George Fox University

# Undergraduate Programs

## 2022-23

GEORGE FOX
UNIVERSITY

Be Known

*GEORGE FOX UNIVERSITY*

# 2022-2023 Undergraduate Programs


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## Notes about use of catalogs

These catalogs are provided for guidance in course selection and program planning. While every effort is made to ensure the accuracy of the information in this catalog, in no sense is it to be considered a binding contract, and it may be changed by action of appropriate bodies within the university.

Courses listed in these catalogs are subject to change through normal academic process. New courses and changes in existing course work are initiated by the appropriate school, department, or program, and approved by the Office of Academic Affairs and the university faculty. Changes to the curriculum are published on this website and in the schedule of classes.

# Undergraduate Curriculum

## Degrees Offered

To complete an undergraduate academic program at George Fox University, a student must select a major to pursue one of two general degrees (the bachelor of arts or the bachelor of science) or the professional degrees (the bachelor of science in nursing, the bachelor of fine arts, or the bachelor of social work). A course of study includes three basic components: general education, the major field, and supporting and/or elective courses. Minor fields are optional and are composed of elective courses that have been packaged for identification of a vocational purpose or an interest.

### Catalog Requirements

Students are subject to the program requirements of the catalog under which they enter the university (i.e., semester of matriculation). Students who must be readmitted following withdrawal are subject to the program requirements of the catalog under which they reenter. Readmitted students must meet any new or revised graduation requirements as listed in the catalog at the time of readmission.

## General Education

- # Cornerstone Core Program
  # Honors Program (Alternative General Education)

## Majors and Minors

- # Major and Minor Requirements
  # Major/Degree and Minors Offered

## Graduation

- # Graduation Requirements

# Degrees and Minors

## Academic Programs

Majors and Minors Listing

Major and Minor Requirements

Preprofessional Programs/Advising Information

# Majors and Minors Listing

## Academic Programs

Major and Minor Requirements

Preprofessional Programs/Advising Information

Prelaw Program/Advising Information

| Program Name | Degrees Offered | Academic Department |
|---|---|---|
| Art | Minor | Art and Design |
| Art History | Minor | Art and Design |
| Biochemistry | Bachelor of Science | Chemistry |
| Biology (BS) | Bachelor of Science, Minor | Biology |
| Biology (BA) | Bachelor of Arts | Biology |
| Business Administration<br>**Concentrations in:**<br>• Economics<br>• Finance<br>• Management<br>• Marketing | Bachelor of Arts, Minor, Certificate in Business Analytics | Business |
| Chemistry | Minor | Chemistry |
| Christian Ministries | Minor | Christian Studies |
| Cinematic Arts<br>**Concentrations in:**<br>• Animation<br>• Audio Production<br>• Film and Video Production | Bachelor of Arts, Minor | Communication |
| Communication<br>**Concentrations in:**<br>• Human Communication<br>• Organizational Communication<br>• Public Relations | Bachelor of Arts, Minor | Communication |
| Computer Science<br>**Optional concentration in:**<br>• Cyber Security | Bachelor of Science, Minor | Computer Science |
| Criminal Justice | Minor | Social Work, Sociology |
| Elementary Education | Bachelor of Science | Education |
| Engineering | Bachelor of Science | Engineering |

| Program Name | Degrees Offered | Academic Department |
| --- | --- | --- |
| **Concentrations in:**<br>• Biomedical Engineering<br>• Civil Engineering<br>• Computer Engineering<br>• Electrical Engineering<br>• Mechanical Engineering | | |
| English<br>**Concentrations in:**<br>• Literature<br>• Writing | Bachelor of Arts | English |
| Financial Services<br>**Concentrations in:**<br>• Accounting<br>• Financial Planning | Bachelor of Science | Business |
| Graphic Design | Bachelor of Arts, Minor | Art and Design |
| Hispanic Cultural Studies | Minor | World Languages and Applied Linguistics |
| History<br>**Optional concentration in:**<br>• Politics | Bachelor of Arts, Minor | History |
| Information Systems | Minor | Computer Science |
| Illustration | Bachelor of Arts | Art and Design |
| Interior Design | Bachelor of Fine Arts (BFA) | Art and Design |
| Journalism | Minor | Communication |
| Kinesiology<br>**Concentrations in:**<br>• Exercise Science<br>• Physical Activity and Health Promotion | Bachelor of Science | |
| Literature | Minor | English |
| Mathematics | Bachelor of Science, Minor | Math |
| Music<br>**Concentrations in:**<br>• Music Industry<br>• Music: Liberal Arts | Bachelor of Arts, Minor | Music |

| Program Name | Degrees Offered | Academic Department |
|---|---|---|
| • Worship Arts | | |
| Nursing | Bachelor of Science in Nursing (BSN) | Nursing |
| Psychological Science | Bachelor of Science | Psychology |
| Psychology | Bachelor of Arts , Minor | Psychology |
| Social Welfare | Minor | Social Work |
| Social Work | Bachelor of Social Work (BSW) | Social Work |
| Spanish | Minor | World Languages and Applied Linguistics |
| Studio Arts and Arts Administration | Bachelor of Arts | Art and Design |
| Teaching English to Speakers of Other Languages (TESOL) | Certificate | World Languages and Applied Linguistics |
| Theatre | Minor | Performing Arts |
| Theology<br>**Concentrations in:**<br>• Biblical Studies<br>• Christian Ministries<br>• Philosophy | Bachelor of Arts, Minor | Christian Studies |
| Worship Arts | Minor | Music |
| Writing | Minor | English |
| Youth Ministry | Minor | Christian Studies |

# Major and Minor Requirements

## Admission to a Major

Students may enroll at George Fox University with or without a specific major in mind. However, students must formally declare their major with the registrar. A first-year student should declare his or her major by the beginning of the second semester.

Some departments have an application and screening process for admission to a major. In those cases, the declaration of major form is considered to be a statement of intent, and the process is complete only when the department admits the student to the major.

Admission to the university does not imply automatic admission to a major. Entry into George Fox University may be with a major as an objective, but there is a process for declaring a major.

In most cases, admission to a major will include meeting initial standards, as in the example of admission to teacher education and music. Admission to a major is normally accomplished no later than the end of the junior year, or before the completion of 90 credits.

A major is successfully completed when all major courses are completed with no grade below a C- and with a major GPA of 2.0 or above. A minimum of 10 semester hours within the major must be completed in residency.

## Interdisciplinary Studies Majors

The interdisciplinary studies major consists of a minimum of 48 semester hours with either a 24/12/12-hour option from three fields or a 24/24-hour option from two fields. A field must consist of approved courses from any traditional undergraduate major, minor, or concentration currently offered according to the undergraduate catalog. Of these hours, 30 must be upper division. The 24/12/12 and the 24/24 options are permitted at the discretion of each department. The designation of the degree (BA or BS) for the 24/12/12 option is determined by the subject of the 24-credit concentration. The designation of the degree (BA or BS) for the 24/24 option is determined by the subject of both 24-hour concentrations. If the degrees for the two subjects differ, the student may elect BA or BS. The student must complete a contract form prepared in consultation with his or her advisor, the registrar, and the department chairperson of each concentration.

A student pursuing an interdisciplinary studies major as a second degree or second major may not choose as a subject area a discipline that is the student's first major or minor.

## Selection of a Minor

A minor is a package of elective courses that have a common bond and that identify certain interests and competencies. Usually a minor consists of an approved group of courses with no fewer than 18 semester hours, 6 of which must be upper-division credit. The registrar's office will provide information on requirements, or some are listed in this catalog. A minor is successfully completed when all minor courses are completed with no grade below a C- and with a minor GPA of 2.0 or above.

# Preprofessional Programs

### Premedicine/Predental/Preveterinary Program

George Fox University is pleased with the excellent success students have had in gaining admission to medical, dental and veterinary schools. Students who wish to pursue a career in medicine, dentistry or veterinary medicine usually select a major in biology or chemistry. They may, however, choose any academic major the university offers as long as they take certain specific courses required by the professional schools. George Fox University offers all of the science and mathematics courses required by the professional schools of the region. Even though specific requirements differ with each medical school, the requirements uniformly include the following:

BIOL 211 Cellular Biology & Genetics
BIOL 212 Organisms & Physiological Systems
CHEM 211 General Chemistry I
CHEM 212 General Chemistry II
CHEM 331 Organic Chemistry I
CHEM 332 Organic Chemistry II
PHYS 201 General Physics I
PHYS 202 General Physics II
One year of mathematics, usually fulfilled by MATH 201 Calculus I and MATH 202 Calculus II.

Other highly recommended courses include:
BIOL 310 Developmental Biology
BIOL 322 Comparative Vertebrate Anatomy
BIOL 350 Genetics
BIOL 370 Microbiology
BIOL 420 Cell Biology
CHEM 341 Biochemistry I

It is important to consult with your academic advisor early in setting up a plan for a strong program. Students should be aware that, in addition to meeting the minimal entrance requirements, good grades (3.5 grade point average or above) and a strong performance on the national admission tests (MCAT, DAT, and VAT, usually taken in the spring of the junior year) are essential. Also necessary for admission are letters of recommendation and an interview with the professional school's admission committee.

Our world needs Christian health professionals strong in character and maturity who have had broad educational and social experiences. George Fox University offers excellent opportunities to build these qualities through academic courses in areas such as ethics, psychology, computer science, literature, history, and foreign languages, and through varied social opportunities.

## Prelaw Program

Students considering law school enjoy a wide range of options in their course of study, which can be worked out with their prelaw advisor. The best preparation for law school (and a legal career) emphasizes a broad liberal arts education as an undergraduate. Students need to prepare themselves to understand complex real-world problems from as many perspectives as possible.
Therefore, prelaw students may choose from many different majors, supplementing the major with electives and general education options that stress writing and oral communication skills, logical and critical thinking, close reading of difficult material, and deeper understanding of society and culture. Prelaw students are strongly encouraged to take PSCI 260 Introduction to Law, and to join in activities with other prelaw students.

The university's prelaw advisor will work with students to help design their courses of study, plan for entry into law school, and sponsor events to give students exposure to the law and the legal profession.

# Majors

# Bachelors (BS) in Biochemistry

## Overview

The biochemistry major offers a 63-64-semester-hour course of study. The major is designed for students who plan to enter a variety of careers, including teaching, chemical and biochemical research, environmental chemistry, forensic science, pharmacy, graduate school and medicine. Students are required to obtain a minimum grade of C- in all courses taken for the major.

## Degree Outcomes

Graduates with a BS in biochemistry will:

- Be able to describe the fundamental principles in major chemistry and biochemistry subdisciplines
- Demonstrate proficiency with modern biochemical techniques
- Critically evaluate data and design experiments to test relevant biochemical hypotheses
- Critically read and evaluate primary literature related to the field
- Develop oral and written communication skills for long-term professional success
- Articulate a spiritually mature worldview

## Major Requirements

### Chemistry Requirements (24 hours)

**Complete the following:**

CHEM 211 General Chemistry I 4 hours
CHEM 212 General Chemistry II 4 hours
CHEM 300 Quantitative Analysis 4 hours
CHEM 331 Organic Chemistry I 4 hours
CHEM 341 Biochemistry I 4 hours
CHEM 342 Biochemistry II 4 hours

### Biology Requirements (12 hours)

**Complete the following:**

BIOL 211 Cellular Biology & Genetics 4 hours
BIOL 212 Organisms & Physiological Systems 4 hours
BIOL 350 Genetics 4 hours

### Mathematics Requirements (7-8 hours)

**Complete the following:**

MATH 201 Calculus I 4 hours

**Choose one of the following:**

CSIS 201 Introduction to Computer Science I 3 hours
MATH 202 Calculus II 4 hours
MATH 240 Statistical Procedures 3 hours

### Physics Requirements (8 hours)

### Choose one of the following sequences:

PHYS 201 General Physics 4 hours
PHYS 202 General Physics 4 hours

**OR**

PHYS 211 General Physics with Calculus 4 hours
PHYS 212 General Physics with Calculus 4 hours

### Chemistry and Biology Electives (12 hours)

**Choose three of the following:**

At least one biology course and one chemistry course.
BIOL 311 Ecology & Biodiversity 4 hours
BIOL 333 Advanced Physiology 4 hours
BIOL 370 Microbiology 4 hours
BIOL 390 Plant Biology 4 hours
BIOL 410 Molecular Biology 4 hours
BIOL 420 Cell Biology 4 hours
BIOL 450 Advanced Human Anatomy 4 hours
CHEM 332 Organic Chemistry II 4 hours
CHEM 365 Advanced Topics in Biochemistry 4 hours
CHEM 400 Biochemical Thermodynamics 4 hours

### Thesis Option

*Philosophy:* The opportunity to pursue a chemistry thesis is an honor. Consequently, the thesis option will be noted on a student's transcript. The thesis is designed to enhance a student's preparation for graduate or professional school. The heart of the thesis is original research conducted under the guidance of a chemistry faculty member.

*Eligibility:* The thesis option may be pursued by any chemistry major in good academic standing. Students wishing to pursue a thesis must:

1. Consult with their research advisor about an acceptable research project.
2. In writing, notify the chemistry thesis committee (composed of the chemistry department faculty) of their intention to conduct research. The thesis committee must receive notification by the end of the fall semester of the student's junior year.

After the beginning of the spring semester of a student's junior year, students must petition the department thesis committee for permission to pursue thesis research. Students who pursue the thesis option must:

1. Enroll in at least 1 hour of Chemical Research (CHEM 465) each semester, beginning the spring semester of their junior year, through the spring semester of their senior year.
2. Submit the first copy of a written thesis to the thesis committee by April 1 of their senior year. The final, edited copy is due to the thesis committee the last day of classes during the spring semester.
3. Prepare a poster and give an oral presentation of their research.

In some cases, students may apply research conducted off campus to the CHEM 465 requirement. Students who participate in off-campus research programs may petition the thesis committee for special consideration of the thesis option. The thesis committee must receive the petition by the beginning of the fall semester of the student's senior year. The thesis committee may elect to substitute the off-campus experience for a portion of the CHEM 465 requirement.

# Bachelors (BS) in Biology

## Overview

This major offers a 56- or 58-semester-hour course of study, enabling students to pursue a variety of careers that include research, the health professions, teaching and non-science fields that require critical-thinking skills. Requirements for the biology major consist of 18 semester hours in core biology courses, 22-24 hours in physical sciences and quantitative skills, and 16 hours of upper-division biology coursework. Students are required to obtain a minimum grade of C- in all courses taken for the major.

## Degree Outcomes

Graduates with a BS in biology will:

- Understand, interpret and communicate scientific information
- Demonstrate a broad understanding of field biology, biodiversity, systems-level biology and cell/molecular biology
- Understand the basic forms of scientific inquiry
- Evaluate the compatibility of science and faith in their worldview

## Major Requirements

### Biology Core Requirements (18 hours)

#### Biology Core (18 hours)

**Complete the following:**

BIOL 211 Cellular Biology & Genetics 4 hours
BIOL 212 Organisms & Physiological Systems 4 hours
BIOL 311 Ecology & Biodiversity 4 hours
BIOL 350 Genetics 4 hours
BIOL 490 Biological Exploration 2 hours

### Biology Upper-Division Electives (16 hours)

**Complete at least one course from each of the following groups.**

#### Organization

**Courses listed in two groups may meet requirements for both groups. (For example, if BIOL 390 is taken to meet the Diversity requirement then it may also fulfill the Processes requirement as well.)**

**Choose one of the following:**

BIOL 310 Developmental Biology 4 hours
BIOL 322 Comparative Vertebrate Anatomy 4 hours
BIOL 335 Neuroscience 4 hours

BIOL 370 Microbiology 4 hours
BIOL 410 Molecular Biology 4 hours
BIOL 420 Cell Biology 4 hours
BIOL 450 Advanced Human Anatomy 4 hours

### Diversity

**Choose one of the following:**

BIOL 300 Evolution 4 hours
BIOL 322 Comparative Vertebrate Anatomy 4 hours
BIOL 360 Ecology 4 hours
BIOL 370 Microbiology 4 hours
BIOL 380 Ornithology 4 hours
BIOL 390 Plant Biology 4 hours
BIOL 460 Invertebrate Zoology 4 hours

### Processes

**Choose one of the following:**

BIOL 310 Developmental Biology 4 hours
BIOL 333 Advanced Physiology 4 hours
BIOL 335 Neuroscience 4 hours
BIOL 360 Ecology 4 hours
BIOL 390 Plant Biology 4 hours

## Physical Sciences (16 hours)

### Physical Sciences

**Choose four of the following:**

CHEM 211 General Chemistry I 4 hours
CHEM 212 General Chemistry II 4 hours
CHEM 331 Organic Chemistry I 4 hours
CHEM 332 Organic Chemistry II 4 hours
PHYS 201 General Physics 4 hours
PHYS 202 General Physics 4 hours
PHYS 211 General Physics with Calculus 4 hours
PHYS 212 General Physics with Calculus 4 hours

## Quantitative Skills (6-8 hours)

### Quantitative Skills

**Complete the following:**

MATH 240 Statistical Procedures 3 hours

**Choose one of the following:**

CSIS 201 Introduction to Computer Science I 3 hours
MATH 201 Calculus I 4 hours

## Optional Thesis

### Thesis Option

Students can petition the department thesis committee by the end of the fall semester of their junior year for permission to do original research as part of their degree requirement. Students allowed to pursue the thesis option must:

1. Complete an acceptable research proposal and the Research Methods course (BIOL 384) by the end of the spring semester of the junior year.
2. Take up to 4 hours of Biological Research (BIOL 465) between the spring semester of their junior year and graduation, and Senior Thesis (BIOL 496) during the spring semester of their senior year.
3. Complete a written thesis acceptable to the thesis committee by April 1 of their senior year.
4. Prepare a poster and give an oral presentation of their research prior to graduation.

The department considers this an honor to be noted on the student's transcript. The thesis is designed to enhance a student's preparation for graduate or professional school.

# Bachelors (BA) in Biology

## Overview

This major offers a 55- to 61-semester-hour course of study, enabling students to pursue a variety of careers that include research, the health professions, teaching and non-science fields that require critical-thinking skills. Students are required to obtain a minimum grade of C- in all courses taken for the major.

Requirements for the BA in biology consist of 10-14 semester hours in core biology courses, 8 hours in chemistry, 3 hours in mathematics, 20 hours of biology electives, and 14 to 16 hours of courses based on a selected liberal arts emphasis.

## Degree Outcomes

Graduates with a BA in biology will:

- Understand, interpret and communicate scientific information
- Demonstrate knowledge and competency of field biology, biodiversity, systems-level biology and cell/molecular biology
- Understand the basic forms of scientific inquiry
- Evaluate the compatibility of science and faith in their worldview

## Major Requirements

### Core Requirements (41-45 hours)

#### Biology (10-14 hours)

**Complete the following:**

BIOL 490 Biological Exploration 2 hours

**Choose one of the following sequences:**

**Sequence 1**

BIOL 211 Cellular Biology & Genetics 4 hours
BIOL 212 Organisms & Physiological Systems 4 hours

**Sequence 2**

BIOL 211 Cellular Biology & Genetics 4 hours
BIOL 221 Human Anatomy and Physiology I 4 hours
BIOL 222 Human Anatomy and Physiology II 4 hours

#### Chemistry (8 hours)

**Complete the following:**

CHEM 211 General Chemistry I 4 hours

CHEM 212 General Chemistry II 4 hours

## Mathematics (3 hours)

**Complete the following:**

MATH 180 College Algebra or above 3 hours

## Biology Electives (20 hours)

**Complete the following:**

Courses listed in two areas below may meet requirements for both areas of emphasis. (For example, if BIOL 390 is taken to meet the field studies requirement then it may also fulfill the diversity emphasis as well.)

