floors and contains single, double and triple rooms with moveable furniture. These buildings offer common area bathrooms, study lounges, kitchen areas, game rooms, and elevators. North Bergstrom rooms are carpeted, while South Bergstrom rooms are tiled.

**Pioneer Hall:** Located on the corner of College Avenue and Grand Avenue, this co-ed four story residence hall houses 264 residents in sex-specific quad suites. Each unit has four private bedrooms (each furnished with bed, desk, and dresser), two bathrooms, a

## STUDENT AFFAIRS

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living area, and kitchenette (includes refrigerator and microwave, no stoves). This facility offers air conditioning, elevators and limited underground parking. On each floor there are laundry rooms, lounges, and large common kitchens (with stove and oven) for residential students. This facility also offers a computer lab, coffee shop, and fitness area for the Carroll community.

**The Ramada Inn:** Located right next to Carroll University's Graduate Center, this facility offers students double occupancy rooms with a private bathroom. The rooms are cleaned weekly and residents will have access to all of the Ramada Inn's amenities.

**Steele and Swarthout Halls:** This traditional style residence complex has sex specific floors and offers single, double, and triple rooms with moveable and stackable furniture. These buildings offer common area bathrooms, study lounges, TV lounges, a kitchen area, and game room. All individual rooms have tiled floors.

**Wright House (119 Wright Street):** This co-ed house has single and double rooms available for participants in the International LLC. The house offers, a full size kitchen, living room, common bathrooms, email stations and air conditioning. Moveable furniture (bed, dresser, and desk) is included. Some rooms offer built in closets while others have wardrobes.

### Spiritual Life Program

The Office of the Chaplain provides opportunities for spiritual growth primarily for students through worship services, campus newspaper articles, student organizations, and personal contact by appointment, drop-in, or e-mail correspondence. The Fellowship of Christian Athletes and InterVarsity Christian Fellowship are among the recognized student organizations on campus; students are welcome to form new organizations; and several other existing student organizations coordinate service projects that may be religious in nature (Habitat for Humanity, Circle K, Greek organizations). One large (seats 180) and one small (seats 18) chapel are regularly available on campus for individual or group gatherings. The Chaplain's Office also provides local contact information for area congregations and community service agencies.

### Student Activities

The Office of Student Activities enhances life on campus by providing students with social opportunities and numerous ways to get involved both on campus and in the community. There are many opportunities to get involved, including Student Senate, Greek life, orientation staff, and the campus radio station. Student Activities provides programs and services ranging from orientation to community service projects to camping equipment rentals, sponsorship of CU@Nite, the weekend programming series, and much more.

### Carroll Outdoor Recreation Education (CORE)

CORE can help students backpack, paddle, or climb their way to adventure. CORE promotes safe, affordable, environmentally conscious outdoor recreation through trips, instruction, and equipment rental. This program brings to the Carroll community numerous opportunities to explore and develop as individuals, leaders and citizens

through involvement in the outdoors. In addition to offering trips, lectures and clinics, CORE manages the "CORE store" where students, faculty and staff can rent tents, coolers, snowshoes, and more.

### **Recreation**

Carroll University is a member institution of the National Intramural-Recreational Sports Association (NIRSA). The recreation program includes intramural sports, open recreation, group exercise classes, outdoor recreation activities, and cheerleading. Ganfield Gymnasium and Fitness Center and the Pioneer Hall Fitness Center host the cardio equipment, resistance machines and free weight areas. The intramural sport program consists of several different activities including flag football, softball, men's and women's basketball, indoor soccer, and sand volleyball.

### **Student Organizations**

Student organizations play an active role in the life of the campus. There are over 50 recognized organizations on campus, including social fraternities and sororities, Student Senate, activities board, cultural diversity organizations, a Habitat for Humanity chapter, religiously affiliated groups, academically focused clubs, and many other groups. Student publications include a newspaper and literary magazine. WCCX is the campus radio station. A wide range of arts organizations is open to students, including some by audition.

### **Volunteer Center**

Carroll's Volunteer Center is dedicated to connecting Carroll to the larger community through service and volunteering by working with existing service learning programs at Carroll and creating new partnerships for Carroll within the surrounding communities. Students can participate in one-time volunteer events or ongoing weekly volunteer placements at sites throughout the area.

### **Student Handbook**

The specific rules and regulations of Carroll University, published in the current Carroll Student Handbook and available to all students on the University's Web site, inform students of their responsibilities as well as their rights. The additional expectations associated with enrollment in specific academic programs are published separately.

# TODD WEHR MEMORIAL LIBRARY

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Brittany Bayer	Learning Commons Librarian
Torrie Boduch	Career Services Advisor
Linda Hartig	Reference Librarian
Susan Heffron	Instructional Services Librarian
Lelan McLemore	Director of Library Services
Amelia Osterud	Circulation and Web Services Librarian
Allison Reeves Grabowski	Director of the Library Learning Commons
Susan Riehl	Public Service/Technical Services Librarian
Karla Strand	Diversity/Learning Services Librarian
Debra Weber	Director of Career Services

## Mission

The mission of the Library is to serve students by providing access to information, by maintaining an environment that promotes a culture of academic excellence, and by offering instruction that fosters scholarship, integrity, independent intellectual growth, and the sophisticated information skills necessary for lifelong learning.

## Carroll's Library

Libraries today are service institutions. Therefore, the Carroll Library provides not only access to appropriate print, video, sound and electronic resources, but also to a range of services geared toward student success. In addition to the materials held in or accessible through the Carroll Library, the Library also provides access to materials held across the state, the nation and the world through a variety of online services, nearly all of which are available from off campus. Strong consortia relationships and InterLibrary Loan ensure the availability of supplemental materials to enrich study and research for Carroll students.

The Library's instruction program teaches subject-specific research methods, including how to evaluate web sites and other information resources. Library instruction begins in the First Year Seminar (FYS) program and continues as students work on assignments that require them to deal with a world of rapidly proliferating information and delivery systems. Librarians also assist students with course assignments and provide research assistance at the information desk or by appointments with their liaison.

The Library's liaison program pairs librarians with faculty in specific subject areas for the purposes of acquiring the best resources for Carroll students, keeping the collections current, and teaching research skills specific to that subject. Liaisons also provide students with specialized assistance for in-depth research projects.

The Library provides a safe, clean and comfortable environment with state-of-the-art technology and study spaces to accommodate a variety of study styles: quiet spaces, individual carrels, large tables, group rooms, hard chairs, soft chairs and a coffee shop. The Library is open 101 hours per week when class is in session during the fall and spring semesters. Hours are reduced during the summer, winter, or when classes are not in session.

### **Library Learning Commons**

The Learning Commons, located on the lower level of the Library, supports the mission of the Library by offering currently enrolled Carroll students opportunities to strengthen their academic skills. Along with a great place to study, the Learning Commons offers six academic services:

- Academic Workshops
- Career Services
- Math Commons
- Subject Tutors
- Supplemental Instruction
- Writing Assistants

### **Curriculum Materials Center (CMC)**

The CMC, located on the main level of the Library, is dedicated to the needs of education students on campus. The CMC collection is comprised of children's literature and curriculum materials appropriate for education levels K-12.

### **University Archives**

The University Archives contains official records and publications of the institution, private papers, student and faculty publications, academic and curricula works, photographs, books, audio and video recordings and Carroll memorabilia that record and illustrate the history and life of the university. These materials provide historical information about the Trustees, the faculty, staff and student body over time. Items that are highly accessed, such as the student yearbooks and the Theatre Collection, have been digitized and are available online through the digital collections link on the Web site. New items are continually added to the digital collections site.

### **Special Collections**

The Library's holdings include some unique, rare, out of print, and historic books which are all grouped as part of Special Collections. The materials in Special Collections include; Carroll Authors Collection, the Welsh Collection, Barclay Collection, Mother Goose Collection, Rufus and Charles King Collection, and Rare Books Collection. The subjects cover religious works, historical works on Scotland and Wales, classic literature, theatre, children's literature, and artistic works that date back as far as 1604. All materials are accessible to the Carroll Community and may be used in the Library. Please ask for assistance at the Reference Desk or contact the Archivist.

Please see the Library's home page on the university's web site for more information regarding the Library's services and policies.

# CARROLL UNIVERSITY IN PROFILE

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Carroll University was founded as Carroll College in 1846 and is Wisconsin's oldest institution of higher learning. The University is affiliated with the Presbyterian Church (U.S.A.), but is non-sectarian in its practices. Carroll confers the Bachelor of Arts, Bachelor of Science, Bachelor of Science in Nursing, Bachelor of Music Education, Master of Education, Master of Software Engineering and Doctor of Physical Therapy degrees. The 50-acre Carroll campus is located in the heart of Waukesha, Wisconsin, a city with a population of 68,000 residents within easy driving distance of Milwaukee, Chicago and Madison.

Today, Carroll enrolls a total of 3,300 full- and part-time students in its undergraduate and graduate programs. Though many of the University's students come from Wisconsin, 25 states and 33 foreign countries are represented on campus. Carroll's 119 full-time faculty are regarded as experts in their fields. The majority hold terminal degrees appropriate to their disciplines. The institution also draws upon the services of a wide range of distinguished adjunct faculty to deliver the personalized liberal arts education that is the hallmark of the Carroll experience.

# UNIVERSITY CORPORATION

## 2010-2011

### CARROLL UNIVERSITY

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The corporate name of the University is Carroll University, Inc.

#### Officers

Chair	Marna M. Tess-Mattner '75
Chair Emeritus	Pershing E. MacAllister '40
Vice Chair	Ted H. Baker '71
Treasurer	James M. Schneider '74
Secretary	Jeffrey T. Cummisford '73
President of the University	Douglas N. Hastad

#### Trustees

- Ted H. Baker '71, *Chief Executive Officer, Olson Global Markets, Providence, Rhode Island*  
Deborah A. Block '74, *Senior Pastor, Immanuel Presbyterian Church, Milwaukee, Wisconsin*  
JoAnne Brandes, *Senior Vice President, General Counsel and Secretary (retired), JohnsonDiversey, Racine, Wisconsin*  
Anthony W. Bryant, *Chairman and Owner, Century Fence Company, Pewaukee, Wisconsin*  
Jeffrey T. Cummisford '73, *Vice President, Mortgage and Field Manager, Johnson Bank, Brookfield, Wisconsin*  
James G. DeJong '73, *Attorney at Law-President, O'Neil, Cannon, Hollman, DeJong, & Laing, S.C., Milwaukee, Wisconsin*  
Guy J. DiSpigno '69, *President, Executive Synergies, Inc., Northbrook, Illinois*  
Timothy J. Hando '86, *Senior Vice President, Wealth Advisor, Certified Investment Management Analyst, The Hando Feldman Adams Group, Morgan Stanley Smith Barney, Potomac, Maryland*  
Russell W. Harland '83, *ProHealth Care Medical Associates, Physician, Waukesha, Wisconsin*  
Douglas N. Hastad, *President, Carroll University, Waukesha, Wisconsin*  
Pershing E. MacAllister '40, *Chairman of the Board, MacAllister Machinery Company, Indianapolis, Indiana*  
Cindy L. Mayoras '09, *Pewaukee, Wisconsin*  
Steven C. Miller '76, *President, BeneCo of Wisconsin, Inc., Brookfield, Wisconsin*  
Alice Crofts Morava '52, *Vice President and CEO, Stuart W. Johnson & Co., Inc. Lake Geneva, Wisconsin*  
Terry M. Murphy, *Executive Vice President and Chief Financial Officer, A. O. Smith Corporation, Milwaukee, Wisconsin*  
José A. Olivieri '78, *Partner, Michael Best & Friedrich LL.P, Milwaukee, Wisconsin*  
Charmaine L. Ponkratz '77, *Vice President Marketing (retired), Marshall & Ilsley Corporation, Green Bay, Wisconsin*  
Dennis G. Punches '58, *President, Payback, L.P., Waukesha, Wisconsin*  
Thomas A. Quadracci, *Chairman and CEO (retired), Quad/Graphics, Sussex, Wisconsin*