**Choose one of the following field studies courses:**

BIOL 300 Evolution 4 hours
BIOL 360 Ecology 4 hours
BIOL 380 Ornithology 4 hours
BIOL 390 Plant Biology 4 hours
BIOL 460 Invertebrate Zoology 4 hours

**Choose one of the following diversity courses:**

BIOL 300 Evolution 4 hours
BIOL 322 Comparative Vertebrate Anatomy 4 hours
BIOL 367 Essentials of Microbiology 4 hours
BIOL 380 Ornithology 4 hours
BIOL 390 Plant Biology 4 hours
BIOL 460 Invertebrate Zoology 4 hours

**Choose one of the following form/function courses:**

BIOL 310 Developmental Biology 4 hours
BIOL 322 Comparative Vertebrate Anatomy 4 hours
BIOL 333 Advanced Physiology 4 hours
BIOL 335 Neuroscience 4 hours
BIOL 340 Plant Physiology 4 hours
BIOL 450 Advanced Human Anatomy 4 hours

**Choose one of the following cell/molecular courses:**

BIOL 335 Neuroscience 4 hours
BIOL 350 Genetics 4 hours
BIOL 367 Essentials of Microbiology 4 hours
BIOL 410 Molecular Biology 4 hours
BIOL 420 Cell Biology 4 hours

**Upper-division BIOL electives**

BIOL electives 300-level or above 4-12 hours

## Liberal Arts Emphasis (14-16 hours) - choose one

### Art (15 hours)

**Complete the following:**

ARTS 101 Basic Design 2-D 3 hours

**Choose 12 hours of electives from the following:**

ARTS 111 Drawing I 3 hours
ARTS 112 Drawing II 3 hours
ARTS 201 Beginning Painting 3 hours
ARTS 301 Intermediate Painting 3 hours
ARTS 401 Advanced Painting 3 hours
ARTS 221 Beginning Sculpture 3 hours
ARTS 321 Intermediate Sculpture 3 hours
ARTS 421 Advanced Sculpture 3 hours
ARTS 230 Beginning Photography 3 hours
ARTS 330 Intermediate Photography 3 hours
ARTS 430 Advanced Photography 3 hours
ARTD 220 Typography 3 hours
ARTD 250 Print and Packaging 3 hours
ARTS 475 Field Experience 3 hours

### Global and Cultural Diversity (14-16 hours)

## Option 1

### Complete the following:

**Spanish language sequence:**

SPAN 201 Intermediate Spanish I 4 hours
SPAN 202 Intermediate Spanish II 4 hours
SPAN 301 Intermediate/Advanced Spanish 4 hours
SPAN 302 Advanced Spanish 4 hours

## Option 2

**Complete the following:**

**Spanish language sequence:**

SPAN 201 Intermediate Spanish I 4 hours
SPAN 202 Intermediate Spanish II 4 hours

**Choose 6-8 hours of Global/Cultural Understanding electives from the following:**

COMM 410 Gender Comm Across Cultures 3 hours
ECON 370 International Economic Development 3 hours

GEED 355 Cross-Cultural Experience - Domestic 2 hours
GEED 365 Cross-Cultural Experience - International 2 hours
GEED 465 Cross-Cultural Experience - International 1 hour
HIST 250 Colonial Vestiges & Liberal Hopes: Latin America 3 hours
HIST 340 History of the Middle East 3 hours
HIST 343 History of Southern Africa 3 hours
HIST 360 Modern Russia 3 hours
HIST 380 Race and Slavery in America 3 hours
LITR 241 World Literature I 3 hours
LITR 242 World Literature II 3 hours
LITR 250 International Women's Voices 3 hours
PSCI 230 Introduction to International Affairs 3 hours
PSCI 303 International Conflict and Peace 3 hours
PSYC 353 Culture and Psychology 3 hours
SOCI 310 Cultural Anthropology 3 hours
SOCI 380 Race and Ethnicity 3 hours
SPAN 301 Intermediate/Advanced Spanish 4 hours
SPAN 302 Advanced Spanish 4 hours
THEO 310 Introduction to the World Christian Movement 3 hours
THEO 341 Cross-Cultural Christian Outreach 3 hours
THEO 410 World Religions 3 hours

### English (15 hours)

**Complete the following:**

LITR electives 200-level or above 6 hours

**Choose three of the following:**

WRIT 210 Practical Grammar and Editing 3 hours
WRIT 230 Introduction to Journalism 3 hours
WRIT 250 Creative Nonfiction 3 hours
WRIT 310 Professional Writing 3 hours
WRIT 330 Magazine and Feature Writing 3 hours

### Psychology (15-16 hours)

**Complete the following:**

PSYC 150 General Psychology 3 hours
PSYC 310 Lifespan Human Development 3 hours
PSYC elective courses 9-10 hours

### Sociology (15 hours)

**Complete the following:**

SOCI 150 Principles of Sociology 3 hours
SOCI elective courses 12 hours

### Other Academic Disciplines (15 hours)

Permission for this option should be sought before a significant amount of course work has been undertaken. The field should have a logical connection to biology.
Introductory course taken by majors in the field (3 hours)
Take 12 upper-division elective hours, as agreed upon by department chair of chosen discipline and biology department head. (12 hours)

# Bachelors (BA) in Business Administration

## Overview

The Business Administration major offers a 57-semester-hour course of study, which includes a host of foundational business courses that will teach you the mechanics of business. Our Business Administration degree is available with four concentrations: Management, Marketing, Finance, or Economics. The degree will prepare you to work in business and the concentrations will give you the opportunity to delve deeper into one or more areas of business and help you gain more specialized expertise. With a Business Administration degree, you will qualify for a variety of business roles right out of college. Students are required to obtain a minimum grade of C- in all major courses.

## Degree Outcomes

Graduates with a BA in business administration will:

- Develop an understanding of the role of each of the primary business disciplines in today's organizations
- Communicate orally and in writing with effectiveness
- Understand the principles of effective leadership
- Demonstrate effective skill as a team member who serves both locally and globally
- Demonstrate the ability to identify ethical dilemmas and responsible courses of action

## Major Requirements

### Business Administration Core (42 hours)

#### Complete the following:

ACCT 271 Principles of Financial Accounting 3 hours
ACCT 272 Principles of Managerial Accounting 3 hours
BUSN 110 Introduction to Business 3 hours
BUSN 120 Personal Finance 3 hours
BUSN 240 Business Statistics 3 hours
BUSN 250 Business Communication 3 hours
BUSN 300 Global Business 3 hours
BUSN 360 Business Law 3 hours
BUSN 486 Strategic Management 3 hours
ECON 200 Principles of Economics 3 hours
FINC 260 Business Finance 3 hours
MGMT 260 Principles of Management 3 hours
MKTG 260 Principles of Marketing 3 hours

#### Choose one of the following:

ECON 150 Radical Economics: From Sabbath to Socialism 3 hours

MGMT 200 Leadership and Character 3 hours

## Concentrations (15 hours) - choose one

### Economics (15 hours)

**Complete the following:**

BUSN 301 Business Analytics: Introduction to Business Intelligence 3 hours
ECON 311 Intermediate Macroeconomics 3 hours
ECON 370 International Economic Development 3 hours
ECON 410 Econometrics 3 hours
ECON 440 Urban and Regional Economics 3 hours

### Finance (15 hours)

**Complete the following:**

ACCT 450 Advanced Analytics in Financial Services 3 hours
ECON 410 Econometrics 3 hours
FINC 300 Intermediate Financial Management 3 hours
FINC 460 Financial Analysis and Modeling 3 hours
FINP 450 Investment Planning 3 hours

### Management (15 hours)

**Complete the following:**

MGMT 300 Leading and Managing People 3 hours
MGMT 310 Project Management 3 hours
MGMT 350 Human Resource Management 3 hours
MGMT 400 Business Development and Sales 3 hours
MGMT 480 Organizational Behavior 3 hours

### Marketing (15 hours)

**Complete the following:**

MKTG 300 Consumer Behavior: Know Your Customer 3 hours
MKTG 350 Marketing Research 3 hours
MKTG 420 Marketing Communications: The Role of Integrated Marketing in a Digital World 3 hours
MKTG 430 Digital & Interactive Marketing 3 hours
MKTG 490 Strategic Marketing: Formulating Concrete Results 3 hours

# Bachelors (BA) in Cinematic Arts

## Overview

The Cinematic Arts major offers a 45-48 semester-hour course of study that combines the liberal arts emphasis of communication arts with hands-on experiences in video, film, digital media production, and animation. An extensive selection of electives allows the student to design a program that fits individual needs or interests.

## Degree Outcomes

Graduates with a BA in cinematic arts will:

- Know the history, fundamental professional practices and standards of contemporary visual media arts.
- Demonstrate creative skill sets in the production of cinematic arts projects, including writing and storytelling for media.
- Critically analyze contemporary visual media productions, practices and impacts.
- Have a greater appreciation for the various ways in which faith issues can be integrated within the cinematic arts.
- Comprehend and employ communication theories, perspectives, principles, concepts, and techniques in everyday life in relation to their discipline.

## Major Requirements

### Core requirements (21 hours)

#### Theory (9 hours)

**Choose one of the following:**

CINE 160 History of U.S. Cinema 3 hours
CINE 220 History of International Cinema 3 hours

**Complete the following:**

CINE 280 Film Theory and Criticism 3 hours
COMM 230 Mass Media and Popular Culture 3 hours

#### Production (12 hours)

**Complete the following:**

CINE 230 Storytelling, Moving Images & Sound 3 hours
CINE 243 Introduction to Audio 3 hours
CINE 320 Dramatic Scriptwriting 3 hours
CINE 475 Field Experience 1-10 hours
CINE 490 Senior Portfolio 1 hour

## Concentrations (24-27 hours) - choose one

### Animation (27 hours)

Students in the animation concentration study techniques for producing 2D, 3D and stop motion animation and visual effects using a combination of creativity, aesthetics, and computer software.

**Complete the following:**

ARTD 110 Creative Suite 3 hours
ARTS 111 Drawing I 3 hours
CINE 210 Storyboarding and Concept Design 3 hours
CINE 212 Introduction to Animation 3 hours
CINE 214 2D Computer Animation 3 hours
CINE 312 3D Computer Animation I 3 hours
CINE 363 Motion Graphics and Visual Effects 3 hours
CINE 410 3D Computer Animation II 3 hours
CINE 481 Advanced Production Workshop I 3 hours

### Suggested Electives (not required)

ARTS 230 Beginning Photography 3 hours
ARTS 311 Figure Drawing I 3 hours
ARTS 411 Figure Drawing II 3 hours
CINE 333 Camera and Lighting 3 hours
CINE 475 Field Experience 1-10 hours
CINE 482 Advanced Production Workshop II 3 hours

### Audio Production (24 hours)

Students in the audio production concentration focus on audio techniques for music recording and mixing; sound design for film, video and new media and production for radio.

**Complete the following:**

CINE 343 Sound Design 3 hours
CINE 344 Studio Sound Recording 3 hours
CINE 350 Editing Video 3 hours
CINE 481 Advanced Production Workshop I 3 hours

**Choose 12 hours of the following:**

Up to 6 credits of CINE 475 can be applied to this requirement.

MUSI 233 Songwriting and Producing 3 hours
CINE 475 Field Experience 1-10 hours
CINE 482 Advanced Production Workshop II 3 hours
MUSI 180 Introduction to Music Technology 3 hours

**OR**

Up to 15 semester hours of coursework at the Contemporary Music Center Program in Nashville.

## Film and Video Production (24 hours)

The study of the moving image incorporates cinema history, media criticism and elements of hands-on film production.

**Complete the following:**

CINE 333 Camera and Lighting 3 hours
CINE 350 Editing Video 3 hours
CINE 481 Advanced Production Workshop I 3 hours

**Choose 15 hours of the following:**

CINE 210 Storyboarding and Concept Design 3 hours
CINE 212 Introduction to Animation 3 hours
CINE 214 2D Computer Animation 3 hours
MUSI 233 Songwriting and Producing 3 hours
CINE 310 Intermediate Directing 3 hours
CINE 312 3D Computer Animation I 3 hours
CINE 343 Sound Design 3 hours
CINE 344 Studio Sound Recording 3 hours
CINE 363 Motion Graphics and Visual Effects 3 hours
CINE 371 Documentary Production I 3 hours
CINE 372 Documentary Production II 3 hours
CINE 410 3D Computer Animation II 3 hours
CINE 430 Producing and Directing Video 3 hours

**OR**

Up to 15 semester hours of course work at the Los Angeles Film Studies Center

# Bachelors (BA) in Communication

## Overview

The communication major offers a 45-semester-hour course of study that features an interdisciplinary approach to communication that integrates concentrations in human communication, organizational communication, and public relations with a common core of courses in communication methods, theory, and application. Students are required to obtain a minimum grade of C- in all courses taken for the major.

## Degree Outcomes

Graduates with a BA in communication will:

- Understand and employ communication theories, perspectives, principles, and concepts in everyday life
- Create and deliver messages appropriate to the audience, purpose, and context
- Critically analyze messages; and
- Value and apply ethical principles and practices

## Major Requirements

### Core Requirements (24 hours)

**Complete the following:**

COMM 111 Communication in Society 3 hours
COMM 200 Persuasive Communication 3 hours
COMM 210 Interpersonal Communication 3 hours
COMM 260 Introduction to Communication Research Methods 3 hours
COMM 420 Intercultural Communication 3 hours
COMM 475 Field Experience 3 hours
COMM 480 Senior Capstone: Ethical and Spiritual Dimensions of Communication 3 hours
WRIT 310 Professional Writing 3 hours

### Concentrations (21 hours) - choose one

### Human Communication (21 hours)

**Complete the following:**

COMM 230 Mass Media and Popular Culture 3 hours
COMM 290 Small Group Communication 3 hours
COMM 300 Communication Theory and Research 3 hours
COMM 324 Argumentation and Critical Thinking 3 hours
COMM 400 Critical Approaches to Communication 3 hours

**Complete the following:**

6-hours of upper-division COMM coursework required. Courses in other disciplines must be approved by faculty advisor.
COMM elective Upper-Division Elective Coursework 6

## Organizational Communication (21 hours)

**Complete the following:**

BUSN 110 Introduction to Business 3 hours
COMM 270 Introduction to Organizational Communication 3 hours
COMM 290 Small Group Communication 3 hours
COMM 380 Advanced Organizational Communication 3 hours

**Complete one of the following 9-hour sequences:**

MKTG 260 Principles of Marketing 3 hours
MKTG 300 Consumer Behavior: Know Your Customer 3 hours
MKTG 420 Marketing Communications: The Role of Integrated Marketing in a Digital World 3 hours

**OR**

MGMT 260 Principles of Management 3 hours
MGMT 300 Leading and Managing People 3 hours
MGMT 480 Organizational Behavior 3 hours

## Public Relations (21 hours)

**Choose one of the following:**

ARTD 110 Creative Suite 3 hours
CINE 230 Storytelling, Moving Images & Sound 3 hours

**Complete the following:**

COMM 240 Introduction to Public Relations 3 hours
COMM 270 Introduction to Organizational Communication 3 hours
COMM 321 Public Relations Case Studies and Campaigns 3 hours
COMM 430 Advanced Research Methods & Data Visualization 3 hours
COMM 440 Crisis Communication 3 hours
JOUR 230 Introduction to Journalism 3 hours

**Suggested Elective:**

COMM 311 Social Media 3 hours

# Bachelors (BS) in Computer Science

## Overview

The computer science major offers a 54-semester-hour core course of study with an optional 29-semester-hour cyber security concentration. Students are required to obtain a minimum grade of C- in all courses taken for the major.

## Degree Outcomes

Graduates with a BS in computer science will:

- Demonstrate problem-solving competency through programming and software development
- Understand applications of discrete structures and algorithms
- Apply theoretical and practical system implementations (architecture, operating systems, networking, database)
- Apply professional/ethical responsibility to their work
- Understand cultural influences within the technical industry

## Major Requirements

### Core requirements (45 hours)

#### Complete the following:

CSIS 201 Introduction to Computer Science I 3 hours
CSIS 202 Introduction to Computer Science II 3 hours
CSIS 310 Data Structures 3 hours
CSIS 321 Software Engineering 3 hours
CSIS 340 Database Systems 3 hours
CSIS 360 Computer Architecture and Assembly Language 3 hours
CSIS 370 Object-Oriented Analysis and Design 3 hours
CSIS 420 Structures of Programming Languages 3 hours
CSIS 430 Analysis of Algorithms 3 hours
CSIS 460 Operating Systems 3 hours
ENGR 381 Servant Engineering I 2 hours
ENGR 382 Servant Engineering II 2 hours
ENGR 481 Senior Design I 1 hour
ENGR 482 Senior Design II 3 hours
MATH 201 Calculus I 4 hours
MATH 260 Discrete Mathematics 3 hours

### Electives (9 hours)

#### Students must complete an additional 9-semester-hours from the following options:

CSIS electives coursework 5-9 hours
ENGE 220 Digital Logic Design 4 hours

## Optional Concentration

In addition to the Computer Science Core course requirements students can elect to add a Cyber Security Concentration and complete an additional 29-hours of course work. The 9-hour elective requirement required in the Computer Science Core can be met by the courses required to complete the Cyber Security Concentration.

### Cyber Security Concentration Option (29 hours)

**Complete the following:**

ENGE 220 Digital Logic Design 4 hours
CSIS 312 Computer Security and Digital Forensics 3 hours
CSIS 350 Data Communications and Networks 3 hours
CSIS 390 Emerging Mobile Technologies 3 hours
CSIS 413 Ethical Hacking 3 hours
CSIS 434 Parallel and Distributed Computing 3 hours
CSIS 450 Network Administration 3 hours
CSIS 451 Cyber Defense 4 hours
CSIS 473 Secure Software 3 hours

# Bachelors (BS) in Elementary Education

## Overview

The elementary education major offers a 80-semester-hour course of study that is designed for the preparation of elementary school teachers with authorizations at the early childhood (age 3 years to grade 4) and elementary (grades 3-8) levels. This degree includes an endorsement in ESOL and requires an iPad to enter the program. Upon entering, students interested in majoring in elementary education should contact an elementary education advisor. There is a recommended sequence for courses in the major. Students are required to obtain a minimum grade of C- in all courses taken for the major.

## Degree Outcomes

Graduates with a BS in elementary education will:

- Understand how learners grow and develop within and across the cognitive, linguistic, social, emotional and physical areas and design appropriate and challenging learning experiences for all learners
- Understand individual differences and diverse cultures and communities and apply this knowledge to creating environments that support individual and collaborative learning on behalf of student achievement
- Use a variety of instructional strategies to support every student in meeting rigorous learning goals
- Understand the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and create learning experiences that make these aspects of the discipline accessible and meaningful for learners to assure mastery of the content
- Use multiple methods of assessment to engage learners in their own growth, to monitor learner progress, and to guide the teacher's and learner's decision making
- Engage in ongoing professional learning and use evidence to continually evaluate his/her practice and adapt practice to become more effective

## Major Requirements

### Prerequisite Courses (14 hours)

**Complete the following:**

EDUC 260 Teaching, Schooling and Learning 4 hours
EDUC 270 Intercultural Communication in the ESOL/Bilingual Context 2 hours
MATH 211 Foundations of Elementary Mathematics I 4 hours
MATH 212 Foundations of Elementary Mathematics II 4 hours

### Psychology and History Requirement (6 hours)

**Complete the following:**

HIST 111 The Modern and Postmodern World 3 hours
PSYC 100 Personhood 3 hours

### Education Core (60 hours)

**Complete the following:**

Elementary education admissions requirements, policies and procedures are listed in the Teacher Education Majors and Minors section.
EDUC 324 Trends and Methods of Early Childhood Education 4 hours
EDUC 343 Adventures in Math and Science I 4 hours
EDUC 344 Adventures in Math and Science II 4 hours
EDUC 346 The Inclusive Classroom in a Diverse Society 4 hours
EDUC 354 Pedagogy of Health, Human Performance and the Arts 2 hours
EDUC 371 Curriculum Design with ESOL 4 hours
EDUC 375 Practicum I 4 hours
EDUC 381 Classroom Management 2 hours
EDUC 412 Literacy for Children and Adolescents 2 hours
EDUC 413 Reading and Writing Methods I 4 hours
EDUC 414 Reading and Writing Methods with the Common Core Subjects 4 hours
EDUC 461 Applied English Linguistics 4 hours
EDUC 462 How Languages are Learned 2 hours
EDUC 475 Practicum II 10 hours
EDUC 480 Classroom Assessment: Assessing and Planning for All Learners 4 hours
EDUC 490 Senior Seminar 2 hours

## Optional

### Middle-Level Authorization (5 hours)

Students may add the middle-level authorization (grades 5-10) to the elementary/early childhood authorization if they meet the testing/course work requirements in a content area, take the required courses, and complete an additional student teaching at the middle level.
EDUC 353 Trends and Issues in Middle-Level Education 4 hours
EDUC 376 Student Teaching I for Middle-Level Authorization 1 hour
Additional authorizations are available through the graduate department of Educational Foundations and Leadership.

## Admission to Student Teaching

Acceptance into the teacher education program does not guarantee assignment for student teaching.

Admission to student teaching is based upon continued good standing; favorable recommendations; an attained cumulative GPA of 2.75 or better on all college-level courses, including transfer credits; completion of the required teaching major and professional courses with no grade below C-; passing scores on appropriate basic skills and having taken content area examinations; successful completion of the student teaching interview; and a minimum of 16 semester hours completed in residence prior to student teaching.

# Bachelors (BA) in English

## Overview

The English major offers a 43-44-semester-hour course of study that teaches students to read and write with attention to truthfulness, logic, rhetoric and aesthetics. Graduates pursue careers in teaching, writing, publishing and other fields that demand perceptive attention to textual detail and the ability to communicate with clarity and grace. Students are required to obtain a minimum grade of C- in all courses taken for the major.

## Degree Outcomes

Graduates with a BA in English will:

- Demonstrate the ability to write clearly and effectively in a variety of rhetorical situations.
- Demonstrate the ability to interpret literature with an attention to a text's historical, aesthetic, cultural, and global dimensions.
- Formulate how their spiritual development interacts with and informs their reading, writing, and thinking.