E. John Raasch '67, *Attorney, Tikalsky, Raasch and Tikalsky, Waukesha, Wisconsin*  
James M. Schneider '74, *Executive Chairman, Horizon Bank, Austin, Texas*  
Timothy W. Sullivan '75, *President, CEO and Director, Bucyrus International, Inc.,  
South Milwaukee, Wisconsin*  
Ty R. Taylor, *President and CEO, Waukesha State Bank, Waukesha, Wisconsin*  
Marna M. Tess-Mattner '75, *Attorney, Schmidt, Rupke, Tess-Mattner & Fox, S.C.  
Brookfield, Wisconsin*  
David J. Vetta '76, *President and CEO, First Business Bank-Milwaukee, Brookfield,  
Wisconsin*

### **Alumni Representative**

Blane D. Dexheimer '86, *Director-Corporate Bonds, Northwestern Mutual Insurance,  
Milwaukee, Wisconsin*

### **Honorary Life Trustees**

Charles W. Anderson '59, *Brookfield, Wisconsin*  
Robert V. Cramer, *Louisville, Kentucky*  
Joan Hardy, *Waukesha, Wisconsin*  
L.B. Hardy, *Waukesha, Wisconsin*  
Lee Melville '50, *Waukesha, Wisconsin*  
Richard H. Miller, *Milwaukee, Wisconsin*

# CARROLL FACULTY

## 2010-2011

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Douglas N. Hastad, 2006

*President*

*B.A., Concordia College, Moorhead, Mn.*

*M.S., Washington State University*

*Ed.D., Arizona State University*

Joanne Passaro, 2007

*Provost and Vice President for Academic  
Affairs*

*B.A., Ph.D., Duke University*

Monika Baldrige, 2005

*Assistant Professor of Biology*

*B.S., Marquette University*

*Ph.D., University of Wisconsin-Milwaukee*

William F. Bauer, 2004

*Assistant Professor of Business*

*B.A., Kent State University*

*M.A., Trinity International University*

Barbra J. Beck, 2010

*Clinical Associate Professor of Public  
Health*

*B.A., College of St. Benedict*

*M.S., Colorado State University*

*Ph.D., University of Wisconsin-Milwaukee*

Daniel Becker, 2006

*Assistant Professor of Graphic  
Communication*

*B.A., University of Wisconsin-Eau Claire*

*M.A., DePaul University*

Lynne L. Bernier, 1987

*Associate Professor of Politics*

*B.A., Carroll College*

*M.A., Fletcher School, Tufts University*

*Ph.D., University of Wisconsin-Milwaukee*

B.J. Best, 2006

*Instructor in English*

*B.S., Drake University*

*M.F.A., Washington University*

Kristina Boerger, 2009

*Associate Professor of Music*

*Director of Choral Activities*

*B.S., M.M., D.M.A., University of Illinois*

Matthias Bollmus, 2007

*Instructor in Business*

*B.A., Carroll College*

*M.B.A., University of Wisconsin-  
Milwaukee*

Scott M. Boyle, 2000

*Assistant Professor of Theatre Arts*

*B.F.A., University of Wisconsin-Superior*

*M.F.A., University of Missouri-Kansas City*

Daniel B. Braaten, 2010

*Visiting Lecturer in Politics and Global  
Studies*

*B.S., North Dakota State University*

*M.A., University of Nebraska-Lincoln*

Angela Brindowski, 2006

*Assistant Professor of Nursing*

*B.S.N., University of Wisconsin-  
Milwaukee*

*M.S.N., University of Phoenix Online*

Genee A. Brukwitzki, 2005

*Assistant Professor of Nursing*

*B.S.N., University of Wisconsin-  
Milwaukee*

*M.S.N., Marquette University*

*Ph.D., University of Wisconsin-Milwaukee*

Judith L. Bukvich, 2008

*Assistant Professor of Nursing*

*B.S.N., Carroll College/Columbia College  
of Nursing*

*M.S.N., University of Phoenix*

## CARROLL FACULTY

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Charles A. Byler, 1990  
*Interim Vice Provost*  
*Interim Dean of Humanities and Social Sciences*  
*Professor of History*  
B.A., Whitman College  
M.A., University of Washington  
Ph.D., Yale University

Amy E. Cayemberg, 2010  
*Clinical Assistant Professor of Physical Therapy*  
B.S., Michigan State University  
M.P.T., University of Wisconsin  
Ph.D., Medical College of Wisconsin

Richard H. Coon, 1983  
*Associate Professor of Sociology*  
B.A., University of Wisconsin-La Crosse  
M.A., University of Wyoming  
Ph.D., Iowa State University

Amy A. Cropper, 1995  
*Associate Professor of Art*  
B.A., Whitman College  
M.A., M.E.A., University of Iowa

Joseph M. Dailey, 1972  
*Associate Professor of Communication*  
B.A., St. Norbert College  
M.A., Marquette University  
Ph.D., University of Illinois

Stephen J. Dannhoff, 2006  
*Assistant Professor of Physical Education*  
B.S., M.S., University of Wisconsin-La Crosse

Elena M. De Costa, 1995  
*Associate Professor of Spanish*  
B.A., Boston State College  
M.A., Ph.D., University of Wisconsin-Madison

Dennis M. Debrecht, 1984  
*Associate Professor of Economics*  
B.A., Benedictine College  
Ph.D., Iowa State University

Kristen Deiter, 2008  
*Visiting Assistant Professor of English*  
B.A., M.A., Indiana University of Pennsylvania  
Ph.D., State University of New York at Binghamton

Sara Deprey, 2000  
*Assistant Professor of Physical Therapy*  
B.S.P.T., M.S.P.T., Finch University of Health Sciences/The Chicago Medical School  
D.P.T., MGH Institute of Health Professionals

Rose Ann Donovan, 2002  
*Assistant Professor of Education*  
B.S., University of Wisconsin-Madison  
M.A., Silver Lake College

Brian P. Edlbeck, 2004  
*Assistant Professor of Exercise Science*  
B.S., University of Wisconsin-Stevens Point  
M.S., University of Wisconsin-Milwaukee

Joyce A. Ennis, 2007  
*Assistant Professor of Nursing*  
B.S.N., M.S.N., Marquette University

Mark R. Erickson, 2003  
*Assistant Professor of Physical Therapy*  
B.S., University of Wisconsin-LaCrosse  
M.A., University of Minnesota  
D.Sc.P.T., Andrews University

Heather Harken Evans, 2006  
*Lecturer in Mathematics*  
B.S., University of Wisconsin-Whitewater  
M.Ed., Cardinal Stritch University

Peggy Thurston Farrell, 1991  
*Assistant Professor of Art*  
B.A., Carroll College  
M.A., M.F.A., University of Wisconsin-Milwaukee

David Feil, 2001  
*Associate Professor of Mathematics*  
B.A., Coe College  
Ph.D., University of Iowa

Timothy J. Fiedler, 1976  
*Associate Professor of Sociology*  
B.A., *St. Cloud State University*  
M.A., Ph.D., *Southern Illinois University*

Ronald Jeffrey Fisher, 2008  
*Visiting Assistant Professor of Religious Studies*  
B.A., *Bethany College*  
M.A., M.Phil., Ph.D., *Yale University*

Mary Fossier, 2005  
*Instructor in Modern Languages*  
B.A., M.A., *University of Wisconsin-Milwaukee*  
*Etudes Superieures Université de Paris-Censier*

Jason Freund, 2006  
*Assistant Professor of Environmental Science*  
B.S., *University of Wisconsin-Platteville*  
M.S., Ph.D., *West Virginia University*

Gregory M. Gabrielsen, 2010  
*Lecturer in Physics*  
B.S., *Illinois Wesleyan University*  
M.S., *Montana State University*

Lilly Goren, 2005  
*Associate Professor of Politics*  
A.B., *Kenyon College*  
M.A., Ph.D., *Boston College*

Lisa Green, 2006  
*Assistant Professor of Nursing*  
B.S.N., *Viterbo University*  
M.S.N., *Cardinal Stritch University*

James P. Grimshaw, 2004  
*The P.E. and Becky MacAllister Chair in Religious and Biblical Studies*  
*Associate Professor of Religion*  
B.S., *Rose-Hulman Institute of Technology*  
M.Div., *Christian Theological Seminary*  
Ph.D., *Vanderbilt University*

Kara K. Groom, 2008  
*Assistant Professor of Nursing*  
B.S.N., *University of Wisconsin-Milwaukee*  
B.S., M.S.N., *Marquette University*

Denise D. Guastello, 1989  
*Associate Professor of Psychology*  
B.A., *Northwestern University*  
M.S., *Illinois Institute of Technology*  
Ph.D., *Loyola University of Chicago*

Kevin S. Guilfooy, 2004  
*Assistant Professor of Philosophy*  
B.A., *University of Vermont*  
M.A., Ph.D., *University of Washington*

Paul M. Hampton, 2010  
*Lecturer in Biology*  
B.S., *Eastern Illinois University*  
M.S., *University of Texas at Tyler*

Jamie L. Hansen, 2010  
*Clinical Assistant Professor of Nursing*  
B.S., *Cardinal Stritch University*  
M.S., *University of Phoenix*

Susan Hanson, 2009  
*Lecturer in Biology*  
B.A., *Luther College*  
Ph.D., *Vanderbilt University*

Russell W. Harland, 2010  
*Clinical Associate Professor*  
*Director of the Physician's Assistant Program*  
B.S., *Carroll College*  
M.D., *Medical College of Wisconsin*

Larry D. Harper, 1986  
*Professor of Music*  
B.A., *California State University-Northridge*  
M.S., *University of Illinois*  
D.M.A., *Michigan State University*

Hugo J. Hartig, 1976  
*Professor of Music*  
B.M., B.M.E., *University of Wisconsin-Oshkosh*  
M.M., *University of Oregon*  
Ph.D., *Michigan State University*

## CARROLL FACULTY

---

Linda Hartig, 1997

*Reference Librarian with the rank of Librarian III*  
B.Mus., M.A.T., University of Oregon-  
Eugene  
Ph.D., Michigan State University  
M.L.S., University of Wisconsin-Milwaukee

Susan K. Heffron, 2005

*Instructional Services Librarian*  
B.A., Clarke College  
M.L.I.S., University of Wisconsin-  
Milwaukee

Joseph J. Hemmer Jr., 1970

*Professor of Communication*  
B.S., Wisconsin State University-Oshkosh  
M.A., Bradley University  
Ph.D., University of Wisconsin-Madison

Scott Hendrix, 2007

*Assistant Professor of History*  
B.A., Athens State University  
M.A., Ph.D., University of Tennessee

Kimberly K. Hofkamp, 2005

*Assistant Professor of Education*  
B.S., University of Wisconsin-Madison  
M.A.E., Silver Lake College

Jane F Hopp, 1994

*Dean of Natural and Health Sciences*  
*Associate Professor of Physical Therapy*  
B.S.P.T., University of Wisconsin-Madison  
M.S., Medical College of Wisconsin  
Ph.D., University of Illinois at Chicago

Cynthia J. Horst, 1994

*Associate Professor of Biology*  
B.A., Goshen College  
Ph.D., Emory University

Chenglie Hu, 2001

*Professor of Computer Science*  
B.S., M.S., East China Normal University  
Ph.D., Wichita State University

Rebecca Imes, 2005

*Assistant Professor of Communication*  
B.A., Nebraska Wesleyan University  
M.A., Emerson College/Tufts University  
School of Medicine  
Ph.D., University of Iowa

Gerald L. Isaacs, 1978

*Professor of Computer Science*  
B.S., University of Minnesota  
M.S., Ph.D., University of Iowa

Laresh Jayasanker, 2010

*Visiting Lecturer in History*  
B.A., Wesleyan University  
A.M., Stanford University  
M.A., Ph.D., University of Texas at Austin

Darrel A. Johnson, 2008

*Lecturer in Mathematics*  
B.S., M.S., University of Wisconsin-  
Milwaukee

Catherine E. Jorgens, 2006

*Risk Manager*  
*Lecturer in Business*  
B.A., University of Wisconsin-Madison  
J.D., University of Wisconsin School of  
Law

Karen Kapke, 2009

*Clinical Associate Professor of Nursing*  
B.S., University of Wisconsin-Milwaukee  
M.S., University of California  
Ph.D., University of Wisconsin-Madison

Lara P. Karpenko, 2006

*Assistant Professor of English*  
B.A., University of California-Santa  
Barbara  
M.Ed., University of California-Los  
Angeles  
Ph.D., University of Notre Dame