## Major Requirements

### English Core (13 hours)

#### Complete the following:

LITR 200 Studies in Literature 3 hours
WRIT 200 Studies in Writing 3 hours
LITR 241 World Literature I 3 hours
WRIT 290 Professional Seminar 1 hour
CPAS 318 Navigating College to Career 1 hour
WRIT 490 Senior Experience 2 hours

### Global Literature Requirement (3 hours)

#### Choose one of the following:

LITR 242 World Literature II 3 hours
LITR 250 International Women's Voices 3 hours

### Language-Grammar Requirement (3-4 hours)

#### Choose one of the following:

WRIT 210 Practical Grammar and Editing 3 hours
LANG 340 General and Cultural Linguistics 3 hours
World Language Requirement 200-level or higher 4 hours

### Writing Requirement (3 hours)

**Complete the following:**

WRIT elective 200-level or above 3 hours

## Concentrations (21 Hours) - choose one

### Literature (21 hours)

**Complete the following:**

LITR 350 Literary Criticism 3 hours
LITR 356 American Literature I 3 hours
LITR 357 American Literature II 3 hours
LITR 382 British Literature II 3 hours

**Choose one of the following:**

LITR 379 Shakespeare 3 hours
LITR 381 British Literature I 3 hours

**Choose one of the following:**

LITR elective 200-level or above 3 hours
WRIT 350 Composition Theory 3 hours
WRIT 465 Advanced Studies in Creative Writing 3 hours

**Choose one of the following:**

LITR 335 Advanced Studies in American Literature 3 hours
LITR 365 Advanced Studies in British Literature 3 hours

### Writing (21 hours)

**Complete the following:**

WRIT electives 200-level or above 6 hours
WRIT 350 Composition Theory 3 hours
WRIT 465 Advanced Studies in Creative Writing 3 hours
WRIT/LITR 475 Field Experience 3 hours

**Choose one of the following:**

LITR 379 Shakespeare 3 hours
LITR 381 British Literature I 3 hours
LITR 382 British Literature II 3 hours

**Choose one of the following:**

LITR 356 American Literature I 3 hours
LITR 357 American Literature II 3 hours

# Bachelors (BS) in Engineering

## Overview

Engineering is the application of mathematical and scientific knowledge to provide for the technological needs of society. This major offers a 97-99-semester-hour course of study with a concentration in biomedical, civil, computer, electrical or mechanical engineering. Design work is integrated throughout the curriculum, utilizing current methodologies and computer tools. The engineering major will prepare students for the engineering profession, graduate programs and professional licensure. The George Fox Engineering Program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

Upon entering, students interested in majoring in engineering should contact an engineering advisor. There are specific general education requirements for engineering majors. There is also a sequence for courses in the major.

## Program Outcomes

George Fox engineering graduates will have:

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- An ability to communicate effectively with a range of audiences
- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

## Major Requirements

### Required for all concentrations

#### Mathematics and Natural Science (27 hours)

**Complete the following:**

CHEM 211 General Chemistry I 4 hours
MATH 201 Calculus I 4 hours
MATH 202 Calculus II 4 hours

MATH 301 Calculus III 3 hours
MATH 311 Differential Equations with Linear Algebra 4 hours
PHYS 211 General Physics with Calculus 4 hours
PHYS 212 General Physics with Calculus 4 hours

### Engineering Core (17 hours)

**Complete the following.**

ENGR 151 Engineering Principles I 3 hours
ENGR 152 Engineering Principles II 3 hours
ENGR 360 Engineering Economics 2 hours
ENGR 381 Servant Engineering I 2 hours
ENGR 382 Servant Engineering II 2 hours
ENGR 481 Senior Design I 1 hour
ENGR 482 Senior Design II 3 hours
ENGR 490 Senior Seminar 1 hour

## Concentrations (53-55) - choose one

### Biomedical Engineering (53-54 hours)

**Complete the following courses**

BIOL 221 Human Anatomy and Physiology I 4 hours
BIOL 222 Human Anatomy and Physiology II 4 hours
ENGB 250 Biomaterials 3 hours
ENGB 321 Mechanics of Biomaterials Lab 1 hour
ENGB 330 Biotransport 3 hours
ENGB 350 Biosignal Analysis 4 hours
ENGB 410 Development of Medical Devices 3 hours
ENGB 420 Biomechanics 3 hours
ENGB 470 BioMEMS & Tissue Engineering 3 hours
ENGE 260 Circuits and Instrumentation 4 hours
ENGM 211 Statics 3 hours
ENGM 212 Dynamics 3 hours
ENGM 320 Mechanics of Materials 3 hours
MATH 330 Engineering Statistics 3 hours

**Choose one of the following two sequences.**

**Medical Device Sequence**

ENGM 220 Materials and Processes in Manufacturing 3 hours
ENGM 360 Finite Elements and Computer Modeling 4 hours
ENGM 480 Control Systems Engineering 3 hours

**Pre-PT Sequence**

BIOL 211 Cellular Biology & Genetics 4 hours
CHEM 212 General Chemistry II 4 hours

ENGB 390 Research Experience 1 hour

## Civil Engineering (54 hours)

**Complete the following**

ENGC 210 Site Development w/ AutoCAD and Civil 3D 2 hours
ENGC 220 Engineering Surveying 2 hours
ENGC 310 Environmental Engineering 3 hours
ENGC 330 Structural Analysis and Design 3 hours
ENGC 340 Geotechnical Engineering 4 hours
ENGC 350 Hydraulic Engineering 4 hours
ENGC 370 Transportation Engineering 3 hours
ENGC 380 Engineering Hydrology 3 hours
ENGC 450 Construction Management and Professional Practice 2 hours
ENGM 211 Statics 3 hours
ENGM 212 Dynamics 3 hours
ENGM 250 Principles of Materials Science 3 hours
ENGM 311 Engineering Thermodynamics 3 hours
ENGM 320 Mechanics of Materials 3 hours
ENGM 321 Mechanics of Materials Lab 1 hour
ENGM 330 Fluid Mechanics 3 hours
MATH 330 Engineering Statistics 3 hours

**Complete the following:**

ENGC 430 Reinforced Concrete Design 3 hours
ENGC 460 Design of Steel Structures 3 hours

## Computer Engineering (54-55 hours)

**Complete the following**

ENGE 220 Digital Logic Design 4 hours
ENGE 250 Electrical Circuit Analysis 4 hours
ENGE 270 Electric Power Systems 3 hours
ENGE 311 Electronic Devices and Circuits 4 hours
ENGE 312 Applications of Electronic Devices 4 hours
ENGE 320 Microprocessor Architecture 4 hours
ENGE 330 Electrical Signals and Networks 4 hours
ENGE 420 Embedded System Design 3 hours
ENGE 480 Digital Signal Processing 3 hours
CSIS 202 Introduction to Computer Science II 3 hours
CSIS 310 Data Structures 3 hours
CSIS 350 Data Communications and Networks 3 hours
CSIS 430 Analysis of Algorithms 3 hours
CSIS 460 Operating Systems 3 hours
MATH 260 Discrete Mathematics 3 hours

**Choose one additional math or science elective from the following:**

BIOL 100 Foundations of Biology 4 hours

BIOL 211 Cellular Biology & Genetics 4 hours
BIOL 212 Organisms & Physiological Systems 4 hours
BIOL 221 Human Anatomy and Physiology I 4 hours
CHEM 212 General Chemistry II 4 hours
ENGM 250 Principles of Materials Science 3 hours
MATH 312 Numerical Methods 3 hours
MATH 330 Engineering Statistics 3 hours
MATH 331 Probability 3 hours

## Electrical Engineering (54-55 hours)

**Complete the following**

ENGE 220 Digital Logic Design 4 hours
ENGE 250 Electrical Circuit Analysis 4 hours
ENGE 270 Electric Power Systems 3 hours
ENGE 311 Electronic Devices and Circuits 4 hours
ENGE 312 Applications of Electronic Devices 4 hours
ENGE 320 Microprocessor Architecture 4 hours
ENGE 330 Electrical Signals and Networks 4 hours
ENGE 360 Electromagnetic Fields and Waves 3 hours
ENGE 420 Embedded System Design 3 hours
ENGE 430 Communication Systems 3 hours
ENGE 460 Microwave Engineering and Applications 3 hours
ENGE 470 Power Electronics and Renewable Energy 3 hours
ENGE 480 Digital Signal Processing 3 hours
CSIS 202 Introduction to Computer Science II 3 hours

**Choose one of the following:**

MATH 312 Numerical Methods 3 hours
MATH 330 Engineering Statistics 3 hours
MATH 331 Probability 3 hours

**Choose one additional math or science elective from the following:**

BIOL 100 Foundations of Biology 4 hours
BIOL 211 Cellular Biology & Genetics 4 hours
BIOL 212 Organisms & Physiological Systems 4 hours
BIOL 221 Human Anatomy and Physiology I 4 hours
CHEM 212 General Chemistry II 4 hours
ENGM 250 Principles of Materials Science 3 hours
MATH 260 Discrete Mathematics 3 hours
MATH 312 Numerical Methods 3 hours
MATH 330 Engineering Statistics 3 hours
MATH 331 Probability 3 hours

## Mechanical Engineering (54 hours)

**Complete the following:**

ENGE 260 Circuits and Instrumentation 4 hours

ENGM 211 Statics 3 hours
ENGM 212 Dynamics 3 hours
ENGM 220 Materials and Processes in Manufacturing 3 hours
ENGM 250 Principles of Materials Science 3 hours
ENGM 311 Engineering Thermodynamics 3 hours
ENGM 312 Applications of Engineering Thermodynamics 2 hours
ENGM 320 Mechanics of Materials 3 hours
ENGM 321 Mechanics of Materials Lab 1 hour
ENGM 330 Fluid Mechanics 3 hours
ENGM 350 Machine Dynamics and Vibrations 3 hours
ENGM 360 Finite Elements and Computer Modeling 4 hours
ENGM 380 Heat Transfer 3 hours
ENGM 381 Energy Lab 1 hour
ENGM 400 Mechanical Engineering Design 3 hours
ENGM 480 Control Systems Engineering 3 hours

**Choose two of the following:**

ENGM 420 Biomechanics 3 hours
ENGM 450 Fundamentals of Flight Dynamics 3 hours
ENGM 470 Energy Systems Engineering 3 hours

**Choose one of the following:**

MATH 312 Numerical Methods 3 hours
MATH 330 Engineering Statistics 3 hours
MATH 331 Probability 3 hours

# Bachelors (BS) in Financial Services

## Overview

The Financial Services major offers a 63-72-semester-hour course of study that prepares students for a variety of jobs in the financial services industry. Our Financial Services degree has two concentrations: Accounting and Financial Planning (CFP Board Registered program). The degree offers a combination of foundational business courses as well as accounting/financial planning/analytics courses. This degree is for those who are interested in a career that involves helping people and organizations navigate the complexities of financial decision-making. Courses cover both the analytical and people skills to help graduates make the biggest impact on those they serve. Each concentration gives you the option for professional certification: Accounting (CPA) and Financial Planning (CFP®). With these degrees, you will be eligible to sit for the exam for these coveted certifications as well as enter the job market with a specialized and desired skill and knowledge set. Students are required to obtain a minimum grade of C- in all major courses.

## Degree Outcomes

Graduates with a BS in financial services will acquire the skills and knowledge that they need to enter into a career in either accounting or financial planning (or both). This includes becoming prepared for the full range of topics covered by either the CFP® or CPA examinations. There are two tracks within the financial services majors from which students can choose: Financial Planning or Accounting.

Graduates in the accounting track will:

- Be a technically competent accountant
- Develop and enhance students' ethical decision-making ability and demonstrate the ability to integrate a biblical worldview in the accounting profession
- Engage in experiential learning opportunities where students can integrate technical knowledge and professional acumen
- Evaluate the pressures, benefits and challenges of the globalization of accounting

Graduates in the financial planning track will possess:

- Interpersonal skills necessary to maintain successful client relationships and to work effectively in planning environments.
- The quantitative, analytical, and technical skills needed to address complex financial situations.
- The ability to develop financial plans for clients with a variety of needs.
- The awareness, understanding, and skills necessary to live and work from a biblical worldview within a diverse world.
- Knowledge of the legal and regulatory environment in which financial planning occurs and familiarity with relevant licensing, reporting, and compliance requirements.

- The ability to recognize the ethical dilemmas that may arise in financial planning practices and familiarity with the appropriate responses to those dilemmas, as reflected in the CFP® Board's Code of Ethics and Professional Responsibilities.

# Major Requirements

### Business Administration Core (42 hours)

**Complete the following:**

ACCT 271 Principles of Financial Accounting 3 hours
ACCT 272 Principles of Managerial Accounting 3 hours
BUSN 110 Introduction to Business 3 hours
BUSN 120 Personal Finance 3 hours
BUSN 240 Business Statistics 3 hours
BUSN 250 Business Communication 3 hours
BUSN 300 Global Business 3 hours
BUSN 360 Business Law 3 hours
BUSN 486 Strategic Management 3 hours
ECON 200 Principles of Economics 3 hours
FINC 260 Business Finance 3 hours
MGMT 260 Principles of Management 3 hours
MKTG 260 Principles of Marketing 3 hours

**Choose one of the following:**

ECON 150 Radical Economics: From Sabbath to Socialism 3 hours
MGMT 200 Leadership and Character 3 hours

## Concentrations (21-30 hours) - choose one

### Accounting (30 hours)

**Complete the following:**

CSIS 201 Introduction to Computer Science I 3 hours
ACCT 350 Taxation 3 hours
ACCT 370 Accounting Information Systems 3 hours
ACCT 371 Financial Accounting and Reporting I 3 hours
ACCT 372 Financial Accounting and Reporting II 3 hours
ACCT 373 Financial Accounting and Reporting III 3 hours
ACCT 450 Advanced Analytics in Financial Services 3 hours
ACCT 471 Advanced Accounting 3 hours
ACCT 472 Auditing 3 hours
ACCT 480 Business Taxation 3 hours

**Student are encouraged to choose the following electives to enhance their concentration:**

ACCT 405 Volunteer Tax Assistance 1 hour
ACCT 475 Field Experience 1-8 hours

ACCT 485 Selected Topics 3 hours

## Financial Planning (21 hours)

**Complete the following:**

FINP 250 Personal Financial Planning for Professionals 3 hours
FINP 310 Insurance Planning and Risk Management 3 hours
FINP 320 Income Tax Planning 3 hours
FINP 330 Estate Planning 3 hours
FINP 450 Investment Planning 3 hours
FINP 470 Retirement Planning 3 hours
FINP 491 Personal Financial Planning Capstone 3 hours

# Bachelors (BA) in Graphic Design

## Overview

The graphic design major provides students the opportunity to develop an informed design practice built on a rich understanding of the principles of design, the impact of visual communication, and a variety of strategies for creative problem solving.

Encompassing a broad range of media, the curriculum focuses on powerful visual communication and research-based design solutions. Starting with coursework that establishes a strong understanding of foundational formal principles, typographic sensitivity, compositional strategy, and ensures knowledge of current industry-standard software the major then opens up to offer students the opportunity to study the most prevalent uses of design including print, packaging, branding and identity systems, campaigns, web design, and systematic design projects.

Through the curriculum, students are introduced to rich design processes that include idea generation, creative research, problem definition, concept development, sketching, prototyping, image making, typography, print production, and the production of interactive media. All design students take part in an internship and work directly with clients during their course of study. Design majors graduate the program with experience and knowledge that prepares them to join design studios, lead in-house design teams, or launch their own independent design practice.

**Faculty**
The versatile faculty is made up of artists and designers who actively produce and exhibit their creative work - artists who are leaders in their various fields of discipline. They love to teach because they love what they teach. Our faculty is equipped to motivate, inspire and nurture; they become true mentors to their students. The faculty of the Department of Art and Design believe it is necessary for students to become leaders rather than followers, to become the next generation of gifted creative artists and designers and to become art professionals in the ever-growing number of contemporary art and art-related careers.

More information about the graphic design major can be found on the art major admissions page.

## Degree Outcomes

Graduates with a BA in graphic design will:

- Demonstrate the ability to write and speak about art, design, and art history with clarity and logic, and be able to form and support critical judgements about art, design and art history
- Demonstrate the technical mastery of the relevant materials and tools, and the terminology, theories, and practices relevant to the student's field of study
- Demonstrate the ability generate, support, and utilize individual thoughts and ideas
- Demonstrate the ability to do research in art, design, and art history, and the competence and knowledge to analyze and think critically
- Demonstrate expanding knowledge of historical achievements and contemporary thinking, trends, processes, and issues in art and design, and apply that knowledge to their personal work

- Demonstrate broader and deeper understanding of contemporary arts practice, grasp of how to develop and maintain studio or design practice, and ideas communicating successful cultivation of both audience, concept and goals in visual art and design

# Major Requirements

### Art Core (18 hours)

**Complete the following:**

ARTS 101 Basic Design 2-D 3 hours
ARTS 111 Drawing I 3 hours
ARTS 217 Art History Survey from 1450 3 hours
ARTS 365 Selected Topics in Non-Western Art 3 hours
ARTS 382 Twentieth-Century Art and Design 3 hours
ARTS 460 Art And Christ 3 hours

### Professional Networking Requirement (5 hours)

**Complete the following:**

ARTS 105 Art & Design Professional Networking Seminar 1 hour
ARTS 105 Art & Design Professional Networking Seminar 1 hour
ARTS 105 Art & Design Professional Networking Seminar 1 hour
ARTS 305 Art & Design Professional Networking Seminar 1 hour
ARTS 305 Art & Design Professional Networking Seminar 1 hour

### Technical Coursework (6 hours)

The technical coursework establishes foundational software knowledge in industry-standard programs, equipping students to create work for a wide-range of media.

**Complete the following:**

ARTD 110 Creative Suite 3 hours
ARTD 260 Digitial Tools 3 hours

### Contextual Coursework (7-8 hours)

The contextual coursework immerses students in historic, social, and contemporary practices related to the field of design.

**Complete the following:**

ARTD 380 Experience Design 3 hours
ARTD 393 Design in Practice 2-3 hours
ARTD 492 Portfolio Development 2 hours

### Graphic Design Core (18 hours)

The graphic design core is a series of project-driven coursework that covers the most frequent applications and outcomes developed by graphic designers.

**Complete the following:**

ARTD 220 Typography 3 hours
ARTD 250 Print and Packaging 3 hours
ARTD 270 Web Design I 3 hours
ARTD 383 UI/UX Design 3 hours
ARTD 453 Systems, Identity, and Branding 3 hours
ARTD 481 Collaborative Design I 3 hours

## Dynamic Requirements for Graduation

**Complete the following:**

- Sophomore Review
- Junior Portfolio Review
- Senior Capstone Research Defense

# Bachelors (BA) in History

## Overview

The history major and the history major with politics concentration are 42-semester-hour courses of study. A minimum of 18 semester hours must be upper-division courses. Students are required to obtain a minimum grade of C- in all courses taken for the major.

## Degree Outcomes

Graduates with a BA in history or a BA in history with a politics concentration will:

- Have a heightened appreciation of history and politics in a variety of contexts
- Articulate how the Christian faith can inform the study of history and politics
- Analyze primary and secondary sources, various forms of media, and material culture
- Analyze multiple perspectives and changing contexts
- Articulate facts/findings in coherent, compelling narratives

## Major Requirements

### Core requirements (9 hours)

**Complete the following:**

HIST 111 The Modern and Postmodern World 3 hours
HIST 290 Doing History and Politics 3 hours
HIST 490 History Seminar 3 hours

### Electives (33 hours)

**Complete the following:**

HIST Elective Coursework 27 hours

**Complete additional 6 hours of the following:**

HIST_PSCI Elective Coursework 6 hours

### Optional Politics Concentration (33 hours)

**Complete the following:**

PSCI Elective Coursework 27 hours

**Complete 6 additional hours of the following:**

HIST_PSCI Elective Coursework 6 hours

# Bachelors (BA) in Illustration

## Overview

The illustration program equips students to tell stories, develop characters, convey ideas and craft imagery for commercial, social, and editorial projects. An illustrator's work is defined by their ability to problem solve and communicate visually with public audiences rather than their use of a particular media. Therefore, within the curriculum, Illustration majors are offered a broad-base of study, gaining exposure to foundational image-making practices and compositional strategies, historic and contemporary methods of visual communication, as well as a combination of traditional studio practices and digital production techniques. Throughout the program, students can expect to craft work physically, via a lens, and digitally as well as craft objects in 2, 3, or 4 dimensions.

Over their course of study, the curriculum prepares students to enter the market as independent artists with distinct approaches to idea generation and a honed personal vision. Whether working with paint or drawing on screen using a Wacom tablet, Illustration majors develop skills and techniques necessary for the kinds of powerful storytelling that have long served as a way of invigorating and re-igniting culture, rallying political movements, and embodying cultural values.

**Faculty**
The versatile faculty is made up of artists and designers who actively produce and exhibit their creative work - artists who are leaders in their various fields of discipline. They love to teach because they love what they teach. Our faculty is equipped to motivate, inspire and nurture; they become true mentors to their students. The faculty of the Department of Art and Design believe it is necessary for students to become leaders rather than followers, to become the next generation of gifted creative artists and designers and to become art professionals in the ever-growing number of contemporary art and art-related careers.

More information about the illustration major can be found on the art major admissions page.