Margaret D. Kasimatis, 1998

*Assistant Professor of Psychology*  
B.A., St. Mary's College, Notre Dame  
M.A., Ph.D., Loyola University of Chicago

Deirdre M. Keenan, 1991  
*The Mary Robertson Williams Chair in English*  
Professor of English  
B.A., M.A., Ph.D., University of Wisconsin-Milwaukee

Lori Duin Kelly, 1986  
*The Mary Robertson Williams Chair in English*  
Professor of English  
B.A., St. Xavier College  
M.A., University of Chicago  
Ph.D., University of North Carolina-Chapel Hill

Barbara L. King, 1995  
*Associate Professor of Communication*  
B.A., Carroll College  
M.A., Purdue University  
Ph.D., Wayne State University

Karie M. Ruckert Kobiske, 2004  
*Assistant Professor of Nursing*  
B.S.N., Carroll College  
M.S.N., Marquette University

Michael G. Konemann, 1984  
*Associate Professor of Computer Science*  
B.S., Carroll College  
M.S., Marquette University

John T. Koshuta, 2010  
*Lecturer in Health Science*  
B.A., University of Wisconsin-Eau Claire  
B.S., University of Wisconsin-Oshkosh  
M.A., University of Alabama

Kathrine Kramer, 2000  
*Assistant Professor of Education*  
B.S., M.S., University of Wisconsin-Whitewater

Philip L. Krejcarek, 1977  
*Professor of Art*  
B.S., University of Wisconsin-Oshkosh  
M.F.A., University of Wisconsin-Milwaukee

Jamie Lee Krzykowski, 2008  
*Assistant Professor of Exercise Science*  
B.S., Northwest Nazarene University  
M.S.S., United States Sports Academy  
Ph.D., Clayton College of Natural Health

Gregory A. Kuhlemeyer, 2000  
*Associate Professor of Business*  
B.S., Western Illinois University  
M.B.A., Ph.D., University of Tennessee-Knoxville

Michael S. Kula, 2004  
*Assistant Professor of English*  
*Writer-in-Residence*  
B.A., Vanderbilt University  
M.F.A., Emerson College

Laurie A. Kunkel-Jordan, 2006  
*Assistant Professor of Nursing*  
B.S.N., Alverno College  
M.S.N., Marquette University

Jeffrey T. Kunz, 1981  
*Assistant Professor of Accounting*  
B.S., St. Norbert College  
M.S., University of Wisconsin-Whitewater

Christopher Kuster, 2007  
*Assistant Professor of Mathematics*  
B.A., Knox College  
M.S., Ph.D., North Carolina State University

Kristen A. Lampe, 2000  
*Associate Professor of Mathematics*  
B.A., University of Dayton  
M.A., Ph.D., Washington University in St. Louis

Michael G. Levas, 1985  
*Associate Professor of Business*  
B.S., M.B.A., Northern Illinois University

Susan E. Lewis, 1994  
*Professor of Biology*  
B.A., Earlham College  
M.A., Ph.D., University of Minnesota

## CARROLL FACULTY

---

John P. Lichosik, 2007  
*Assistant Professor of Athletic Training*  
B.S., M.S., *University of Wisconsin-  
Milwaukee*

Carrie Anne Lloyd, 2009  
*Instructor in Psychology*  
B.S., M.A., *Arizona State University*  
Ph.D., *Northern Illinois University*

David B. MacIntyre, 1996  
*Assistant Professor of Exercise Science*  
B.S., *Hope College*  
M.S., *Pennsylvania State University*

Gregory T. Marks, 2006  
*Assistant Professor of Chemistry*  
B.S., *Marquette University*  
Ph.D., *Medical College of Wisconsin*

Abigail M. Markwyn, 2006  
*Assistant Professor of History*  
B.A., *Carleton College*  
M.A., Ph. D., *University of Wisconsin-  
Madison*

Christopher May, 2007  
*Assistant Professor of Psychology*  
B.S., *Tulane University*  
M.A., *University of California, Davis*

Lelan E. McLemore, 1972  
*Director of the Library*  
*Professor of Politics*  
B.A., *Baylor University*  
M.A., *State University of New York at  
Buffalo*  
Ph.D., *University of Oklahoma*

Kevin McMahon, 2000  
*Associate Professor of Chemistry*  
B.Sc., *University of Edinburgh*  
M.Sc., Ph.D., *Dalhousie University*

Jennifer A. Moon, 2010  
*Assistant Professor of Photography and  
Digital Media*  
B.F.A., *University of Iowa*  
M.F.A., *Rochester Institute of Technology*

Susan Nusser, 2005  
*Assistant Professor of English*  
B.A., *Boston University*  
M.F.A., *Emerson College*

Gary L. Olsen, 1975  
*Associate Professor of Accounting*  
B.S., *Northern Michigan University*  
M.B.A., *University of Illinois*  
Ph.D., *Marquette University*

Amelia Osterud, 2006  
*Circulation and Web Services Librarian*  
B.F.A., M.A., M.L.I.S., *University of  
Wisconsin-Milwaukee*

Thomas Pahnke, 2006  
*Assistant Professor of Athletic Training  
and Physical Therapy*  
B.S.P.T., *University of Wisconsin-Madison*  
M.S., *Purdue University*

Richard J. Penlesky, 2002  
*Professor of Business*  
B.S., M.B.A., *Marquette University*  
D.B.A., *Indiana University*

Linda M. Phillips, 2005  
*Assistant Professor of Nursing*  
B.S.N., *University of Wisconsin-  
Milwaukee*  
M.S.N., *Concordia University Wisconsin*

Joseph J. Piatt, 1998  
*Associate Professor of Chemistry and  
Environmental Science*  
B.S., *Marquette University*  
M.S.C.E., *University of Minnesota*  
Ph.D., *University of Arizona*

Pamela Pinahs-Schultz, 1980  
*Professor of Physical Education*  
B.Ed., *University of Wisconsin-Oshkosh*  
M.S.Ed., *Chicago State University*  
Ph.D., *University of Wisconsin-Milwaukee*

Mark Pioli, 2009  
*Visiting Assistant Professor of Sociology*  
B.A., *University of Virginia*  
M.S., *Virginia Polytechnic Institute and  
State University*  
Ph.D., *University of Maryland*