## Degree Outcomes

Graduates with a BA in illustration will:

- Demonstrate the ability to write and speak about art, design, and art history with clarity and logic, and be able to form and support critical judgements about art, design and art history
- Demonstrate the technical mastery of the relevant materials and tools, and the terminology, theories, and practices relevant to the student's field of study
- Demonstrate the ability generate, support, and utilize individual thoughts and ideas
- Demonstrate the ability to do research in art, design, and art history, and the competence and knowledge to analyze and think critically
- Demonstrate expanding knowledge of historical achievements and contemporary thinking, trends, processes, and issues in art and design, and apply that knowledge to their personal work

- Demonstrate broader and deeper understanding of contemporary arts practice, grasp of how to develop and maintain studio or design practice, and ideas communicating successful cultivation of both audience, concept and goals in visual art and design

# Major Requirements

## Art Core (21 hours)

**Complete the following:**

ARTS 101 Basic Design 2-D 3 hours
ARTS 102 Basic Design 3-D 3 hours
ARTS 111 Drawing I 3 hours
ARTS 217 Art History Survey from 1450 3 hours
ARTS 365 Selected Topics in Non-Western Art 3 hours
ARTS 382 Twentieth-Century Art and Design 3 hours
ARTS 460 Art And Christ 3 hours

## Professional Networking Requirement (5 hours)

**Complete the following:**

ARTS 105 Art & Design Professional Networking Seminar 1 hour
ARTS 105 Art & Design Professional Networking Seminar 1 hour
ARTS 105 Art & Design Professional Networking Seminar 1 hour
ARTS 305 Art & Design Professional Networking Seminar 1 hour
ARTS 305 Art & Design Professional Networking Seminar 1 hour

## Illustration Requirements (33-34 hours)

**Complete the following:**

ARTD 110 Creative Suite 3 hours
ARTD 220 Typography 3 hours
ARTD 260 Digitial Tools 3 hours
ARTD 360 Illustration I 3 hours
ARTD 393 Design in Practice 2-3 hours
ARTD 461 Illustration II 3 hours
ARTD 462 Dimensional Illustration 3 hours
ARTD 492 Portfolio Development 2 hours
ARTS 112 Drawing II 3 hours
ARTS 231 Beginning Printmaking 3 hours
ARTS 311 Figure Drawing I 3 hours
ARTS 491 Senior Thesis I 2 hours

## Dynamic Requirements for Graduation

**Complete the following:**

- Sophomore Review
- Junior Portfolio Review
- Senior Capstone Research Defense

# Bachelors of Fine Arts (BFA) in Interior Design

## Overview

The Interior Design major educates students to become creative and responsible designers of residential and commercial spaces. Program components emphasize problem solving in applied design studios. With a focus on spatial design and space planning complimented by surface decoration, students learn to design environments for living, working, business, health, hospitality, retail and recreation. As courses progress, students are challenged by design problems that increase in size and complexity, and develop an understanding of sustainable building and reuse on human health, well-being and performance. Program curriculum and outcomes are all directly tied to NCIDQ Certification competencies, preparing students for future field certification.

**Faculty**
The versatile faculty is made up of artists and designers who actively produce and exhibit their creative work - artists who are leaders in their various fields of discipline. They love to teach because they love what they teach. Our faculty is equipped to motivate, inspire and nurture; they become true mentors to their students. The faculty of the Department of Art and Design believe it is necessary for students to become leaders rather than followers, to become the next generation of gifted creative artists and designers and to become art professionals in the ever-growing number of contemporary art and art-related careers.

More information about the interior design major can be found on the art major admissions page.

## Degree Outcomes

Graduates with a BFA in interior design will:

- Demonstrate the ability to write and speak about art, design, and art history with clarity and logic, and be able to form and support critical judgements about art, design and art history
- Demonstrate the technical mastery of the relevant materials and tools, and the terminology, theories, and practices relevant to the student's field of study
- Demonstrate the ability generate, support, and utilize individual thoughts and ideas
- Demonstrate the ability to do research in art, design, and art history, and the competence and knowledge to analyze and think critically
- Demonstrate expanding knowledge of historical achievements and contemporary thinking, trends, processes, and issues in art and design, and apply that knowledge to their personal work
- Demonstrate broader and deeper understanding of contemporary arts practice, grasp of how to develop and maintain studio or design practice, and ideas communicating successful cultivation of both audience, concept and goals in visual art and design

# Major Requirements

## Art Core (21 hours)

**Complete the following:**

ARTS 101 Basic Design 2-D 3 hours
ARTS 102 Basic Design 3-D 3 hours
ARTS 111 Drawing I 3 hours
ARTS 217 Art History Survey from 1450 3 hours
ARTS 365 Selected Topics in Non-Western Art 3 hours
ARTS 382 Twentieth-Century Art and Design 3 hours
ARTS 460 Art And Christ 3 hours

## Professional Networking Requirement (5 hours)

**Complete the following:**

ARTS 105 Art & Design Professional Networking Seminar 1 hour
ARTS 105 Art & Design Professional Networking Seminar 1 hour
ARTS 105 Art & Design Professional Networking Seminar 1 hour
ARTS 305 Art & Design Professional Networking Seminar 1 hour
ARTS 305 Art & Design Professional Networking Seminar 1 hour

## Interior Design Requirements (38.5-39.5 hours)

**Complete the following:**

ARTD 110 Creative Suite 3 hours
ARTD 393 Design in Practice 2-3 hours
ARTD 492 Portfolio Development 2 hours
INTD 131 CADD I 3 hours
INTD 200 Interior Foundations 3 hours
INTD 212 Materials, Resources, and Lighting 3 hours
INTD 220 Architectural Graphics 3 hours
INTD 300 Space Planning and Programming 3 hours
INTD 311 Detailing Interiors 3 hours
INTD 320 Informed Interior: Systems and Codes 3 hours
INTD 331 CADD II 1.5 hours
INTD 411 Residential Design Studio 3 hours
INTD 412 Commercial Design Studio 3 hours
INTD 490 Interior Design Capstone 3 hours

## Dynamic Requirements for Graduation

**Complete the following:**

- Sophomore Review
- Junior Portfolio Review
- Senior Capstone Research Defense

# Bachelors (BA) or (BS) in Interdisciplinary Studies

## Major Requirements

### Interdisciplinary Studies Majors

The interdisciplinary studies major consists of a minimum of 48 semester hours with either a 24/12/12-hour option from three fields or a 24/24-hour option from two fields. A field must consist of approved courses from any traditional undergraduate major, minor, or concentration currently offered according to the undergraduate catalog. Of these hours, 30 must be upper division. The 24/12/12 and the 24/24 options are permitted at the discretion of each department. The designation of the degree (BA or BS) for the 24/12/12 option is determined by the subject of the 24-credit concentration. The designation of the degree (BA or BS) for the 24/24 option is determined by the subject of both 24-hour concentrations. If the degrees for the two subjects differ, the student may elect BA or BS. The student must complete a contract form prepared in consultation with his or her advisor, the registrar, and the department chairperson of each concentration.

A student pursuing an interdisciplinary studies major as a second degree or second major may not choose as a subject area a discipline that is the student's first major or minor.

# Bachelors (BS) in Kinesiology

## Overview

The Kinesiology major offers a 59- to 61-semester-hour course of study that focuses on physical activity and how the human body's movement impacts health, performance, and quality of life. The Kinesiology major is appropriate for students interested in pursuing careers in sport science, exercise physiology, sports medicine, allied health (i.e. physical therapy, athletic training, occupational therapy, cardiac rehabilitation, and corporate wellness), health promotion, physical education and health teaching, medicine, and wellness. The major consists of two concentrations: exercise science and physical activity and health promotion.

The Exercise Science concentration offers an interdisciplinary course of study, designed to help prepare students seeking advanced degrees or working in exercise science related fields including allied health professions (i.e. physical therapy, athletic training, occupational therapy, cardiac rehabilitation, physician assistant, sports medicine), biomechanics, exercise physiology, and other related professions. The concentration includes strong emphasis on the physical and life sciences and health and human performance.

The Physical Activity and Health Promotion concentration offers an interdisciplinary course of study, designed to help prepare students in promoting physical activity and healthy lifestyles in various community settings including schools (physical education and health teaching), worksites (worksite wellness), hospitals, and other community agencies (health coaching, personal training). Students in this program gain knowledge of "best practices" on how to encourage and measure the impact of physical activity in a variety of settings and populations.

Students are required to obtain a minimum grade of C- in all courses taken for the major.

## Degree Outcomes

Graduates with a BS in kinesiology will:

- Demonstrate an applied understanding of the form and function of the human body.
- Critically evaluate exercise science research in order to design and implement exercise science research studies to confirm or generate new knowledge to the discipline.
- Use qualitative and quantitative reasoning and evidence, synthesizing information from a variety of origins to methodically and systematically develop interventions to solve issues or answer questions to gaps in the literature related to exercise science.
- Communicate effectively both through writing and orally to both lay and professional audiences.
- Increased one's knowledge of exercise science professions, as well as practice and learn the techniques of this specific profession.
- Learn the skill of problem solving by using critical thinking skills as related to exercise science.

# Major Requirements

## Core Requirements (41 hours)

**Complete the following:**

BIOL 221 Human Anatomy and Physiology I 4 hours
BIOL 222 Human Anatomy and Physiology II 4 hours
HHPE 210 Introduction to Exercise Science 2 hours
HHPE 228 Principles of Conditioning 2 hours
HHPE 390 Care and Prevention of Athletic Injuries 3 hours
HHPE 394 Biomechanics 3 hours
HHPE 420 Exercise Prescription 3 hours
HHPE 430 Exercise Physiology 3 hours
HHPE 470 Motor Development and Motor-Skill Learning 3 hours
HHPE 475 Field Experience 3 hours
HHPE 480 Fundamentals of Exercise and Fitness Testing 2 hours
HHPE 490 Senior Research Project 3 hours
PSYC 150 General Psychology 3 hours
PSYC 240 Statistical Procedures 3 hours

## Concentrations (18-20 hours) - choose one

### Exercise Science (18-20 hours)

**Complete the following:**

BIOL 211 Cellular Biology & Genetics 4 hours
CHEM 211 General Chemistry I 4 hours
PHYS 201 General Physics 4 hours

**Choose two of the following:**

BIOL 333 Advanced Physiology 4 hours
BIOL 335 Neuroscience 4 hours
CHEM 212 General Chemistry II 4 hours
HHPE 400 Health Promotion and Management 3 hours
HHPE 401 Physical Examination of the Lower Extremities 4 hours
HHPE 402 Physical Exam of the Spine and Upper Extremities 4 hours
HHPE 413 Therapeutic Exercise 3 hours
HLTH 300 Nutrition 3 hours
PHYS 202 General Physics 4 hours
PSYC 310 Lifespan Human Development 3 hours
PSYC 312 Adult Development 3 hours
PSYC 314 Adolescent Development 3 hours
PSYC 320 Neuroscience 3 hours
PSYC 420 Abnormal Psychology 3 hours

### Physical Activity and Health Promotion (18 hours)

**Complete the following:**

HHPE 301 Sports Psychology 2 hours
HHPE 400 Health Promotion and Management 3 hours
HHPE 460 Adapted Physical Education 3 hours
HLTH 300 Nutrition 3 hours

**Physical Activity and Health Promotion Elective (7 hours)**

EDUC 250 Teaching as a Profession 2 hours
EDUC 270 Intercultural Communication in the ESOL/Bilingual Context 2 hours
HHPE 201 Fall Sports in Physical Education 2 hours
HHPE 202 Spring Sports in Physical Education 2 hours
HHPE 401 Physical Examination of the Lower Extremities 4 hours
HHPE 402 Physical Exam of the Spine and Upper Extremities 4 hours
HHPE 410 Teaching Physical Education and Health 2 hours
HHPE 413 Therapeutic Exercise 3 hours
HLTH 240 Stress Management 3 hours
PSYC 310 Lifespan Human Development 3 hours
PSYC 314 Adolescent Development 3 hours

# Bachelors (BS) in Mathematics

## Overview

The math major offers a 43- to 44-semester-hour course of study. Students are required to obtain a minimum grade of C- in all courses taken for the major.

## Degree Outcomes

Graduates with a BS in mathematics will:

- Demonstrate computational competency including appropriate uses of technology
- Understand and appreciate applications of mathematics
- Be prepared for graduate study in mathematics
- Apply mathematical theory, concepts and methods of inquiry to advanced topics
- Understand the development of a mathematical system

## Major Requirements

**Core requirements (19 hours)**

**Complete the following:**

CSIS 201 Introduction to Computer Science I 3 hours
MATH 201 Calculus I 4 hours
MATH 202 Calculus II 4 hours
MATH 290 Introduction to Proofs 3 hours
MATH 301 Calculus III 3 hours
MATH 490 Senior Seminar 2 hours

**Sequences (18-19 hours)**

### Choose 3 of the following sequences

**Sequence 1**

MATH 311 Differential Equations with Linear Algebra 4 hours
MATH 312 Numerical Methods 3 hours

**Sequence 2**

MATH 331 Probability 3 hours
MATH 332 Mathematical Statistics 3 hours

**Sequence 3**

MATH 411 Advanced Linear Algebra 3 hours
MATH 412 Algebraic Structures 3 hours

**Sequence 4**

MATH 421 Real Analysis I 3 hours
MATH 422 Real Analysis II 3 hours

**Electives (6 hours)**

MATH electives 300-level or above 6 hours

# Bachelors (BA) in Music

## Overview

The music major offers a 49- to 57-semester-hour course of study. The major allows students to specialize in Worship Arts, Music Industry, or a Liberal Arts concentration to maximize flexibility for careers in the Church, music business, entrepreneurial music performing, private lesson teaching, or in school teaching (when combined with an MAT through the School of Education). Students are required to obtain a minimum grade of C- in all courses taken for the major.

## Degree Outcomes

Graduates with a BA in music will:

- Implement skills in self-motivation that reveal an ambition to achieve new goals, tackle challenges, and follow through on tasks.
- Create authentic and compelling work as performing artists in their specific disciplines.
- Produce work that meets technical standards of the performing arts industry in their specific disciplines.
- Analyze themselves, and the methods and products created by performing artists from various historical periods and cultural backgrounds.
- Evaluate how their faith and/or values interact with and inform their work as performing artists.

## Major Requirements

### Music Core (41 hours)

#### Complete the following:

MUSA requirements Applied Music and Ensemble Courses 8 hours
MUSI 121 Theory I 3 hours
MUSI 122 Theory II 3 hours
MUSI 131 Sight Singing and Ear Training I 1 hour
MUSI 132 Sight Singing and Ear Training II 1 hour
MUSI 135 Class Piano 1 hour
MUSI 135 Class Piano 1 hour
MUSI 180 Introduction to Music Technology 3 hours
MUSI 221 Theory III 4 hours
MUSI 300 Music in Western Culture 3 hours
MUSI 330 Music In World Cultures 3 hours
MUSI 310 Jazz & Popular Music 3 hours
MUSI 400 Music and Christian Faith 3 hours
MUSI 460 Conducting and Ensemble Leadership 3 hours
MUSI Internship or Recital Project 1 hours

### Additional Requirements

- Music Major students must participate in a major ensemble, Applied lessons, and Studio Class every semester while in residence.
- Upper Division jury: all students enter the applied program at the 100 level. Before being advanced to upper-division study, the student must pass an upper division jury.
- Students are required to obtain a minimum grade of C- in all courses taken for the major.

## Concentrations (8-16 hours) - choose one

In order to pursue exceptional life outcomes, Music majors pursue a concentration of courses connected to specific career opportunities.

### Music Industry (12 hours)

**Choose four of the following:**

BUSN 303 Planning Your Financial Future 3 hours
MUSI 233 Songwriting and Producing 3 hours
CINE 344 Studio Sound Recording 3 hours
MUSI 440 Music Pedagogy for the Classroom and Individual Lessons 3 hours
THEA 130 Stagecraft 3 hours
THEA 325 Production Design Studio 3 hours
Or any approved elective in MUSA or CINE or BUSN.

### Music: Liberal Arts (8 hours)

**Complete the following:**

MUSI 440 Music Pedagogy for the Classroom and Individual Lessons 3 hours

**Complete 5 hours from the following:**

BUSN 303 Planning Your Financial Future 3 hours
EDUC 250 Teaching as a Profession 2 hours
MUSA 105I Elective or Secondary Instrumental Lesson .5-1 hours
MUSA 305I Elective or Secondary Instrumental Lesson .5-1 hours
MUSA 305C Applied Composition Lesson .5-1 hours
MUSA 305D Applied Conducting Lesson .5-1 hours
MUSI 125 Voice Class 1 hour
MUSI 250 Class Guitar 1 hour
Or other MUSI, MUSA, BUSN, THEA courses as approved by advisor.

### Worship Arts (16 hours)

**Complete the following:**

MUSI 340 Creating, Planning, and Leading Worship 3 hours
MUSA Applied Elective 1 hours

**Choose two of the following:**

MUSI 233 Songwriting and Producing 3 hours

CINE 344 Studio Sound Recording 3 hours
THEA 130 Stagecraft 3 hours
THEA 325 Production Design Studio: Stage Lighting and Producing 3 hours

**Choose two of the following:**

THEO 130 Christian Discipling and Leadership 3 hours
THEO 201 Old Testament 3 hours
THEO 202 Theology I 3 hours
THEO 300 History and Theology of Christianity 3 hours
THEO 301 New Testament 3 hours

# Bachelors of Science in Nursing (BSN)

## Overview

The nursing major offers a 98-semester-hour course of study that is designed to prepare students to function in increasingly complicated health care environments. Students are required to obtain a minimum grade of C in all courses taken for the major.

## Degree Outcomes

Graduates with a BSN will:

- Integrate concepts from liberal arts and sciences in promoting health and delivering individualized care.
- Utilize standards of nursing practice and current science to deliver safe, competent, patient-centered care to patients across the lifespan in a variety of settings.
- Integrate evidence, clinical judgment, and patient preferences throughout the nursing process.
- Apply information management and technology across the health continuum to facilitate high-quality nursing care.
- Demonstrate advocacy utilizing health care policy and health systems knowledge.
- Use communication, collaboration, and organizational skills to work in partnerships with clients, families, communities, and the interprofessional healthcare team to promote health.
- Employ leadership principles to support quality improvement, safety, equity, and cost effective care initiatives in a variety of settings.
- Demonstrate professional values that integrate lifelong learning, service, and reflective practice.
- Provide evidence-based nursing care that incorporates diversity and inclusion, human dignity, and cultural humility.
- Provide holistic, empathetic nursing care that reflects the character and compassion of Christ.

## Major Requirements

### Prerequisite Coursework for Admission (40 hours)

#### Complete the following:

BIOL 221 Human Anatomy and Physiology I 4 hours
BIOL 222 Human Anatomy and Physiology II 4 hours
BIOL 367 Essentials of Microbiology 4 hours
CHEM 150 Foundations of General, Organic, and Biochemistry 4 hours
COMM 111 Communication in Society 3 hours
MATH 180 College Algebra 3 hours
NURS 220 Nutrition Essentials 3 hours
PSYC 150 General Psychology 3 hours
PSYC 310 Lifespan Human Development 3 hours
THEO 380 Ethics 3 hours

WRIT 111 Caring for Words 3 hours

**Choose one of the following:**

BUSN 240 Business Statistics 3 hours
MATH 240 Statistical Procedures 3 hours
PSYC 240 Statistical Procedures 3 hours
SOCI 340 Statistical Procedures 3 hours
SWRK 340 Statistical Procedures 3 hours

## Nursing Core (58 hours)

**Complete the following:**

NURS 311 Pathophysiology 3 hours
NURS 312 Pharmacology 3 hours
NURS 320 Introduction to Professional Nursing Practice 3 hours
NURS 330 Essentials for Nursing Practice 6 hours
NURS 340 Medical-Surgical Nursing I 6 hours
NURS 350 Mental Health Nursing 5 hours
NURS 360 Evidence-based Nursing Practice 3 hours
NURS 400 Nursing Care of the Childbearing Family 5 hours
NURS 410 Trends and Issues in Healthcare 3 hours
NURS 430 Population Health Nursing 6 hours
NURS 440 Medical-Surgical Nursing II 7 hours
NURS 442 Nursing Leadership and Management 3 hours
NURS 490 Nursing Capstone 5 hours

# Bachelors (BA) in Psychology

## Overview

This major offers a 50-semester-hour course of study, designed to acquaint students with the field of psychology and the implications of its principles for human behavior. The bachelor of arts degree has a greater emphasis on applied learning than does the bachelor of science. Students are required to obtain a minimum grade of C- in all courses taken for the major.

## Degree Outcomes

Graduates with a BA in psychology will:

- Understand the major concepts, theoretical perspectives, empirical findings and historical trends in psychology
- Apply basic research methods in psychology, including research design, data analysis and interpretation
- Apply critical and creative thinking, skeptical inquiry, and the scientific approach to solve problems related to behavior and mental processes
- Apply psychological principles to personal, social and organizational issues
- Weigh evidence, tolerate ambiguity, act ethically, and reflect other values that are the underpinnings of psychology as a discipline
- Reflect on their personal faith and explain how it interacts with the discipline of psychology

## Major Requirements

**Core (23 hours)**

**Complete the following:**

PSYC 150 General Psychology 3 hours
PSYC 220 Biological Psychology 3 hours
PSYC 240 Statistical Procedures 3 hours
PSYC 290 Professional Seminar 1 hour
PSYC 350 Social Psychology 3 hours
PSYC 370 Cognition 3 hours
PSYC 391 Research Methods 3 hours
PSYC 450 History and Systems of Psychology 3 hours
PSYC 490 Senior Seminar 1 hour

**Required Electives (27 hours)**

**Choose one of the following:**

PSYC 330 Personality Theory 3 hours
PSYC 331 Positive Psychology 3 hours
PSYC 353 Culture and Psychology 3 hours

**Choose one of the following:**

PSYC 311 Child Development 3 hours
PSYC 312 Adult Development 3 hours
PSYC 314 Adolescent Development 3 hours

**Choose one of the following:**

PSYC 381 Counseling 3 hours
PSYC 400 Psychological Testing 3 hours
PSYC 420 Abnormal Psychology 3 hours
PSYC 430 Addictions 3 hours

**Choose one of the following:**

PSYC 320 Neuroscience 3 hours
PSYC 360 Learning 3 hours
PSYC 410 Sensation and Perception 3 hours

**Choose 3 hours of the following:**

PSYC 475 Field Experience 1-10 hours
PSYC 495 Individualized Study 1-3 hours

**Choose 12 hours of the following:**

Upper-division Psychology Coursework 12 hours

# Bachelors (BS) in Psychological Science

## Overview

This major offers a 50-54-semester-hour course of study, designed to acquaint students with the field of psychology and the implications of its principles for human behavior. The bachelor of science degree has a greater emphasis on scientific methodology than does the bachelor of arts, and offers several specialized concentrations. In particular, the Cognitive Science, Neuroscience, and Human and Artificial Intelligence concentrations focus on methods from different disciplines that contribute to our understanding of how the mind works to build a broad foundation from which to understand and study mental processes. Students are provided flexibility within the major to explore that aspect of the mind that most interests them (e.g., psychological, physiological, philosophical, computational). Students are required to obtain a minimum grade of C- in all courses taken for the major.

## Degree Outcomes

Graduates with a BS in psychological science will:

- Understand the major concepts, theoretical perspectives, empirical findings and historical trends in the psychological and cognitive sciences
- Apply basic research methods in psychology, including research design, data analysis and interpretation
- Apply critical and creative thinking, skeptical inquiry, and the scientific approach to solve problems related to behavior and mental processes
- Apply findings in psychological and cognitive science to health care, law, and public policy
- Effectively communicate ideas from psychological and cognitive science to other professionals as well as non-specialists
- Reflect on their personal faith and explain how it interacts with the discipline of psychology

## Major Requirements

### Core (26 hours)

**Complete the following:**

PSYC 150 General Psychology 3 hours
PSYC 220 Biological Psychology 3 hours
PSYC 240 Statistical Procedures 3 hours
PSYC 290 Professional Seminar 1 hour
PSYC 350 Social Psychology 3 hours
PSYC 370 Cognition 3 hours
PSYC 391 Research Methods 3 hours
PSYC 392 Advanced Research Methods 3 hours
PSYC 450 History and Systems of Psychology 3 hours
PSYC 490 Senior Seminar 1 hour

## Concentrations (24-28 hours) - choose one

### Cognitive Science (26-28 hours)

**Complete the following:**

CSIS 201 Introduction to Computer Science I 3 hours
CSIS 202 Introduction to Computer Science II 3 hours
PSYC 320 Neuroscience 3 hours
THEO 250 Introduction to Philosophy 3 hours

**Choose two of the following:**

**Students must complete one of the following biology series, either BIOL 211/212 or BIOL 221/222.**

BIOL 211 Cellular Biology & Genetics 4 hours
BIOL 212 Organisms & Physiological Systems 4 hours
BIOL 221 Human Anatomy and Physiology I 4 hours
BIOL 222 Human Anatomy and Physiology II 4 hours

**Choose one of the following:**

MATH 201 Calculus I 4 hours
MATH 260 Discrete Mathematics 3 hours

**Choose one of the following:**

**Some of these courses have additional prerequisite courses not included in the major.**

BIOL 335 Neuroscience 4 hours
CSIS 440 Artificial Intelligence 3 hours
LANG 340 General and Cultural Linguistics 3 hours
MATH 290 Introduction to Proofs 3 hours
PSYC 311 Child Development 3 hours
PSYC 360 Learning 3 hours
PSYC 410 Sensation and Perception 3 hours
SOCI 310 Cultural Anthropology 3 hours
THEO 350 Logic 3 hours

### Experimental Psychology (24 hours)

**Choose one of the following:**

PSYC 330 Personality Theory 3 hours
PSYC 331 Positive Psychology 3 hours
PSYC 353 Culture and Psychology 3 hours

**Choose one of the following:**

PSYC 311 Child Development 3 hours
PSYC 312 Adult Development 3 hours
PSYC 314 Adolescent Development 3 hours

**Choose one of the following:**

PSYC 381 Counseling 3 hours
PSYC 400 Psychological Testing 3 hours
PSYC 420 Abnormal Psychology 3 hours

**Choose one of the following:**

PSYC 320 Neuroscience 3 hours
PSYC 360 Learning 3 hours
PSYC 410 Sensation and Perception 3 hours

**Choose 12 hours of upper-division PSYC coursework:**

Upper-division Psychology Coursework 12 hours

## Human and Artificial Intelligence (25-27 hours)

**Complete the following:**

CSIS 201 Introduction to Computer Science I 3 hours
CSIS 202 Introduction to Computer Science II 3 hours
CSIS 440 Artificial Intelligence 3 hours
MATH 201 Calculus I 4 hours
MATH 260 Discrete Mathematics 3 hours
PSYC 320 Neuroscience 3 hours

**Choose two of the following:**

BIOL 221 Human Anatomy and Physiology I 4 hours
BIOL 335 Neuroscience 4 hours
CSIS 310 Data Structures 3 hours
CSIS 330 Human-Computer Interactions (HCI) 3 hours
PSYC 311 Child Development 3 hours
PSYC 400 Psychological Testing 3 hours
PSYC 410 Sensation and Perception 3 hours

## Neuroscience (25-27 hours)

**Choose two of the following:**

**Students must complete one of the following biology series, either BIOL 211/212 or BIOL 221/222.**

BIOL 211 Cellular Biology & Genetics 4 hours
BIOL 212 Organisms & Physiological Systems 4 hours
BIOL 221 Human Anatomy and Physiology I 4 hours
BIOL 222 Human Anatomy and Physiology II 4 hours

**Complete the following:**

CHEM 211 General Chemistry I 4 hours
CHEM 212 General Chemistry II 4 hours
PSYC 320 Neuroscience 3 hours

**Choose two of the following:**

**Some of these courses have additional prerequisite courses not included in the major.**

BIOL 333 Advanced Physiology 4 hours
BIOL 335 Neuroscience 4 hours
BIOL 420 Cell Biology 4 hours
BIOL 450 Advanced Human Anatomy 4 hours
CHEM 341 Biochemistry I 4 hours
PSYC 311 Child Development 3 hours
PSYC 360 Learning 3 hours
PSYC 410 Sensation and Perception 3 hours

# Bachelors (BA) in Studio Arts and Arts Administration

## Overview

The studio arts and arts administration major fosters the development of collaborative, resourceful and creative makers who work in a research-based practice informed by contemporary and historical art and culture. Students work in a variety of two-, three-, and four-dimensional media, including, but not limited to sculpture, painting, drawing, photography and lens-based media, print media and utilitarian ceramics.

Emphasis is placed on critical thinking, problem solving, and risk-taking throughout the program, encouraging students to develop the confidence to experiment and self-reliance to become courageous life-long learners. Instruction in the technical competencies and skills of the studio practice partnered with conceptual strengthening projects and polished off with professional and business practice capstone work to send out emergent practitioners out equipped for a life of successful creating and earning. In addition, the Arts Administration coursework within the major provides students with a placed practicum experience, and the skills and exposure to arts organization professional practice.

**Faculty**
The versatile faculty is made up of artists and designers who actively produce and exhibit their creative work - artists who are leaders in their various fields of discipline. They love to teach because they love what they teach. Our faculty is equipped to motivate, inspire and nurture; they become true mentors to their students. The faculty of the Department of Art and Design believe it is necessary for students to become leaders rather than followers, to become the next generation of gifted creative artists and designers and to become art professionals in the ever-growing number of contemporary art and art-related careers.

More information about the studio arts major can be found on the art major admissions page.

## Degree Outcomes

Graduates with a BA in studio arts and arts administration will:

- Demonstrate the ability to write and speak about art, design, and art history with clarity and logic, and be able to form and support critical judgements about art, design and art history
- Demonstrate the technical mastery of the relevant materials and tools, and the terminology, theories, and practices relevant to the student's field of study
- Demonstrate the ability generate, support, and utilize individual thoughts and ideas
- Demonstrate the ability to do research in art, design, and art history, and the competence and knowledge to analyze and think critically
- Demonstrate expanding knowledge of historical achievements and contemporary thinking, trends, processes, and issues in art and design, and apply that knowledge to their personal work

- Demonstrate broader and deeper understanding of contemporary arts practice, grasp of how to develop and maintain studio or design practice, and ideas communicating successful cultivation of both audience, concept and goals in visual art and design

# Major Requirements

### Art Core (21 hours)

**Complete the following:**

ARTS 101 Basic Design 2-D 3 hours
ARTS 102 Basic Design 3-D 3 hours
ARTS 111 Drawing I 3 hours
ARTS 217 Art History Survey from 1450 3 hours
ARTS 365 Selected Topics in Non-Western Art 3 hours
ARTS 382 Twentieth-Century Art and Design 3 hours
ARTS 460 Art And Christ 3 hours

### Professional Networking Requirement (5 hours)

**Complete the following:**

ARTS 105 Art & Design Professional Networking Seminar 1 hour
ARTS 105 Art & Design Professional Networking Seminar 1 hour
ARTS 105 Art & Design Professional Networking Seminar 1 hour
ARTS 305 Art & Design Professional Networking Seminar 1 hour
ARTS 305 Art & Design Professional Networking Seminar 1 hour

### Studio Requirements (13 hours)

**Complete the following:**

ARTS 112 Drawing II 3 hours
ARTS 216 Art History Survey to 1450 3 hours
ARTS 384 Contemporary Art Forms 3 hours
ARTS 491 Senior Thesis I 2 hours
ARTS 492 Senior Thesis II 2 hours

### Arts Administration Requirements (6 hours)

**Complete the following:**

ARTS 220 Arts Administration 3 hours
ARTS 276 Arts Administration Practicum 3 hours

### Media Requirement: complete one of the following options (15 hours)

### 2D Option (15 hours)

**Complete the following:**

ARTS 201 Beginning Painting 3 hours
ARTS 230 Beginning Photography 3 hours

ARTS 231 Beginning Printmaking 3 hours

**Complete one 300-level and one 400-level course below:**

ARTS 301 Intermediate Painting 3 hours
ARTS 330 Intermediate Photography 3 hours
ARTS 331 Intermediate Printmaking 3 hours
ARTS 401 Advanced Painting 3 hours
ARTS 430 Advanced Photography 3 hours
ARTS 431 Advanced Printmaking 3 hours

## 3D Option (15 hours)

**Complete the following:**

ARTS 221 Beginning Sculpture 3 hours
ARTS 240 Beginning Mixed Media 3 hours
ARTS 241 Beginning Ceramics 3 hours

**Complete one 300-level and one 400-level course below:**

ARTS 321 Intermediate Sculpture 3 hours
ARTS 340 Intermediate Mixed Media 3 hours
ARTS 341 Intermediate Ceramics 3 hours
ARTS 421 Advanced Sculpture 3 hours
ARTS 440 Advanced Mixed Media 3 hours
ARTS 441 Advanced Ceramics 3 hours

## Dynamic Requirements for Graduation

**Complete the following:**

- Sophomore Review
- Junior Portfolio Review
- Senior Capstone Research Defense

# Bachelors (BSW) in Social Work

## Overview

The CSWE accredited bachelor of social work degree offers a 120-semester-hour course of study, 51 hours of which are prescribed social work course work that is designed to prepare students for professional social work practice with diverse populations in a variety of settings. This includes work with individuals and couples (micro level); families and small groups (mezzo level); and agencies, institutions, community and church organizations (macro level). There is an emphasis on generalist practice that values the uniqueness, dignity and needs of all people. Generalist practice is oriented toward analyzing and addressing problems with micro, mezzo and macro skills and perspectives.

The program courses are designed to include academic social work and field experience/practicum requirements within a liberal arts context. This enables the student to link social research with social work practice. The program prepares students to work in a variety of social work and social welfare settings, as well as to seek admission into graduate programs like the Master of Social Work (MSW) program at George Fox University. Students are required to obtain a minimum grade of C in all courses taken for the major.

## Degree Outcomes

Graduates with a BSW in social work will:

- Acquire the social work ethics, values, skills and knowledge needed to analyze and understand the development and interrelationship of diverse world views, issues in social justice, and basic human needs
- Demonstrate knowledge, skills and values necessary to understand and affect the interrelationship between an individual and his/her environment at the macro, mezzo and micro levels
- Work effectively within diverse social contexts, structures and change processes in their practice
- Understand how their personal faith integrates with social work and apply that to their practice
- Be prepared for graduate social work education and will be committed to continual development in their professional field

## Admission Requirements

Students interested in pursuing a degree in social work should consult with a social work advisor as soon as possible. All students interested in social work as a degree must make formal application to the program.

# Major Requirements

## Required Coursework (51 hours)

### Complete the following:

PSYC 150 General Psychology 3 hours
SOCI 150 Principles of Sociology 3 hours
SWRK 180 Introduction to Social Work 3 hours
SWRK 331 Human Behavior in the Social Environment 3 hours
SWRK 333 Human Rights and Social Justice 3 hours
SWRK 340 Statistical Procedures 3 hours
SWRK 391 Social Work Practice I 3 hours
SWRK 392 Social Work Practice II 3 hours
SWRK 393 Social Work Practice III 3 hours
SWRK 420 Social Work and Diverse Populations 3 hours
SWRK 440 Social Work Research Methods 3 hours
SWRK 460 Social Policy 3 hours
SWRK 476 Field Education I 6 hours
SWRK 477 Field Education II 6 hours
SWRK 490 Senior Seminar 3 hours

# Bachelors (BA) in Theology

## Overview

The theology major with concentrations in biblical studies, ministry, and philosophy offers a 38–40 semester-hour course of study designed to provide students a good foundation for church ministries, work with youth and parachurch organizations, teaching in Christian school settings, law school, and further graduate work. The student who majors in Theology will acquire an in-depth working knowledge of Scripture, theological tradition, and methods of Christian interpretation, and the philosophy concentration offers features similar to other classic liberal arts majors. Students in all three concentrations develop skills in critical thinking and clear communication, preparing them for careers in business and industry. Students are required to obtain a minimum grade of C- in all courses taken for the major.

## Degree Outcomes

Graduates with a BA in theology will:

- Demonstrate basic skills in the language and research method of their chosen concentration (e.g., biblical languages for Theology & Biblical Studies, basic ministry
  techniques and tools for Theology & Christian Ministries, and core skills in logic and introduction to philosophy for Theology & Philosophy)
- Explain the historical-social circumstances of the books within both the Hebrew Bible/Old Testament and the Christian New Testament, as well as the basic theological
  trajectory of Christian thought throughout the ages after the biblical period
- Create a scholarly argument that incorporates a theological, historical, philosophical,
  and/or spiritual perspective
- Articulate basic content knowledge of the Christian Bible and the Christian theological
  tradition, and explain how theological concepts, theories and skills interact with the content of disciplines outside of their area of concentration

## Major Requirements

**Theology Core requirements (12 hours)**

**Complete the following:**

THEO 201 Old Testament 3 hours
THEO 202 Theology I 3 hours
THEO 301 New Testament 3 hours
THEO 302 Theology II 3 hours

### Concentrations (26-28 hours) - choose one

## Biblical Studies (26 hours)

**Complete the following:**

THEO 325 Theological Languages I 4 hours
THEO 380 Ethics 3 hours
THEO 390 Biblical Interpretation 3 hours
THEO 425 Theological Languages II 4 hours
THEO 490 Theology Seminar 3 hours

**Complete 9 hours from the following:**

THEO 315 Advanced Bible & Theology 3 hours
THEO 415 Advanced Bible and Theology 1-3 hours
THEO 445 Continuing Language Studies 1-4 hours
THEO 475 Field Experience 2-4 hours

## Christian Ministry (26-28 hours)

**Complete the following:**

THEO 130 Christian Discipling and Leadership 3 hours
THEO 310 Introduction to the World Christian Movement 3 hours
THEO 360 Dynamics of Christian Education 3 hours
THEO 363 Youth Ministry: Theology and Philosophy of Ministry 3 hours
THEO 370 Spiritual Formation 3 hours
THEO 400 Speaking as Ministry 3 hours
THEO 410 World Religions 3 hours
THEO 455 Advanced Christian Ministries 3 hours
THEO 475 Field Experience 2-4 hours

## Philosophy (27 hours)

**Complete the following:**

THEO 250 Introduction to Philosophy 3 hours
THEO 350 Logic 3 hours
THEO 380 Ethics 3 hours
THEO 430 Spirituality and the Intellectual Life 3 hours
THEO 490 Theology Seminar 3 hours

**Complete 12-hour of the following course with different topics:**

This course will be offered with various topics.
THEO 435 Advanced Philosophy and Theology 3 hours

# Minors

# Art History Minor

## Overview

The art history minor is a 21-hour course of study that provides students a broad overview of the history of art. This credential will assist students in preparation for graduate studies, museum- and gallery-related careers and education. Students are required to earn a minimum grade of C- in all courses taken for the minor.

## Minor Requirements

### 21 credit hours

**Complete the following:**

ARTS 216 Art History Survey to 1450 3 hours
ARTS 217 Art History Survey from 1450 3 hours
ARTS 355 Topics in Art History 6 hours
ARTD 363 History of Visual Communication 3 hours
ARTS 382 Twentieth-Century Art and Design 3 hours
ARTS 384 Contemporary Art Forms 3 hours

# Art Minor

## Minor Requirements

### 21 credit hours

**Complete the following:**

ARTS 101 Basic Design 2-D 3 hours
ARTS 111 Drawing I 3 hours
ARTS 216 Art History Survey to 1450 3 hours
ARTS 217 Art History Survey from 1450 3 hours
ARTS Studio Elective Coursework 9 hours

Note: Minors focusing on 3-D studio courses may petition to substitute ARTS 102 Basic Design 3-D for ARTS 101 Basic Design 2-D.

Students must also choose one of the following options:

- Submit artworks for juried George Fox Art Student Exhibition
- Present a portfolio for review and petition for an alternative exhibition venue

# Biology Minor

## Minor Requirements

### 20 credit hours

**Choose one of the following sequences:**

**Sequence 1:**

BIOL 211 Cellular Biology & Genetics 4 hours
BIOL 212 Organisms & Physiological Systems 4 hours

**Sequence 2:**

BIOL 221 Human Anatomy and Physiology I 4 hours
BIOL 222 Human Anatomy and Physiology II 4 hours

**Complete the following:**

BIOL electives 300-level or above 12 hours

# Business Administration Minor

## Overview

The business administration minor is designed to provide students, in majors outside the College of Business, the opportunity to gain an understanding of business principles that they can apply to their primary discipline.