Kimberly Redding, 2001  
*Associate Professor of History*  
 B.A., Goucher College  
 M.A., Ph.D., University of North  
 Carolina-Chapel Hill

Allison M. Reeves Grabowski, 2002  
*Director of the Library Learning  
 Commons*  
 B.A., University of Alabama  
 M.A.Ed., University of Alabama at  
 Birmingham  
 M.L.I.S., University of Wisconsin-  
 Milwaukee

Brenda D. Reeves, 2010  
*Clinical Assistant Professor of Exercise  
 Science*  
 B.A., M.Ed. Exercise Science, Bowling  
 Green State University  
 Ph.D., University of Toledo

Damon A. Resnick, 2009  
*Assistant Professor of Physics*  
 B.S., University of Washington  
 M.S., Ph.D., Montana State University

Susan I. Riehl, 2005  
*Public Service/Technical Services  
 Librarian*  
 B.A., M.A., M.L.I.S., University of  
 Wisconsin-Milwaukee

Elise Riepenhoff, 2007  
*Assistant Professor of Education*  
 B.S., M.S., University of Wisconsin-  
 Milwaukee

Wilma Robinson, 2001  
*Associate Professor of Education*  
 B.A., Howard University  
 M.P.A., University of Wisconsin-Oshkosh  
 Ph.D., University of Wisconsin-Madison

Jason T. Roe, 2010  
*Lecturer in Health Science*  
 B.S., University of Wisconsin-Stevens  
 Point  
 M.S., University of Wisconsin-La Crosse

Lopamudra Roychoudhari, 2009  
*Visiting Assistant Professor of Computer  
 Science*  
 B.S., Presidency College  
 M.S., University of Calcutta  
 M.Tech., Indian Statistical Institute  
 Ph.D., DePaul University

Pacia Sallomi, 1997  
*Associate Professor of Art*  
 B.S., University of California, Davis  
 M.A., University of New Mexico  
 M.F.A., Texas Tech University

Matthew Scheel, 2007  
*Assistant Professor of Psychology*  
 B.A., Winona State University  
 M.A., Mankato State University  
 Ph.D., University of Nevada

Tara Schmidt, 2007  
*Assistant Professor of Psychology*  
 B.S., Carroll College  
 M.S., Ph.D., University of Wisconsin-  
 Milwaukee

Michael D. Schuder, 1994  
*The Edna M. and Edgar A. Thronson  
 Chair in Chemistry*  
*Associate Professor of Chemistry*  
 B.S., North Dakota State University  
 Ph.D., University of Colorado

Debra R. Schultz, 2006  
*Visiting Assistant Professor of Business*  
 B.S., Carroll College  
 M.S., Cardinal Stritch University

Gregory J. Schultz, 2002  
*Assistant Professor of Business*  
 B.S., Carroll College  
 M.S., Cardinal Stritch University

Kathleen A. Shields, 2005  
*Assistant Professor of Physical Therapy*  
 B.S.P.T. University of Wisconsin-Madison,  
 M.S., University of Wisconsin-Milwaukee

David D. Simpson, 1977  
*Professor of Psychology*  
 A.B., Oberlin College  
 M.A., Ph.D., Ohio State University

## CARROLL FACULTY

---

Diane S. Sokolowski, 2005  
*Assistant Professor of Nursing*  
B.S.N., Carroll College  
M.S.N., University of Phoenix

Rachel L. Stickles, 2008  
*Visiting Assistant Professor of Education*  
B.S., Carroll College  
M.A., California State University-Long  
Beach

Karla J. Strand, 2006  
*Diversity/Learning Services Librarian*  
B.A., Carroll College  
M.L.I.S., University of Wisconsin-  
Milwaukee

Bruce L. Strom, 1990  
*Associate Professor of Education*  
B.A., Grinnell College  
M.A., Ph.D., Cornell University

John C. Symms, 1995  
*Associate Professor of Mathematics*  
B.S., University of Arizona  
M.S., Ph.D., Colorado State University

Eric Thobaben, 2005  
*Assistant Professor of Biology*  
B.S., Miami University  
Ph.D., Michigan State University

Frances Tuer, 2009  
*Assistant Professor of Management*  
B.A., M.B.A., University of Western  
Ontario

Melvin G. Vance, 2003  
*Instructor in Religious Studies*  
B.A., Westmar College  
M.Div., S.T.M., Union Theological  
Seminary  
Ph.D., Marquette University

Gail M. Vojta, 2007  
*Senior Lecturer in Chemistry*  
B.A., St. Olaf College  
Ph.D., University of Minnesota

Edie M. White, 2010  
*Assistant Professor of Education*  
B.A., Mundelein College  
M.S., National Louis University  
Ph.D., University of Wisconsin-Madison

Kimberly White, 2009  
*Assistant Professor of Education*  
B.S.B.A., M.Ed., The Ohio State  
University  
Ph.D., University of Wisconsin

Mary Ann Wisniewski, 2001  
*Professor of Business*  
B.A., Alverno College  
M.S., University of Wisconsin-Milwaukee  
Ph.D., University of Wisconsin-Madison

James Zager, 2008  
*The Cordelia Pierce Hedges Chair in  
Theatre Arts*  
*Associate Professor of Theatre Arts*  
B.S., University of Wisconsin-Stevens  
Point  
M.F.A., Arizona State University

### **Emeriti**

Mark C. Aamot, 1974  
*Professor Emeritus of Music*

Judith C. Anderson, 1997  
*Associate Professor Emeritus of Physical  
Therapy*

Harry A. Auchter, 1953  
*Associate Professor Emeritus of Physics*

Royanna Benjamin, 1946  
*Registrar Emeritus*

Robert G. Black, 1994  
*Professor Emeritus of Spanish*

David A. Block, 1988  
*Associate Professor Emeritus of  
Geography*

John C. Clausz, 1979  
*Professor Emeritus of Biology*

O. Lamar Cope, 1969  
*Professor Emeritus of Religion and  
Philosophy*

Robert V. Cramer, 1971  
*President Emeritus*

Jack R. Dukes, 1970  
*Professor Emeritus of History*

Russel C. Evans, 1969  
*Librarian Emeritus*

Frank S. Falcone, 1993  
*President Emeritus*

Robert J. Friebus, 1975  
*Associate Professor Emeritus of  
Sociology*

Quinten C. Grosskopf, 1966  
*Associate Professor Emeritus of  
Mathematics*

C. Willis Guthrie, 1946  
*Professor Emeritus of Art*

Eugene S. Haugse, 1966  
*Professor Emeritus of Political Science*

Earl N. Hudson III, 1970  
*Professor Emeritus of Chemistry*

Uldis E. Inveiss, 1963  
*Professor Emeritus of Economics and  
Business Administration*