## Minor Requirements

### 21 credit hours

**Complete the following:**

BUSN 120 Personal Finance 3 hours
BUSN 250 Business Communication 3 hours
MGMT 200 Leadership and Character 3 hours
MGMT 260 Principles of Management 3 hours
MGMT 310 Project Management 3 hours
MKTG 260 Principles of Marketing 3 hours

**Choose one of the following:**

MGMT 300 Leading and Managing People 3 hours
MGMT 350 Human Resource Management 3 hours
MGMT 400 Business Development and Sales 3 hours
MGMT 480 Organizational Behavior 3 hours
MKTG 300 Consumer Behavior: Know Your Customer 3 hours
MKTG 350 Marketing Research 3 hours
MKTG 420 Marketing Communications: The Role of Integrated Marketing in a Digital World 3 hours
MKTG 430 Digital & Interactive Marketing 3 hours
MKTG 490 Strategic Marketing: Formulating Concrete Results 3 hours

# Chemistry Minor

## Minor Requirements

### 24 credit hours

**Complete the following:**

CHEM 211 General Chemistry I 4 hours
CHEM 212 General Chemistry II 4 hours
CHEM 331 Organic Chemistry I 4 hours
CHEM 332 Organic Chemistry II 4 hours

**Choose two of the following:**

CHEM 300 Quantitative Analysis 4 hours
CHEM 365 Advanced Topics in Biochemistry 4 hours
CHEM 341 Biochemistry I 4 hours
CHEM 342 Biochemistry II 4 hours
CHEM 400 Biochemical Thermodynamics 4 hours

# Christian Ministries Minor

## Minor Requirements

### 18-19 credit hours

**Complete the following:**

THEO 130 Christian Discipling and Leadership 3 hours
THEO 360 Dynamics of Christian Education 3 hours
THEO 370 Spiritual Formation 3 hours
THEO 400 Speaking as Ministry 3 hours
THEO 455 Advanced Christian Ministries 3 hours
THEO 475 Field Experience 3-4 hours

# Cinematic Arts Minor

## Minor Requirements

### 18 credit hours

**Complete the following:**

CINE 230 Storytelling, Moving Images & Sound 3 hours

**Choose one of the following:**

CINE 160 History of U.S. Cinema 3 hours
COMM 230 Mass Media and Popular Culture 3 hours

**Choose 12 semester hours from the following**

CINE Elective Coursework 12 hours
COMM 230 Mass Media and Popular Culture 3 hours
COMM 240 Introduction to Public Relations 3 hours
COMM 400 Critical Approaches to Communication 3 hours
WRIT 310 Professional Writing 3 hours

**Note: A limit of 3 hours of each of the following may apply to the elective requirement: CINE 285/485 Selected Topics, CINE 475 Field Experience and/or CINE 295/495 Individualized Study.**

# Communication Minor

## Minor Requirements

### 21 credit hours

**Complete the following:**

COMM 200 Persuasive Communication 3 hours
COMM 210 Interpersonal Communication 3 hours
COMM 230 Mass Media and Popular Culture 3 hours

**Choose one of the following:**

COMM 300 Communication Theory and Research 3 hours
COMM 400 Critical Approaches to Communication 3 hours

**Choose one of the following:**

COMM 410 Gender Comm Across Cultures 3 hours
COMM 420 Intercultural Communication 3 hours

**Choose two of the following:**

COMM 240 Introduction to Public Relations 3 hours
COMM 260 Introduction to Communication Research Methods 3 hours
COMM 270 Introduction to Organizational Communication 3 hours
COMM 290 Small Group Communication 3 hours
COMM 324 Argumentation and Critical Thinking 3 hours
COMM 380 Advanced Organizational Communication 3 hours

# Computer Science Minor

## Minor Requirements

### 18 credit hours

**Complete the following:**

CSIS 201 Introduction to Computer Science I 3 hours
CSIS 202 Introduction to Computer Science II 3 hours
CSIS 310 Data Structures 3 hours
CSIS Elective Coursework 9 hours

# Criminal Justice Minor

## Minor Requirements

### 18 credit hours

**Complete the following:**

SWRK 210 Intro to Criminal Justice 3 hours
SOCI 331 Crime and Deviance 3 hours
SOCI 333 Juvenile Delinquency 3 hours
SOCI 339 Restorative Justice 3 hours
SWRK 420 Social Work and Diverse Populations 3 hours

**Choose one of the following:**

PSCI 240 State and Local Government 3 hours
PSCI 260 Introduction to Law 3 hours
PSYC 314 Adolescent Development 3 hours
PSYC 330 Personality Theory 3 hours
PSCI 353 Constitutional Law: Civil Rights and Liberties 3 hours

# Graphic Design Minor

## Minor Requirements

### 23 credit hours

**Complete the following:**

ARTS 101 Basic Design 2-D 3 hours
ARTS 105 Art & Design Professional Networking Seminar 1 hour
ARTS 105 Art & Design Professional Networking Seminar 1 hour
ARTD 110 Creative Suite 3 hours
ARTS 111 Drawing I 3 hours
ARTD 220 Typography 3 hours

**Choose two of the following:**

ARTD 250 Print and Packaging 3 hours
ARTD 270 Web Design I 3 hours
ARTD 373 Creative Action Studio 3 hours
ARTD 383 UI/UX Design 3 hours
ARTD 453 Systems, Identity, and Branding 3 hours

# History Minor

## Minor Requirements

### 18 credit hours

**Complete the following:**

HIST Elective Coursework 18 hours

# Hispanic Cultural Studies Minor

## Minor Requirements

### 18-19 credit hours

**Complete the following:**

SPAN 200 Introduction to Latinx Studies 3 hours

**Choose one of the following:**

SPAN 101 Introductory Spanish 4 hours
SPAN 201 Intermediate Spanish I 4 hours
SPAN 202 Intermediate Spanish II 4 hours
SPAN 301 Intermediate/Advanced Spanish 4 hours
SPAN 302 Advanced Spanish 4 hours
SPAN 303 Spanish for Heritage Speakers 4 hours

**Choose four of the following:**

Notes:

- Hispanic Cultural Studies students in certain courses below will focus their individual research and/or presentations on Hispanic populations in the U.S. or on Latin America(ns). Please see your Hispanic Cultural Studies faculty advisor for information on which courses that pertains to.
- Additionally, students are restricted to taking specific topics for courses below that are selected topics courses. Again please see your Hispanic Cultural Studies faculty advisor for information on which topics will apply to the requirement.
- Students can selected to take HIST 250 or SPAN 350 below, but only one course will count towards the minor.

ARTS 355 Topics in Art History 3 hours
COMM 410 Gender Comm Across Cultures 3 hours
HIST 250 Colonial Vestiges & Liberal Hopes: Latin America 3 hours
SOCI 310 Cultural Anthropology 3 hours
SOCI 380 Race and Ethnicity 3 hours
SPAN 350 Latin American Culture and Civilization 3 hours
SPAN 400 Introduction to Hispanic Literature 3 hours
THEO 215 Bible and Theology 3 hours

# Information Systems Minor

## Minor Requirements

### 18 credit hours

**Complete the following:**

CSIS 201 Introduction to Computer Science I 3 hours
CSIS 202 Introduction to Computer Science II 3 hours
CSIS 321 Software Engineering 3 hours

**Choose three of the following:**

CSIS 304 Web-Based Programming 3 hours
CSIS 312 Computer Security and Digital Forensics 3 hours
CSIS 314 Client-Server Systems 3 hours
CSIS 330 Human-Computer Interactions (HCl) 3 hours
CSIS 344 Introduction to Data Science 3 hours
CSIS 350 Data Communications and Networks 3 hours
CSIS 450 Network Administration 3 hours

# Journalism Minor

The Journalism minor offers a 21-unit course of study that focuses on key journalistic skills and knowledge sets, and is designed to be combined with a complementary major. Students are required to obtain a minimum grade of C- in all courses taken for the minor.

## Minor Requirements

### 21 credit hours

**Complete the following:**

CINE 230 Storytelling, Moving Images & Sound 3 hours
JOUR 230 Introduction to Journalism 3 hours
JOUR 330 Magazine and Feature Writing 3 hours
CINE 350 Editing Video 3 hours
JOUR 470 Journalism II 3 hours

**Complete 6 hours from the following:**

WRIT 210 Practical Grammar and Editing 3 hours
COMM 230 Mass Media and Popular Culture 3 hours
JOUR 310 Professional Writing 3 hours
CINE 371 Documentary Production I 3 hours
CINE 372 Documentary Production II 3 hours
CINE 475 Field Experience 1-10 hours

# Literature Minor

## Minor Requirements

### 18 credit hours

**Complete the following:**

LITR 200 Studies in Literature 3 hours

**Electives**

WRIT LITR Elective Coursework 6 hours
LITR Elective Coursework 9 hours

# Mathematics Minor

## Minor Requirements

### 20 credit hours

MATH 201 Calculus I 4 hours
MATH 202 Calculus II 4 hours
MATH 290 Introduction to Proofs 3 hours
MATH electives 300-level or above 9 hours

# Music Minor

## Minor Requirements

### 22 credit hours

**Complete the following:**

MUSI 121 Theory I 3 hours
MUSI 131 Sight Singing and Ear Training I 1 hour
MUSI 180 Introduction to Music Technology 3 hours
MUSA 205 /405 Applied Music Lessons with Studio Class 2 hours
MUSA Ensemble Courses 4 hours

**Choose one of the following:**

MUSI 300 Music in Western Culture 3 hours
MUSI 310 Jazz & Popular Music 3 hours
MUSI 330 Music In World Cultures 3 hours

**Complete the following:**

MUSI /THEA Elective Coursework 6 hours

# Politics Minor

## Minor Requirements

### 18 credit hours

**Complete the following:**

PSCI Elective Coursework 18 hours

# Psychology Minor

## Minor Requirements

### 18 credit hours

**Complete the following:**

PSYC 150 General Psychology 3 hours
PSYC Upper-division Psychology Coursework 15 hours
Students interested in declaring a psychology minor should meet with a psychology faculty member to discuss upper-division course options.

# Social Welfare Minor

## Minor Requirements

### 18 credit hours

**Complete the following:**

SWRK 180 Introduction to Social Work 3 hours
SWRK 331 Human Behavior in the Social Environment 3 hours
SWRK 333 Human Rights and Social Justice 3 hours
SWRK 420 Social Work and Diverse Populations 3 hours
SWRK 460 Social Policy 3 hours

**Choose one of the following:**

SWRK 321 Family Violence 3 hours
SWRK 322 Death, Loss, and Grief 3 hours
SWRK 400 Child Welfare 3 hours
SWRK 410 Helping Professions and Older Adults 3 hours
SWRK 485 Selected Topics 3 hours

# Sociology Minor

## Minor Requirements

### 21 credit hours

**Complete the following:**

SOCI 150 Principles of Sociology 3 hours
SOCI 363 Social Inequality 3 hours
SOCI 373 Social Theory 3 hours

**Choose one of the following:**

SOCI 220 Men and Women in Society 3 hours
SOCI 366 Social Change 3 hours
SOCI 380 Race and Ethnicity 3 hours

**Choose 9 semester hours from the following:**

SOCI 220 Men and Women in Society 3 hours
SOCI 223 Sociology of Families 3 hours
SOCI 310 Cultural Anthropology 3 hours
SOCI 331 Crime and Deviance 3 hours
SOCI 333 Juvenile Delinquency 3 hours
SOCI 340 Statistical Procedures 3 hours
SOCI 380 Race and Ethnicity 3 hours
SOCI 390 Research Methods 3 hours
SOCI 475 Field Experience 3-6 hours

# Spanish Minor

**Prerequisite for Minor Entry**

Students must demonstrate proficiency in SPAN 201 and SPAN 202 Intermediate Spanish (4 hours each) (or placement exam) prior to entry into the Spanish minor.

# Minor Requirements

## 19-23 credit hours

**Complete the following:**

SPAN 200 Introduction to Latinx Studies 3 hours

**Based on placement exam score, complete either:**

SPAN 301 Intermediate/Advanced Spanish 4 hours
SPAN 302 Advanced Spanish 4 hours

**OR**

SPAN 302 Advanced Spanish 4 hours
SPAN 303 Spanish for Heritage Speakers 4 hours

**Choose one of the following options:**

### Option 1 (8 hours)

**Complete the following:**

SPAN 350 Latin American Culture and Civilization 3 hours
SPAN 400 Introduction to Hispanic Literature 3 hours
SPAN 475 Field Experience 2 hours

### Option 2 (12 hours)

After completing SPAN 301 & 302 or at least one upper-division SPAN class (3-4 credits) at George Fox University, students must choose 12 semester hours in an approved study abroad program in a Spanish-speaking country (credits abroad must be taught entirely in Spanish. Any course taught in Spanish at a national university applies, but classes in stand-alone study abroad programs must be at 300-level or above).

# Theatre Minor

## Minor Requirements

### 18 credit hours

**Complete the following:**

THEA 130 Stagecraft 3 hours
THEA 205 Acting Studio 3 hours
THEA 265 Directing/Literature Studio 3 hours
THEA 325 Production Design Studio 3 hours

**Complete 6 hours of the following:**

THEA 105 Mainstage Theatre Practicum 0-6 hours
THEA 165 George Fox University Players: Drama Touring Troupe 1 hour
THEA 305 Mainstage Theatre Practicum 0-6 hours
THEA 365 George Fox University Players: Drama Touring Troupe 1 hour

# Theology Minor

## Minor Requirements

### 18 credit hours

**Complete the following:**

THEO 201 Old Testament 3 hours
THEO 202 Theology I 3 hours
THEO 301 New Testament 3 hours
THEO 302 Theology II 3 hours

**Complete 6-hours of the following:**

THEO 315 Advanced Bible & Theology 3 hours
THEO 325 Theological Languages I 4 hours
THEO 390 Biblical Interpretation 3 hours
THEO 415 Advanced Bible and Theology 1-3 hours
THEO 425 Theological Languages II 4 hours
THEO 435 Advanced Philosophy and Theology 3 hours
THEO 475 Field Experience 2-4 hours
THEO 490 Theology Seminar 3 hours

# Worship Arts Minor

## Minor Requirements

### 21 credit hours

#### Core Requirements (12 hours)

**Complete the following:**

MUSI 121 Theory I 3 hours
MUSI 131 Sight Singing and Ear Training I 1 hour
MUSI 180 Introduction to Music Technology 3 hours
MUSI 340 Creating, Planning, and Leading Worship 3 hours
MUSA 165W /365W Worship Ensemble 2 hours

#### Applied Studies (3 hours)

**Complete the following:**

MUSA 105V /305V or MUSI 125 1 hours
MUSA 105I /305I or MUSI 250 1 hours

#### Technology Elective (3 hours)

**Choose one of the following:**

MUSI 233 Songwriting and Producing 3 hours
THEA 130 Stagecraft 3 hours
THEA 325 Production Design Studio 3 hours

#### Theology Elective (3 hours)

**Choose one of the following:**

THEO 130 Christian Discipling and Leadership 3 hours
THEO 201 Old Testament 3 hours
THEO 202 Theology I 3 hours
THEO 300 History and Theology of Christianity 3 hours
THEO 301 New Testament 3 hours

# Writing Minor

## Minor Requirements

### 18 credit hours

**Complete the following:**

WRIT 200 Studies in Writing 3 hours

**Electives**

WRIT LITR Elective Coursework 6 hours
WRIT Elective Coursework 9 hours

# Youth Ministry Minor

## Minor Requirements

### 18-19 credit hours

**Complete the following:**

THEO 130 Christian Discipling and Leadership 3 hours
THEO 363 Youth Ministry: Theology and Philosophy of Ministry 3 hours
THEO 364 Youth Ministry: Culture and Practice 3 hours
THEO 400 Speaking as Ministry 3 hours
THEO 455 Advanced Christian Ministries 3 hours
THEO 475 Field Experience 3-4 hours

# Certificate in Business Analytics

## (Non-degree)

## Certificate Requirements

Students must have previously completed BUSN 240 or equivalent 200-level or higher course in statistics.

### Required Courses (12 hours)

**Complete the following:**

BUSN 301 Business Analytics: Introduction to Business Intelligence 3 hours
BUSN 411 Business Analytics: Capstone 3 hours

**Choose two of the following:**

BUSN 401 Business Analytics: Decision Science 3 hours
BUSN 402 Business Analytics: Data Visualization 3 hours
BUSN 410 Econometrics 3 hours
CSIS 201 Introduction to Computer Science I 3 hours

# TESOL Certificate

The TESOL certificate is designed to provide a basic foundation for students who are interested in teaching English to speakers of other languages, including teaching English as a foreign language overseas, and tutoring or teaching English as a second language in local church or community programs.

## Certificate Requirements

### 9 credit hours

**Complete the following:**

LANG 340 General and Cultural Linguistics 3 hours
LANG 350 Issues in Second Language Acquisition 3 hours
WRIT 210 Practical Grammar and Editing 3 hours

# General Education

- # Cornerstone Core Program
  # Honors Program (Alternative General Education)

# Cornerstone Core

## Overview

Students complete 37 credits which make up the Cornerstone Core. Though transfer credit may apply to core requirements, at least 9 credits must be taken in residence at George Fox University.

## Cornerstone Core Requirements

### Love the Lord your God

#### With all your heart (9 credits)

***Character/Virtue: Faith, Hope & Love, Justice***

**Complete the following:**

THEO 101 The Bible 3 hours
THEO 102 Christianity 3 hours
THEO 380 Ethics 3 hours

#### With all your soul (9 credits)

***Character/Virtue: Wisdom, Imagination & Empathy, Creativity***

**Complete the following:**

HIST 111 The Modern and Postmodern World 3 hours
LITR 111 Faith and Story 3 hours

**Choose one of the following:**

ARTP 120 Art and Global Culture: Performing Art 3 hours
ARTV 120 Art and Global Culture: Visual Art 3 hours

#### With all your mind (10 credits)

***Character/Virtue: Intellectual humility, Curiosity, Clarity***

**Complete the following:**

COMM 111 Communication in Society 3 hours
GSCI 170 Science and Faith 4 hours
MATH 170 Why Math Matters 3 hours

#### Love your neighbor as yourself (9 credits)

***Character/Virtue: Respect & Appreciation, Humility, Civility & Stewardship, Patience***

**Complete the following:**

PSYC 100 Personhood 3 hours

SSCI 100 Justice 3 hours
WRIT 111 Caring for Words 3 hours

# Honors Program

## Overview

The Honors Program is a Christ-centered Great Books program for high-achieving undergraduate students at George Fox University.

Students enrolled in the honors program take one Great Books seminar each semester, in addition to major coursework and other electives within the university. Because the honors program provides a substantial liberal arts foundation, the program fulfills the general education requirements for all honors students, with the exception of one math and one lab science course.

## Program Distinctives

- *Liberal Arts Foundation:* The foundation provided by the Honors Program is an ideal complement to all fields of study, as students gain proficiency in writing, reading comprehension, oral communication, charitable discourse, collaborative problem-solving, analysis, and creative and critical thinking. Honors students also develop an awareness of the history of ideas, enabling intelligent, informed engagement with a range of contemporary topics. Most of all, students learn to cultivate a rich interior life and a clear moral sensibility that will enrich their own lives, as well as the lives of their neighbors.

- *Reading and Writing:* The Great Books curriculum spans four years and is structured chronologically, beginning with the ancient world and ending in the present. In addition to reading and discussing the Great Books, honors students write essays that gradually progress in length and complexity, culminating in the Senior Thesis. Each course also includes smaller writing assignments and exercises, as well as comprehensive written and/or oral exams.

- *Christ-Centered Learning:* Over the course of the program, honors students are deeply immersed in Christian theology and history. Each seminar course includes texts from prominent Christian voices of the era, and scripture is interwoven throughout.

- *Socratic Discussion:* Within the seminar, professors use a modified version of the Socratic method, guiding the discussion through questioning, placing the responsibility of engagement on the students. This student-centered approach creates an interactive and dynamic learning environment in which students must be active, rather than passive, continually challenging each other to read and think more deeply.

- *Student/Faculty Ratio:* Each seminar is moderated by two professors and limited to around 18 students, which results in an average student/faculty ratio of 9:1. This low student/faculty ratio allows the honors professors to closely mentor honors students, both within the seminar and in one-on-one settings outside of class.

- *Academic Rigor*: Students in the honors program are expected to maintain a cumulative GPA of 3.0 or above. Failure to maintain this standard may result in dismissal from the honors program.

# Honors Requirements

### (43 hours)

All honors students take blocks of 6-credit hours for six semesters, for a total of 36 hours. Students have the option of taking an additional 3-credit senior thesis course after completing the honors core.

Students must also meet the regular general education math requirement and take one lab science course. Collectively, these courses constitute the general education package for honors students.

Total hours required: 43 hours.

### Core Requirements (36 hours)

**Complete the following:**

HNRS 150 Athens & Jerusalem 6 hours
HNRS 190 Rome & the Early Church 6 hours
HNRS 250 The Medieval World 6 hours
HNRS 290 Renaissance & Reformation 6 hours
HNRS 350 The Rise of Modernity 6 hours
HNRS 450 The Twentieth Century 6 hours

### Mathematics

**Complete the following:**

MATH 170 Why Math Matters 3 hours

### Natural Science

**Complete the following:**

GSCI 170 Science and Faith 4 hours

# Alternative Credit

## Course Challenge Programs

Students may reduce the number of required courses and add flexibility to their undergraduate years through one or more of the following programs.

### Advanced Placement (AP)

College credit may be granted in several subject areas to the student who completes a college-level course in high school and receives a score of three or better through the Advanced Placement program sponsored by the College Entrance Examination Board. Students expecting advanced placement credit should request, at the time the test is taken, for scores to be sent to George Fox University.

### College Level Examination Program (CLEP)

The Educational Testing Service of the College Board provides nationally recognized standardized testing through which college credit may be earned or course proficiency verified. This is the College Level Examination Program (CLEP). Testing through the CLEP General Examinations is designed to verify competency in general education. Tests may be taken in five areas for a maximum of 32 semester hours of credit. (General examinations are to be taken prior to the completion of the first semester of enrollment as a freshman at George Fox University.) Testing through the CLEP Subject Examinations provides verification of competency in selected academic fields such as foreign language and mathematics. These may be taken at any time (unless concurrently enrolled in an equivalent course) and assume competency has been gained in nonclassroom settings.

### Credit by Examination

Courses offered at George Fox University for which CLEP testing is not available may be challenged by examination at the discretion of the department. There is a test fee of $60 per examination. See the registrar for details.

### International Baccalaureate (IB)

College credit may be granted in several subject areas to students who complete college-level work through the program. A minimum score of five is required on High Level examinations for credit consideration. Students must provide the registrar's office with a copy of the transcript to receive consideration. Credits awarded as a result of documentation will be accepted as transfer credit.

### Proficiency Test

A student may fulfill general education and some program requirements or become eligible for registration in advanced courses by passing a proficiency test for the area involved. No fee is charged for proficiency testing, and credit is not granted. Typical academic areas for which proficiency tests are available are languages, music and physical education activity courses.

A placement test is generally required prior to registration for George Fox University modern language classes. Placement tests are generally given during new student orientation.

A student from a non-English-speaking nation may fulfill the language requirement by demonstrating proficiency in the English language.

# Graduation Requirements

## Degrees

George Fox University confers these undergraduate degrees: bachelor of arts, bachelor of fine arts, bachelor of science, bachelor of science in athletic training, bachelor of science in nursing, and bachelor of social work.

## Requirements

A student wishing to receive a bachelor of arts, bachelor of fine arts, bachelor of science, bachelor of science in athletic training, bachelor of science in nursing, or a bachelor of social work degree must meet the following requirements:

1. Accumulate at least 120 semester hours with a minimum cumulative and major GPA of 2.0 (engineering and music education majors must complete additional requirements but may graduate within the 120-hour minimum should program requirements be waived, such as through sufficient SAT scores). The GPA is computed on work taken at George Fox University only;
2. Accumulate at least 39 upper-division semester hours (courses numbered 300 or above)
3. Complete the general education Cornerstone Core requirements
4. Complete a major in a chosen area with no grade below a C-
5. Complete at least 30 semester hours in residency (20 hours must be in senior year; 20 of the last 30 hours must be completed at George Fox University)
6. Complete at least 10 hours of one's major in residency
7. File an Application for Degree form not later than completion of 90 semester hours toward graduation (normally two semesters before expected graduation)
8. Pay in full all accounts at Student Financial Services

In order to participate in commencement and baccalaureate ceremonies, a student must be meeting all commencement eligibility requirements. Information regarding exceptions can be found on the commencement page.

## Second Degree

A student wishing to receive a second or concurrent degree must meet the following requirements:

1. Complete a minimum of 30 semester hours for the "second" degree above the minimum 120 hours required for the "first" degree
2. Meet the general education and major requirements for each degree
3. Be in attendance the last two semesters, or 30 hours, preceding the awarding of the "second" degree
4. Pay an additional $20 graduation fee if participating in one ceremony; otherwise, pay an additional $50 graduation fee for the "second" degree

The above requirements also apply to students who earned their first bachelor's degree at another institution. For these students no general education is required unless the

major has specific general education requirements which must be satisfied. Transfer credit will only be awarded for major requirements of the second degree and limited so as not to reduce the minimum requirements above.

# Undergraduate Course Descriptions

(Courses are listed alphabetically by prefix. For semesters off campus course prefixes, see the semesters off-campus page.)

| Course Prefix | Subject |
|---|---|
| ACCT | Accounting |
| ARTD | Art and Design: Design |
| ARTP | Art and Global Culture: Performing Art |
| ARTS | Art and Design: Studio |
| ARTV | Art and Global Culture: Visual Art |
| BIOL | Biology |
| BUSN | Business |
| CHEM | Chemistry |
| CINE | Cinematic Arts |
| COMM | Communication |
| CPAS | Career Preparation and Academic Success |
| CSIS | Computer and Information Science |
| ECON | Economics |
| EDUC | Education |
| ENGB | Engineering, Biomedical |
| ENGC | Engineering, Civil |
| ENGE | Engineering, Electrical |
| ENGM | Engineering, Mechanical |
| ENGR | Engineering, General |
| FINC | Finance |
| FINP | Financial Planning |
| GEED | General Education |
| GSCI | General Science |
| HHPA | Human Performance Activity |
| HHPE | Human Performance Education |
| HIST | History |
| HLTH | Health Education |
| HNRS | Honors |
| HPLS | Humanities Plus |
| INTD | Interior Design |
| INTL | International Studies |
| JOUR | Journalism |
| LEAD | Leadership Studies |
| LIBA | Liberal Arts |
| LITR | Literature |
| MAND | Mandarin |
| MATH | Mathematics |

| Course Prefix | Subject |
|---|---|
| MGMT | Management |
| MKTG | Marketing |
| MUSA | Music, Applied Music and Ensembles |
| MUSI | Music, Theory and Literature |
| NURS | Nursing |
| PHYS | Physics |
| PSCI | Political Science |
| PSYC | Psychology |
| SOCI | Sociology |
| SPAN | Spanish |
| SSCI | Social Science |
| SWRK | Social Work |
| THEA | Theatre |
| THEO | Theology |
| WRIT | Writing |

# ACCT

**ACCT 271 Principles of Financial Accounting**
*3 hours.* Accounting is the language of business. This course provides an introductory overview of accounting from a user perspective. Its purpose is to give students a basic understanding of the logic behind the principles of accounting, enabling them to prepare, read, analyze, and interpret financial statements for the purpose of decision making. Prerequisite: BUSN 110 and Sophomore standing or above.

**ACCT 272 Principles of Managerial Accounting**
*3 hours.* This course is a continuation of ACCT 271. It emphasizes the uses of accounting data by management to make both planning and control decisions. Students will continue to analyze financial statements to assess a company's liquidity, profitability, capital structure, and stock market ratios. Students will also develop operating budgets and use them to evaluate performance. Cost information will be classified by behavior, and allocated under a cost-beneficial system that assists managers in using relevant costs for decision making. Prerequisite: ACCT 271 Principles of Financial Accounting.

**ACCT 275 Field Experience**
*1-3 hours.* An on-the-job experience designed to acquaint the student with the accounting profession. Pass/No Pass.

**ACCT 285 Selected Topics**
*1 hour.* Occasional special courses chosen to fit the interests and needs of students and faculty.

**ACCT 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**ACCT 350 Taxation**
*3 hours.* This is an introductory course on fundamental concepts in taxation. The objective of this course is learning to recognize major tax issues inherent in business and financial transactions. The course will emphasize measurement and taxation of business income, along with an introduction to taxation of individuals. Prerequisites: ACCT 271 Principles of Financial Accounting and ACCT 272 Principles of Managerial Accounting.

**ACCT 370 Accounting Information Systems**
*3 hours.* This course will emphasize the mechanical aspects of accounting and will cover both manual and computerized accounting systems. The course is designed for the accounting major. Prerequisite: ACCT 271 Principles of Financial Accounting and ACCT 272 Principles of Managerial Accounting.

**ACCT 371 Financial Accounting and Reporting I**
*3 hours.* A comprehensive study of generally accepted accounting principles, including a review of their historical development and a thorough study of the underlying theory supporting them. A detailed study of many specific problems associated with the measurement and reporting of complex business transactions. Prerequisite: ACCT 271 Principles of Financial Accounting and ACCT 272 Principles of Managerial Accounting.

**ACCT 372 Financial Accounting and Reporting II**

*3 hours.* A comprehensive study of generally accepted accounting principles, including a review of their historical development and a thorough study of the underlying theory supporting them. A detailed study of many specific problems associated with the measurement and reporting of complex business transactions. Prerequisite: ACCT 371 Financial Accounting and Reporting I.

**ACCT 373 Financial Accounting and Reporting III**

*3 hours.* A comprehensive study of generally accepted accounting principles, including a review of their historical development and a thorough study of the underlying theory supporting them. A detailed study of many specific problems associated with the measurement and reporting of complex business transactions. Prerequisite: ACCT 371 Financial Accounting and Reporting I.

**ACCT 399 Cross-Cultural Experience**

*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. (Students must meet eligibility requirements.) Additional course fee is required.

**ACCT 405 Volunteer Tax Assistance**

*1 hour.* This course is being offered in conjunction with the Internal Revenue Service and the AARP to give the student skills and training needed to prepare income tax returns for low-to-moderate income people in the community. We will offer free tax preparation and electronic filing for the community.

**ACCT 450 Advanced Analytics in Financial Services**

*3 hours.* This class will explore the use of analytics by financial professionals. Starting with the generation of a business question, students will use a decision-making framework to draw appropriate and ethical conclusions to business problems. Students will understand the principles of data analysis, including but not limited to, systems, collecting, cleaning, analyzing and visualizing data. During the course, students will also gain hands-on experience with software tools used by financial professionals. Prerequisites: MATH 180 College Algebra, CSIS 201 Introduction to Computer Science, ACCT 370 Accounting Information Systems, and ACCT 371 Financial Accounting & Reporting I OR a Business Administration: Finance concentration with successful completion of FINC 300 Intermediate Financial Mgmt.

**ACCT 471 Advanced Accounting**

*3 hours.* Accounting for specific types of entities, such as partnerships and not-for-profit organizations. The accounting problems encountered in business combinations and foreign currency translation will be studied. Prerequisites: ACCT 272 Principles of Managerial Accounting and ACCT 370 Accounting Information Systems.

**ACCT 472 Auditing**

*3 hours.* An introduction to the standards and procedures observed by Certified Public Accountants in the examination of financial statements. Special areas of study will include evaluation of internal control, ethical considerations, legal environment, the auditor's reports, and evidence-collecting and evaluation. Prerequisites: ACCT 370 Accounting Information Systems, ACCT 371 Financial Accounting and Reporting I and CSIS 201 Introduction to Computer Science.

**ACCT 475 Field Experience**

*1-8 hours.* Supervised experiences in businesses, nonprofit organizations, and public agencies. Pass/No Pass.

**ACCT 480 Business Taxation**

*3 hours.* This course is an expansion of how tax laws affect individuals, partnerships, corporations, and S corporations. Additional topics in taxation are introduced with emphasis on laws applicable to estates, gifts, trusts, and tax exempt organizations. Prerequisite: ACCT 350 Taxation.

**ACCT 485 Selected Topics**

*3 hours.* Occasional special courses chosen to fit the interests and needs of students and faculty.

**ACCT 495 Individualized Study**

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# ARTD

**ARTD 110 Creative Suite**
*3 hours.* This course is an introduction to industry-standard graphic design applications such as Adobe Illustrator, Photoshop and InDesign. Additional course fee required.

**ARTD 211 Illustration and Logo Craft**
*1 hour.* Building on skills developed in Creative Suite, this project-based course focuses on the creation and technical execution of vector-based design and illustration. Additional course fee is required. Prerequisite: ARTD 110 Creative Suite

**ARTD 212 Image Construction and Photoshop**
*1 hour.* Building on skills developed in Creative Suite, this project-based course focuses on intermediate to advanced techniques employed in the creation of raster-based images for use in illustration and design projects. Additional course fee is required. Prerequisite: ARTD 110 Creative Suite

**ARTD 213 Print and Digital Layout**
*1 hour.* Building on sills developed in Creative Suite, this project-based course focuses on intermediate to advanced techniques that pertain to the layout and creation of flat, multi-page, and digital works of design. Additional course fee is required. Prerequisite: ARTD 110 Creative Suite

**ARTD 220 Typography**
*3 hours.* An introduction to typography including type history, typefaces, type selection, layout, the use of type in effective designs, and creative approaches to using type. Additional course fee required. Prerequisite: ARTD 110 Creative Suite

**ARTD 250 Print and Packaging**
*3 hours.* A focused study of design for printed 2D and 3D objects. Topics include project ideation, paper qualities, technical execution, working with print templates, document preparation, and the creation of production-ready work. Additional course fee is required. Prerequisite: ARTD 220 Tyopgraphy

**ARTD 260 Digitial Tools**
*3 hours.* An exploration of digital tools and more advanced uses of creative software that allow students to experiment with emerging technologies. Specific topics and content will vary by year and will be dependent on the instructor’s area of specialization. Prerequisite: ARTD 110 Creative Suite. Additional course fee required.

**ARTD 270 Web Design I**
*3 hours.* An introduction to web design that covers content, design, and front-end web development, including HTML, CSS, and standard user interface models. Students will review best practices in visual communication and engage in hand-coding while exploring site production methods, design models and creating functional web pages. Additional course fee is required. Prerequisite: ARTD 110 Creative Suite

**ARTD 285 Selected Topics**
*1-3 hours.* Additional course fee required.

**ARTD 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**ARTD 360 Illustration I**
*3 hours.* This course is a study of personal styles and professional illustration skills in a graphic design and commercial context. Students will learn the technical processes of research and image creation as they apply to story telling in commercial applications. Prerequisites: ARTS 111 Drawing I, ARTD 110 Creative Suite. Additional course fee is required.

**ARTD 363 History of Visual Communication**
*3 hours.* This course surveys graphic communication through history, and the impact of technology on the visual qualities of graphic design, advertising, fashion, media, architecture and industrial design. Beginning with prehistoric petroglyphs and concluding with the World Wide Web, this course will examine how culture shapes the practice of graphic design as well as how design shapes its corresponding culture. Additional course fee required.

**ARTD 373 Creative Action Studio**
*3 hours.* An applied studio of design theory and the way that design projects impact community. Students will research, plan and propose projects to better communities based on discussions of the social, cultural, environmental and communal impact of design. Additional course fee is required.

**ARTD 380 Experience Design**
*3 hours.* An examination of the variety of structures, processes, and methods designers use to create ideas, overcome obstacles, and engage audiences. Problem identification, creative strategy, ethnography, and research methods are considered as students explore a variety of approaches to ideation and creation. Additional Course fee required

**ARTD 383 UI/UX Design**
*3 hours.* This course focuses on the design for interactive objects and experiences. Topics include navigation, information architecture, user experience, development of effective interfaces, and kinetic design. Additional course fee is required. Prerequisite: ARTD 220 Typography

**ARTD 393 Design in Practice**
*2-3 hours.* This course couples a 1 or 2-hour student internship or professional experience with a 1-hour seminar that explores workplace communication and problem solving. Additionally, students will gain exposure to common business practices such as the development of contracts, estimates, invoices, accounting, promotion, and project management. Prerequisite: Junior status or instructor approval.

**ARTD 453 Systems, Identity, and Branding**
*3 hours.* In this exploration of visual thinking and systematic approaches to graphic design including brand development, identity systems and generative design methods, students will develop, design and present projects with clear communicative goals. Additional course fee is required. Prerequisite: ARTD 220 Typography

**ARTD 461 Illustration II**
*3 hours.* Applied illustration projects that allow for exploration of approaches to design across a variety of self-selected media. Students in this course are encouraged to develop a personal approach to illustration through a process of research, making, evaluating, presenting, and reflecting on their work. Creative strategy, content, technique, media, and subject matter will vary based on the semester and the students. Additional course fee is required. Prerequisite: ARTD 360: Illustration I.

**ARTD 462 Dimensional Illustration**

*3 hours.* This course explores the creation of new media imagery in multi-dimensional digital space including 3D and 4D approaches to illustration. Additional course fee is required. Prerequisite: ARTD 110 Creative Suite and ARTD 360 Illustration I.

**ARTD 471 Web Design II**

*3 hours.* This course builds on the content from web design I and offer a particular focus on responsive design that translates between screen sizes and devices. Students will critically examine the structure and functionality of traditional websites, learn advanced techniques, challenge common practices while proposing alternative models, and engage in the development of multi-page websites. Additional course fee is required. Prerequisite: ARTD 270 Web Design I.

**ARTD 475 Design Internship**

*3 hours.* The student will engage in a career-related Internships for Design which provides on-site work at an approved business or organization site. Prerequisite: instructor's permission. Course can be taken up to three times for a total of 9 elective credit hours. Pass/No Pass.

**ARTD 481 Collaborative Design I**

*3 hours.* Applied design projects that allow students to work collaboratively with regional clients. Within this course, students will work in teams as they move projects from concept and quote to preparation for production. Designers will develop work across a variety of media and learn to manage client relationships while producing work that meets the needs of real audiences. Additional course fee is required. Prerequisite: Junior Status.

**ARTD 482 Collaborative Design II**

*3 hours.* A revisitation of Collaborative Design I with the increased expectation of leadership and creative direction of teams. Students will operate as creative directors, leading teams of fellow students as they explore leadership, ideation, and collaboration strategies. Additional course fee is required. Prerequisite: ARTD 481: Collaborative Design I.

**ARTD 485 Selected Topics**

*1-3 hours.* Additional course fee required.

**ARTD 492 Portfolio Development**

*2 hours.* This course focuses on the organization and preparation of a portfolio showcasing a student's creative work in preparation for employment in the field of design. Students will explore visual composition and organization, document assembly methods and various reproduction image management techniques. Computer photo editing and printing are used to a paper and digital portfolio. The implications of a professional portfolio to gain employment is emphasized. This course is the equivalent to INTD 492. Additional course fee required. Prerequisites: Art major with senior status, or by instructor permission.

**ARTD 495 Individualized Study**

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# ARTP

**ARTP 120 Art and Global Culture**
*3 hours.* This interdisciplinary, core curriculum course centers its intellectual and artistic queries around the enduring question, "How do the arts reveal God's love for beauty, empathy and creativity across global boundaries?" Using the framework of the Beatitudes (Matthew 5:3-10), students will explore how global cultures both celebrate and critique their communities through the artistic disciplines of art, music and theatre. Throughout the course, students will cross boundaries of difference to investigate how God's creative spirit manifests itself in artistic expressions of beauty, dissonance and the celebration of the human spirit.

# ARTS

**ARTS 101 Basic Design 2-D**
*3 hours.* An introduction to materials, techniques, and theory related to two-dimensional design. Additional course fee is required.

**ARTS 102 Basic Design 3-D**
*3 hours.* This course focuses on three-dimensional design. Hands-on projects are the primary learning mode. Additional course fee is required.

**ARTS 105 Art & Design Professional Networking Seminar**
*1 hour.* This seminar course will meet weekly to focus on theory, concepts and methodology of art historical study and their application by engaging students in discourse surrounding lectures of visiting professional artists. Investigations of film and writing will be a secondary approach to this course. Must be taken minimum 5 out of 8 semesters in students' program. Satisfies: core major requirement. Additional course fee required.

**ARTS 111 Drawing I**
*3 hours.* Art majors given preference. This course is a study of materials, methods, and techniques used for drawing with pencil, ink, charcoal, and other drawing media. Additional course fee is required.

**ARTS 112 Drawing II**
*3 hours.* Art majors given preference. This course is a study of materials, methods, and techniques used for drawing with pencil, ink, charcoal, and other drawing media. Additional course fee is required. Prerequisite: ARTS 111 Drawing I.

**ARTS 201 Beginning Painting**
*3 hours.* Introduces students to materials, methods, and techniques used in painting with acrylics or oils. Additional course fee is required. Prerequisite: ARTS 111 Drawing I, or instructor's permission.

**ARTS 216 Art History Survey to 1450**
*3 hours.* A survey of the elements and concepts of art theory and practice as reflected in culturally and historically significant painting, sculpture, architecture, and other art forms, from prehistoric times to 1450. Additional course fee is required.

**ARTS 217 Art History Survey from 1450**
*3 hours.* A survey of the elements and concepts of art theory and practice as reflected in culturally and historically significant painting, sculpture, architecture, and other art forms, from 1450 to the present. Additional course fee is required.

**ARTS 220 Arts Administration**
*3 hours.* This course will introduce students to the practical skills required for the successful management of arts organizations. Areas covered will include budgeting, marketing/publicity, fundraising, and issues associated with the founding of a non-profit organization.

**ARTS 221 Beginning Sculpture**
*3 hours.* An introduction to investigating methods of additive, subtractive, assembled, and cast sculptural techniques. Students will use medias such as glass, plaster, clay, wood and stone, working with the traditional sculptural subject matter of the human figure, plant and animal imagery and abstraction. Additional course fee required.

**ARTS 230 Beginning Photography**
*3 hours.* Introduction to the materials, methods, and techniques used in photography. Additional course fee is required.

**ARTS 231 Beginning Printmaking**
*3 hours.* An introduction to screen printmaking, and relief printmaking (woodcut, linocut, collagraph) techniques and methods. Additional course fee is required.

**ARTS 240 Beginning Mixed Media**
*3 hours.* An inquiry of the essentials of combining a variety of art methods and materials, this class creates opportunities for students to integrate methods of kiln worked glass, assemblage, painting, photography, printmaking, mosaic, and sculptural techniques. Conceptually the student is challenged to have their artwork develop out of ideas gleaned from literature, science, their personal narrative, and current events. Additional course fee required.

**ARTS 241 Beginning Ceramics**
*3 hours.* Introduction to basic hand-building techniques and surface design. Additional course fee is required.

**ARTS 245 Selected Studio Media**
*3 hours.* A lecture/studio course that deals with an area of interest and faculty specialty, such as watercolor, kiln-worked glass, jewelry, encaustic painting, and bookmaking. The lower-division class is required of the student in the given topic before they can take a more advanced course. The student under a different topic may repeat this course. Student may need to purchase additional supplies. Additional course fee is required.

**ARTS 275 Field Experience**
*1-3 hours.* Field Experience provides on-site work experience at an approved business or institutional site. Pass/No Pass.

**ARTS 276 Arts Administration Practicum**
*3 hours.* This course brings sophomore or junior level students into an internship experience with George Fox University exhibition and collection resources. Students will complete work in the academic semester related to museum studies, exhibition design and management and collection registration and care. Prerequisite: junior status or instructor approval.

**ARTS 285 Selected Topics**
*1-3 hours.* A lecture/studio class that deals with areas of interest and specialty in studio and graphic arts. Student may need to purchase additional supplies. Additional course fee is required.

**ARTS 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**ARTS 301 Intermediate Painting**
*3 hours.* A further development of the students' knowledge and use of the materials, methods, and techniques used in painting with acrylics or oils. Additional course fee is required. Prerequisite: ARTS 201 Beginning Painting.

**ARTS 305 Art & Design Professional Networking Seminar**
*1 hour.* This seminar course will meet weekly to focus on theory, concepts and methodology of art historical study and their application by engaging students in

discourse surrounding lectures of visiting professional artists. Investigations of film and writing will be a secondary approach to this course. Must be taken minimum 5 out of 8 semesters in students' program. Satisfies: core major requirement. Additional course fee required.

**ARTS 311 Figure Drawing I**
*3 hours.* Practice and Theory pertaining to drawing the human figure from live models. Translating the 3 dimensional figure to 2 dimensions will be the first priority, along with exploration and study in historical and contemporary figural interpretations. Both traditional and non-traditional mediums will be explored with the intent of gaining competence and confidence in the use of figural subject content in a variety of mediums. Additional course fee is required. Prerequisite: ARTS 111 Drawing I, or instructor's permission.

**ARTS 321 Intermediate Sculpture**
*3 hours.* This course continues exploration of sculptural techniques, including specific projects working with casting methods using glass, plaster, plastic, clay, and wax. Students are also at liberty to work in developing a deeper understanding of working in media such as metal, stone, wood and clay while cultivating a conceptual framework for their artwork. Additional course fee required. Prerequisite: ARTS 221 Beginning Sculpture.

**ARTS 330 Intermediate Photography**
*3 hours.* Provides an opportunity for further development of skills and for the introduction of more advanced techniques. Additional course fee is required. Prerequisite: ARTS 230 Beginning Photography.

**ARTS 331 Intermediate Printmaking**
*3 hours.* A further development of the students' knowledge and use of printmaking (silkscreen, woodcut, linocut, collagraph) and a further introduction to intalio and etching techniques and methods. Additional course fee is required. Prerequisite: ARTS 231 Beginning Printmaking.