Sidney C. Jones, 1961  
*Professor Emeritus of English*

Gay G. Knutson, 1982  
*Professor Emeritus of Education*

Patricia J. Lamont, 1968  
*Professor Emeritus of Education*

Emily S. Long, 1991  
*Associate Professor Emeritus of Education*

Bruce A. MacIntyre, 1968  
*Professor Emeritus of Biology*

R. Merle Masonholder, 1980  
*Associate Professor Emeritus of Physical  
Education*

Ted C. Michaud, 1959  
*Professor Emeritus of Biology*

David M. Molthen, 1970  
*Professor Emeritus of Theatre Arts*

Merlene A. Moody, 1983  
*Associate Professor Emeritus of Business  
Administration*

Richard J. O'Farrell, 1973  
*Professor Emeritus of Mathematics*

Ralph F. Parsons, 1974  
*Professor Emeritus of Psychology*

Virginia M. Parsons, 1976  
*Professor Emeritus of Psychology*

Marceil V. Pultorak, 1970  
*Professor Emeritus of Art*

Paul L. Rempe, 1969  
*Associate Professor Emeritus of History*

Paul A. Roys, 1961  
*Professor Emeritus of Physics*

Thomas F. Selle, 1983  
*Associate Professor Emeritus of Art*

Peter L. Settle, 1974  
*Professor Emeritus of Communication*

Lawrence A. Sinclair, 1958  
*Professor Emeritus of Religious Studies*

Claude H. Slusher, 1958  
*Professor Emeritus of Business  
Administration*

Morris N. Spencer, 1957  
*Vice President and Provost Emeritus*

Daniel T. Steffen, 1974  
*Assistant Professor Emeritus of Physical  
Education*

## CARROLL FACULTY

---

Rebecca A. Steffes, 1975  
*Librarian Emeritus*

Gary W. Stevens, 1970  
*Associate Professor Emeritus of English*

Linda G. Thompson, 1981  
*Professor Emeritus of Mathematics*

John F. Towell III, 1999  
*Associate Professor Emeritus of Computer Science*

James E. Van Ess, 1969  
*Librarian Emeritus*

Glenn A. Van Haitsma, 1958  
*Professor Emeritus of English*

James B. Vopat, 1972  
*Professor Emeritus of English*

Richard J. Watkins, 1976  
*Professor Emeritus of Chemistry*

William D. Welch Jr., 1987  
*Professor Emeritus of Physics*

Mark W. Williams, 1978  
*Associate Professor Emeritus of Business Administration*

Thomas R. Williams, 1966  
*Professor Emeritus of Philosophy*

Manfred G. Wuerslin, 1958  
*Associate Professor Emeritus of English*

FACULTY AWARD RECIPIENTS

Recipients of the Benjamin F. Richason Jr. Faculty Award

Earl N. Hudson III (1989)	Lori Duin Kelly (2000)
O. Lamar Cope (1990)	Mary E. Hauser (2001)
Jack R. Dukes (1991)	Barbara L. King (2002)
David M. Molthen (1992)	Larry D. Harper (2003)
Philip L. Krejcarek (1993)	Linda G. Thompson (2004)
David A. Block (1994)	Michael D. Schuder (2005)
Virginia M. Parsons (1995)	Richard J. Penlesky (2006)
Richard J. Watkins (1996)	Chenglie Hu (2007)
Joseph J. Hemmer Jr. (1997)	Joseph J. Piatt (2008)
James B. Vopat (1997)	Charles A. Byler (2009)
Hugo J. Hartig (1998)	Monika G. Baldrige (2010)
Gerald L. Isaacs (1999)	

Recipients of the Norman and Louise Allhiser Award for  
Teaching Excellence

Marceil V. Poltorak (1989)	Amy A. Cropper (2000)
Lelan E. McLemore (1990)	Charles A. Byler (2001)
Mark C. Aamot (1991)	Robert G. Black (2002)
David D. Simpson (1992)	Catherine L. Cullen (2003)
Richard J. O'Farrell (1993)	Lisa K. Conley (2004)
Pamela Pinahs-Schultz (1994)	Mary E. Kazmierczak (2005)
Peter L. Settle (1995)	Kathrine Kramer (2006)
Claudette McShane (1996)	Paul L. Rempe (2007)
Emily S. Long (1997)	Kimberly Redding (2008)
Deirdre M. Keenan (1998)	Sara Deprey (2009)
Ann E. Cook (1999)	Rebecca S. Imes (2010)

Endowed Chairs

The Edna M. and Edgar A. Thronson Chair in Chemistry  
*Michael D. Schuder*

The Mary Robertson Williams Chair in English  
*Lori Duin Kelly and Deirdre M. Keenan*

The P.E. and Becky MacAllister Chair in Religious and Biblical Studies  
*James P. Grimshaw*

The Cordelia Pierce Hedges Chair in Theatre Arts  
*James Zager*

# CALENDAR

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## Fall Semester 2010

Aug. 27	Friday	8 a.m.	Freshman students "Move-in Day."
Aug. 29	Sunday	8 a.m.	All returning students "Move-in Day."
Aug. 31	Tuesday		Opening Day convocation.
		10 a.m. & 5 p.m.	Orientation for new part-time and full-time transfer students.
Sept. 1	Wednesday	8 a.m.	Classes begin.
Sept. 6	Monday		Labor Day – no classes.
Sept. 8	Wednesday		Last day to add classes. Last day to admit new students. Last day to change from FT to PT status or to change from PT to FT status. FT students must be registered for 12 credits. Waitlisted courses do not count toward the 12 credits.
			Last day to decrease or cancel meal plans.
Sept. 16	Thursday		First-half-semester classes: last day to select S/U grading or change from S/U to letter grading.
Sept. 29	Wednesday		Last day to select S/U grading or to change from S/U to letter grading.
			First-half-semester classes: last day to drop or change to audit.
Oct. 2	Saturday		Homecoming.
Oct. 4	Monday		Last day for part-time students not receiving Title IV aid to drop a class and receive a partial refund.
Oct. 9	Saturday	5 p.m.	Mid-semester break begins. Campus housing remains open for mid-semester break.
Oct. 12	Tuesday	5 p.m.	Classes resume.
Oct. 14	Thursday		Mid-semester grades due at 9 a.m.
Oct. 20	Wednesday	9 a.m.	Registration begins for 2011 winter session.
Oct. 28	Thursday	9 a.m.	Registration packets available online for full-time students for spring 2011.
			Advising begins for full-time students for spring semester 2011.
			Last day to drop classes or to change to audit.
			Deadline for submitting work to instructors for incompletes received the previous spring and summer.
Nov. 3	Wednesday		Second-half-semester classes: last day to select S/U grading or change from S/U to letter grading.
Nov. 5	Friday		Incomplete grades lapse into "F" if no grade submitted from spring and summer.
Nov. 9	Tuesday		Registration begins for currently enrolled students for spring semester 2011.
Nov. 17	Wednesday		Second-half-semester classes: last day to drop or change to audit.
			Registration begins for all new students for spring 2011.
Nov. 24	Wednesday	4 p.m.	Thanksgiving recess begins.
		4 p.m.	Campus housing closes.
Nov. 28	Sunday	Noon	Campus housing opens to students.

Nov. 29	Monday	8 a.m.	Classes resume.
Dec. 7	Tuesday		Last day of classes.
Dec. 8	Wednesday		Reading Day – no classes; final exams for Wednesday evening classes.
Dec. 9-14	Thurs-Tues		Final examinations.
Dec. 15	Wednesday	8 a.m.	Campus housing closes.
Dec. 21	Tuesday	9 a.m.	Final grades due.

**Winter Session 2011**

Jan. 2	Sunday	Noon	Campus housing opens for winter session students and approved groups.
Jan. 3	Monday	8 a.m.	Classes begin.
Jan. 4	Tuesday		Last day to add classes.
Jan. 5	Wednesday		Last day to drop classes.
Jan. 17	Monday		Classes end.

**Spring Semester 2011**

Jan. 17	Monday	7 a.m. 10 a.m. & 5 p.m.	Campus housing opens. Orientation for new part-time and full-time transfer students.
Jan. 18	Tuesday	8 a.m.	Classes begin.
Jan. 25	Tuesday		Last day to add classes. Last day to admit new students. Last day to change from PT to FT status OR from FT to PT status. FT students must be registered for 12 credits. Waitlisted courses do not count toward the 12 credits.
Feb. 2	Wednesday	11 a.m.	Last day to decrease or cancel meal plans. Founders' Day Convocation. First-half-semester classes: last day to select S/U grading or to change from S/U to letter grading.
Feb. 16	Wednesday		Last day to select S/U grading or to change from S/U to letter grading. First-half-semester classes: last day to drop or change to audit.
Feb. 21	Monday		Last day for part-time students not receiving Title IV aid to drop a class and receive a partial refund.
Feb. 22	Tuesday	9 a.m.	Registration packets available online to full-time students for fall 2011. Advising begins for full-time students for fall 2011.
March 1	Tuesday	9 a.m.	Registration begins for summer sessions 2011.
March 3	Thursday	9 a.m.	Mid-semester grades due.
March 15	Tuesday		Registration begins for current students for fall 2011 semester.
March 19	Saturday	4 p.m. 4 p.m.	Spring break begins. Campus housing closes.
March 27	Sunday	Noon	Campus housing opens.
March 28	Monday	8 a.m.	Classes resume.
March 29	Tuesday		Registration begins for new students for fall 2011.
March 30	Wednesday		Last day to drop classes or change to audit. Deadline for submitting work to instructors for incompletes received the previous fall and winter.

## CALENDAR

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March 30	Wednesday		Second half-semester classes: last day to select S/U grading or change from S/U to letter grading.
April 5	Tuesday		Incompletes lapse into "F" if no grade submitted from fall and winter.
April 12	Tuesday		Second-half-semester classes: last day to drop or change to audit.
April 20	Wednesday		"Celebrate Carroll"
April 22	Friday		Good Friday – no classes. Campus housing remains open.
April 23	Saturday		Easter Holiday – no classes.
April 25	Monday	8 a.m.	Classes resume.
April 27	Wednesday		Last day of classes.
April 28	Thursday		Reading Day – no daytime classes; final exams for Thursday evening classes.
April 29-May 4	Fri-Wed		Final exams.
May 5	Thursday	1 p.m. Noon	Final grades due (for graduating students) Campus housing closes for students not participating in commencement.
May 8	Sunday		Baccalaureate and Commencement.
May 10	Tuesday	9 a.m.	All final grades due.

### Summer Sessions 2011

#### Session I (May 9 – May 27)

May 9	Monday		Classes begin.
May 11	Wednesday		Last day to add classes.
May 12	Thursday		Last day to select S/U grading or change from S/U to letter grading.
May 13	Friday		Last day to drop classes or change to audit.
May 27	Friday		Classes end.

#### Session II (May 31 – July 12)

May 30	Monday		Memorial Day – no classes.
May 31	Tuesday		Classes begin.
June 7	Tuesday		Last day to add classes.
June 14	Tuesday		Last day to select S/U grading or change from S/U to letter grading.
June 21	Tuesday		Last day to drop classes or change to audit.
July 4	Monday		4th of July Holiday – no classes.
July 12	Tuesday		Classes end.

#### Session III (July 13 – August 23)

July 13	Wednesday		Classes begin.
July 20	Wednesday		Last day to add classes.
July 27	Wednesday		Last day to select S/U grading or change from S/U to letter grading.
Aug. 3	Wednesday		Last day to drop classes or change to audit.
Aug. 23	Tuesday		Classes end.

The University offers other courses during the summer on a specially timed basis. The last day to drop classes or change to audit is no later than two-thirds through the course.

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