**ARTS 340 Intermediate Mixed Media**
*3 hours.* A further broadening of the student's knowledge and ability to combine methods of painting, sculpture, fiber arts, photography and other media. Students are encouraged to learn from contemporary artist's methods and techniques while building upon a variety of ideas and concepts. Additional course fee required. Prerequisite: ARTS 240 Beginning Mixed Media

**ARTS 341 Intermediate Ceramics**
*3 hours.* A further development of the students' knowledge and skill in throwing, hand building, and firing techniques in ceramics. Additional course fee is required. Prerequisite: ARTS 241 Beginning Ceramics.

**ARTS 345 Selected Studio Media**
*3 hours.* A lecture/studio course that deals with an area of interest and faculty specialty, such as watercolor, kiln-worked glass, jewelry, encaustic painting, and bookmaking. The lower-division class is required of the student in the given topic before they can take a more advanced course. The student under a different topic may repeat this course. Student may need to purchase additional supplies. Additional course fee is required.

**ARTS 355 Topics in Art History**
*3 hours.* An in-depth study of a specific era or group found within Western art, such as studies in the Baroque and Rococo, Renaissance, or Women in Art. Specific topics

will be dependent on the instructor's area of specialization. Additional course fee is required.

**ARTS 365 Selected Topics in Non-Western Art**
*3 hours.* Art and its relationship to a non-Western culture, e.g., African, Asian, Latin American. Specific topic will be dependent on the instructor's area of specialization. Additional course fee is required.

**ARTS 382 Twentieth-Century Art and Design**
*3 hours.* Art and its relationship to global culture of the 20th century. Additional course fee is required.

**ARTS 384 Contemporary Art Forms**
*3 hours.* This course examines and participates in the forms and methods of art in the 21st Century. Emphasis is placed upon investigating post-modern art theory while looking at current artists of note. The genres of video, installation, conceptual, digital and performance art are explored. In addition, students create their own work of digital media and conceptual art in the progression of the class. Additional course fee required.

**ARTS 399 Cross-Cultural Experience**
*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. (Offered in May Term. Students must meet eligibility requirements.) Additional course fee is required.

**ARTS 401 Advanced Painting**
*3 hours.* Focuses on the individual artistic development of students as they combine techniques and subject matter into a personal style of visual communication. Additional course fee is required. Prerequisite: ARTS 301 Intermediate Painting.

**ARTS 411 Figure Drawing II**
*3 hours.* Upper division students will be given more latitude in the creative application of the concepts stated in Figure Drawing I. Additional course fee is required. Prerequisite: ARTS 311 Figure Drawing I or instructor’s permission.

**ARTS 421 Advanced Sculpture**
*3 hours.* This course pursues rigorous development in one’s sculptural methods. Students focus on a particular three-dimensional media while clarifying their conceptual framework with further research over the semester, creating a cohesive body of sculptural works. Additional course fee required. Prerequisite: ARTS 321 Intermediate Sculpture.

**ARTS 430 Advanced Photography**
*3 hours.* Focuses on the individual artistic development of students as they combine techniques and subject matter into a personal style of visual communication. Additional course fee is required. Prerequisite: ARTS 330 Intermediate Photography.

**ARTS 431 Advanced Printmaking**
*3 hours.* Focuses on the individual artistic development of students as they combine techniques and subject matter into a personal style of visual communication. Additional course fee is required. Prerequisite: ARTS 331 Intermediate Printmaking.

**ARTS 440 Advanced Mixed Media**

*3 hours.* This course pursues focused creation of a body of mixed media work as the culmination of this course. Working in combined media of their choice, the student is challenged to create a series of pieces applying professional levels of artistry and technique. Methodical research of artists, media, and concept is required. Additional course fee required. Prerequisite: ARTS 340 Intermediate Mixed Media.

**ARTS 441 Advanced Ceramics**

*3 hours.* Focuses on the individual artistic development of students as they combine techniques and subject matter into a personal style of visual communication. Additional course fee is required. Prerequisite: ARTS 341 Intermediate Ceramics.

**ARTS 445 Selected Studio Media**

*3 hours.* A lecture/studio course that deals with an area of interest and faculty specialty, such as watercolor, kiln-worked glass, jewelry, encaustic painting, and bookmaking. The lower-division class is required of the student in the given topic before they can take a more advanced course. The student under a different topic may repeat this course. Student may need to purchase additional supplies. Additional course fee is required.

**ARTS 455 Portfolio Development**

*3 hours.* This course is designed to assist students in the preparation, production and presentation of their culminating portfolio of work relative to each sub-discipline within the Arts. Class will focus on assessment of needs, corresponding design, and execution of projects for final portfolios. Activities will center on practice of conceptual design, design development, production/fabrication, coordination, critique and presentation. Additional Course Fee Required. Prerequisite: Junior Standing.

**ARTS 460 Art And Christ**

*3 hours.* A study of the relationship between art and Christianity in the contemporary world. Designed primarily for studio art majors. Prerequisite: either ARTS 382 Twentieth Century Art or ARTS 384 Contemporary Art Forms. Additional course fee required.

**ARTS 465 Continuing Studies in Studio Media**

*1-3 hours.* Guided study in studio media such as ceramics, sculpture, painting, glasswork, printmaking, photography, etc., focused on professional practice, in-depth media exploration, development of individual voice, and exploration of historical and contemporary exemplars. Additional course fee required. Student may need to purchase additional supplies. Pre-requisites: completion of advanced course in corresponding discipline and instructor's permission.

**ARTS 475 Field Experience**

*3 hours.* Field Experience provides on-site work experience at an approved business or institutional site. Pass/No Pass.

**ARTS 485 Selected Topics**

*1-3 hours.* A lecture/studio class that deals with areas of interest in art, such as watercolors, calligraphy, or special topics in art history. Student may need to purchase additional supplies. Additional course fee is required.

**ARTS 491 Senior Thesis I**

*2 hours.* In this course, students identify, research, and begin creating a body of work and written thesis in their studio area of interest. Emphasis is placed on strong technical and formal articulation in support of a compelling, developing thesis concept. Professional practices for the emergent studio practitioner will be examined and executed. Participation in the Professional Networking visiting practitioner program

through studio visits and lectures is a key component of this course. Prerequisite: art major with senior status, or by permission.

**ARTS 492 Senior Thesis II**
*2 hours.* The Senior Thesis II course represents the culmination of four years of study. Each student is expected to create a focused and in-depth body of studio work, which is developed through research and critical feedback with instructors and visiting practitioners. In recognition of the transition from student to artist this process represents, student will be working largely in a self-directed manner, in consultation with the Thesis Faculty. This work should reflect mature and independent decisions made regarding content and means of expression. Students work in their individual studio spaces. Additional course fee is required. Prerequisite: art major with senior status, or by permission.

**ARTS 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# ARTV

**ARTV 120 Art and Global Culture**
*3 hours.* This interdisciplinary, core curriculum course centers its intellectual and artistic queries around the enduring question, "How do the arts reveal God's love for beauty, empathy and creativity across global boundaries?" Using the framework of the Beatitudes (Matthew 5:3-10), students will explore how global cultures both celebrate and critique their communities through the artistic disciplines of art, music and theatre. Throughout the course, students will cross boundaries of difference to investigate how God's creative spirit manifests itself in artistic expressions of beauty, dissonance and the celebration of the human spirit.

# BIOL

**BIOL 100 Foundations of Biology**
*4 hours.* A course to fulfill the general education requirement. Deals with the organization of living things, anatomy and physiology of cells and organisms, reproduction and heredity, and the role of energy in the ecosystem. Bioethical considerations are discussed. Two lectures and one two-hour laboratory per week. Additional course fee is required.

**BIOL 120 Environmental Science**
*4 hours.* This course addresses the scientific concepts, practices, and motivations underlying natural resource availability and human resource use and management. Content will be delivered through lectures, activities, discussions and research projects and will emphasize an ecological understanding of resource cycling and human-environmental interactions, highlighting the mechanisms underlying current environmental problems and the role of Christian communities in addressing these problems. Three lectures and one laboratory per week.

**BIOL 150 Introduction to Anatomy and Physiology**
*4 hours.* This course is offered through High School Concurrent Enrollment Program.

**BIOL 211 Cellular Biology & Genetics**
*4 hours.* An introduction to life science for those majoring in biology and bioscience-related fields. Topics include basic concepts in chemistry and biological molecules, an introduction to cellular structure, function and metabolism, genetics and theories of inheritance, and an introduction to prokaryotic cells and viruses. Three lectures and one two-hour laboratory per week. Additional course fee is required.

**BIOL 212 Organisms & Physiological Systems**
*4 hours.* An introduction to life science for those majoring in biology and bioscience-related fields. Topics include a taxonomic survey of protists, fungi, plants, and animals with emphasis on the development, anatomy, and physiology of plants and animals. Three lectures and one three-hour laboratory per week. Additional course fee is required.

**BIOL 220 Fundamentals of Cellular and Organismal Biology**
*2 hours.* This course is a supplementary course to BIOL 221, 222 that provides necessary foundational training in cellular biology, genetics, plant/animal diversity, and ecology needed for certain upper-division biology courses.

**BIOL 221 Human Anatomy and Physiology I**
*4 hours.* Structure and function of the human body. Fall semester topics include basic chemistry, body organization, integument, skeleton, muscles, and the nervous system, including special senses. The course is designed for nonscience majors. Three lectures and one laboratory per week. Additional course fee is required.

**BIOL 222 Human Anatomy and Physiology II**
*4 hours.* Structure and function of the human body. Spring semester topics include cardiovascular, reproductive, endocrine, respiratory, urinary, and digestive systems. The course is designed for nonscience majors. Three lectures and one laboratory per week. Prerequisite: BIOL 221 Human Anatomy and Physiology I, or permission from instructor. Additional course fee is required.

**BIOL 275 Field Experience**

*1-6 hours.* Includes internships and practica required for professional programs. The experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Prerequisite: permission of the instructor and chairperson of the department. Pass/No Pass.

**BIOL 285 Selected Topics**

*1 hour.* Offered when special needs arise or when sufficient enrollment permits. Course content includes specific interests of faculty or visiting professors, or special training required by graduate or professional schools. Prerequisites: BIOL 211 General Biology I and BIOL 212 General Biology II or BIOL 221 Human Anatomy and Physiology I and BIOL 222 Human Anatomy and Physiology II and instructor's permission.

**BIOL 295 Individualized Study**

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**BIOL 300 Evolution**

*4 hours.* A study of mechanisms associated with the process of evolution (e.g. natural selection, genetic drift, mutation, etc.) and their underlying assumptions. Topics covered include phylogenetic history, the genetic theory of phenotypic evolution, species and speciation, evolution of genes and genomes, etc. Special attention will be given to how the principles of evolution interface with Christian beliefs. Three hours lecture and one laboratory per week. Additional course fee is required. Prerequisites: BIOL 211 Cellular Biology & Genetics and BIOL 212 Organisms & Physiological Systems and BIOL 311 Ecology & Biodiversity or instructor permission.

**BIOL 310 Developmental Biology**

*4 hours.* Theories and study of differentiation as they apply to growth and development of animals, with some emphasis on the mechanism involved. Includes historical topics, fertilization, embryonic organization, cell induction, histogenesis, organogenesis, and developmental morphogenesis of echinoderms, frogs, chicks, and pigs. Three lectures and one three-hour laboratory per week. Additional course fee is required. Prerequisites: BIOL 211 Cellular Biology & Genetics and BIOL 212 Organisms & Physiological Systems or instructor permission.

**BIOL 311 Ecology & Biodiversity**

*4 hours.* An introduction to the origin and maintenance of biodiversity for students majoring in Biology. This project-based course will provide foundational exposure to the process of scientific discovery, twenty-first century science practices, and the fields of ecology and evolutionary biology. Three lectures and one three-hour laboratory per week. Prerequisites: BIOL 211 Cellular Biology & Genetics and BIOL 212 Organisms & Physiological Systems or permission of the instructor. Additional course fee is required.

**BIOL 322 Comparative Vertebrate Anatomy**

*4 hours.* The comparative study of the structure and functional morphology of organisms in the phylum Chordata. Laboratory will emphasize dissection of representative vertebrate animals. Three one-hour lectures and one three-hour laboratory per week. Additional course fee is required. Prerequisites: BIOL 211 Cellular Biology & Genetics and BIOL 212 Organisms & Physiological Systems or instructor permission.

**BIOL 333 Advanced Physiology**

*4 hours.* Investigation of physiological principles in animals, with 4 hours. A majors-level course is intended to meet the physiology requirement of graduate/professional

programs in health-care fields. Investigation of physiological principles in humans/mammals, with emphasis on mechanisms of integration and homeostasis at cellular, organ, and system levels. Topics include muscular, neural, vascular, excretory, and endocrine interactions. Three lectures and one three-hour laboratory per week. Additional course fee is required. Prerequisites: BIOL 211 Cellular Biology & Genetics and BIOL 212 Organisms & Physiological Systems and BIOL 311 Ecology & Biodiversity or instructor permission.

**BIOL 335 Neuroscience**
*4 hours.* An introductory course that provides a basic understanding in the multidisciplinary field of Neuroscience. Major topics covered in this course include neural signaling, neurophysiology, sensation and sensory processing, physical and functional neuroanatomy, movement and its central control, nervous system organization, brain development, complex brain functions and diseases of the nervous system. The course will examine different model organisms that have advanced the field of neuroscience. Three lectures and one laboratory per week. Additional course fee is required. Prerequisites: BIOL 211 Cellular Biology & Genetics and BIOL 212 Organisms & Physiological Systems or instructor permission.

**BIOL 340 Plant Physiology**
*4 hours.* A study of plant function from the molecular to the organismic level. Photosynthesis, respiration, water relations, growth and development, mineral nutrition, and practical applications will be covered. Three lectures and one three-hour laboratory period per week. Additional course fee is required. Prerequisites: BIOL 211 Cellular Biology & Genetics and BIOL 212 Organisms & Physiological Systems.

**BIOL 350 Genetics**
*4 hours.* A general genetics course covering Mendelian genetics, population genetics, and an introduction to molecular biology. This course fulfills the requirement for biology majors, and is appropriate for those with an interest in current topics in genetics, including inheritable diseases, cloning, and other recent scientific breakthroughs. Three lectures and one three-hour laboratory per week. Additional course fee is required. Prerequisites: BIOL 211 Cellular Biology & Genetics and BIOL 212 Organisms & Physiological Systems or instructor permission.

**BIOL 360 Ecology**
*4 hours.* An analysis of population, community, and ecosystem dynamics. Laboratory will emphasize field measurements, computer modeling, and behavior. Three lectures and one three-hour laboratory per week, and one required field trip to the Malheur Field Station. Additional course fee required. Prerequisites: BIOL 211 Cellular Biology & Genetics and BIOL 212 Organisms & Physiological Systems and BIOL 311 Ecology & Biodiversity or instructor permission.

**BIOL 367 Essentials of Microbiology**
*4 hours.* A course in the structure, metabolism, classification and health aspects of microorganisms. Special emphasis will be given to human-microbe interactions and clinical aspects of infection. Methods of microbiological investigation are emphasized and include current techniques and experiences within the field of Microbiology. Course designed for students not majoring in biology. Pre-requisites: BIOL 221 Human Anatomy and Physiology I; BIOL 222 Human Anatomy and Physiology II and CHEM 150 Foundations of General, Organic, and Biochemistry; or permission of the instructor. Additional course fee required.

**BIOL 370 Microbiology**

*4 hours.* A course for biology majors in the structure, metabolism, classification and health aspects of microorganisms. Special emphasis will be given to microbial diversity, the molecular physiology and genetics of prokaryotes, and the human immune response to infection. Methods of microbiological investigation are emphasized and include current techniques and experiences within the field of Microbiology. Additional course fee required. Prerequisites: BIOL 211 Cellular Biology & Genetics and BIOL 212 Organisms & Physiological Systems or instructor permission.

**BIOL 380 Ornithology**

*4 hours.* A study of avian biology including phylogeny, evolution, anatomy, physiology, behavior, and ecology. Laboratory will emphasize identification, bird banding, and basic anatomy. Two lectures and one three-hour laboratory per week, and one required field trip to the Malheur Field Station. Additional course fee is required. Prerequisites: BIOL 211 Cellular Biology & Genetics and BIOL 212 Organisms & Physiological Systems or instructor permission.

**BIOL 390 Plant Biology**

*4 hours.* This course integrates the disciplines of plant diversity, plant physiology, plant systematics and plant ecology by surveying the structure and function of plants from the organismal to the ecosystem levels. Students will receive a comprehensive survey of concepts in plant biology with an emphasis on mechanisms of development and growth, ecophysiology, identification and classification, and current global issues that are rooted in plant biology. Two lectures and one laboratory per week. Additional course fee is required. Prerequisites: BIOL 211 Cellular Biology & Genetics and BIOL 212 Organisms & Physiological Systems and BIOL 311 Ecology & Biodiversity or instructor's permission.

**BIOL 399 Cross-Cultural Experience**

*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. (Offered in May Term. Students must meet eligibility requirements.) Additional course fee is required.

**BIOL 410 Molecular Biology**

*4 hours.* An introduction to the modern field of molecular biology. We will examine the structure, organization, and transfer of genetic information at the molecular level and its requirement for life processes. Viral, prokaryotic, and eukaryotic systems will be examined. Major themes include transcriptional regulation, post-transcriptional events (RNA processing), and regulation of translation. The laboratory is designed to include current techniques and experiences within the field of molecular biology. Additional course fee is required. Prerequisites: BIOL 211 Cellular Biology & Genetics and BIOL 212 Organisms & Physiological Systems or instructor permission.

**BIOL 420 Cell Biology**

*4 hours.* This course includes the study of cell physiology, energetics, neurobiology, muscle biology, and cell signaling. Other topics that will be discussed are cancer and immunology at the cellular level. Laboratory will focus on current cell culturing and analysis techniques. Three lectures and one three-hour laboratory per week. Additional course fee is required. Prerequisites: BIOL 211 Cellular Biology & Genetics and BIOL 212 Organisms & Physiological Systems or instructor permission.

**BIOL 450 Advanced Human Anatomy**

*4 hours.* A majors-level course intended to meet the anatomy requirement of graduate/professional programs in health-care fields. A course presenting a systemic approach to the study of the human body. Lecture presentations begin with an introduction of anatomical terminology, tissue classification, and developmental origins to systems. Body structure will be studied by organ systems and will include histology. Laboratory work will follow a regional gross anatomy of the human body through cadaver dissection, human skeletal collections and preserved specimens. Additional course fee is required. Prerequisites: BIOL 211 Cellular Biology & Genetics and BIOL 212 Organisms & Physiological Systems or instructor permission.

**BIOL 460 Invertebrate Zoology**

*4 hours.* Comparative phylogeny, morphology, ecology, and life histories of several invertebrate groups and protozoa. Three lectures and one three-hour laboratory per week. Some weekend field trips required. Additional course fee is required. Prerequisites: BIOL 211 Cellular Biology & Genetics and BIOL 212 Organisms & Physiological Systems or instructor permission.

**BIOL 465 Biological Research**

*1-4 hours.* Specific instructional programs, laboratory or field research, or independent study as planned under an advisor. A total of not more than 4 hours may be applied toward the major. Prerequisites: upper-division biology majors and by permission.

**BIOL 475 Field Experience**

*1-6 hours.* Includes internships and practica required for professional programs. The experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Prerequisite: permission of the instructor and chairperson of the department. Pass/No Pass.

**BIOL 485 Selected Topics**

*1-4 hours.* Offered when special needs arise or when sufficient enrollment permits. Course content includes specific interests of faculty or visiting professors, or special training required by graduate or professional schools. Prerequisites: BIOL 211 General Biology I and BIOL 212 General Biology II or BIOL 221 Human Anatomy and Physiology I and BIOL 222 Human Anatomy and Physiology II and instructor's permission. Additional course fee required.

**BIOL 490 Biological Exploration**

*2 hours.* Discussion- and experience-based course covering scientific analysis, communication, and research. Prerequisite: Junior status or permission of the instructor

**BIOL 495 Individualized Study**

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**BIOL 496 Senior Thesis**

*1 hour.* An independent study course for completion of a senior thesis. Required for all thesis-track majors in their senior year.

# BUSN

**BUSN 110 Introduction to Business**
*3 hours.* This introductory survey will examine the major functional areas of business and afford the student an opportunity to consider this major as a path to a career. Emphasis is given to contemporary business concepts, in particular, and examination of business as a field for stewardship.

**BUSN 120 Personal Finance**
*3 hours.* A practical application of personal financial management and an introduction to the field of financial planning. Topics include money history, stewardship, budgets, loans, spending, housing, insurance, investments, and retirement. Prerequisite: Business and economics majors only.

**BUSN 240 Business Statistics**
*3 hours.* Statistical procedures with applications in management and economics. Emphasis on the development of a basic knowledge of the statistical tools available for analysis of problems and decision making. Prerequisite: MATH 180 College Algebra or higher math course.

**BUSN 250 Business Communication**
*3 hours.* This course will teach you the art of effective interpersonal communication in business. You will learn to deliver clear, concise, and convincing messaging to advance ideas, build consensus, resolve conflict, and negotiate. You will learn to translate metrics for decision making and to communicate to a lay audience. You will learn how to craft crisp emails, carry out business documentation and reports, and polish your business presentation skills. (BUSN 250 and COMM 250 are identical courses.) Prerequisites: BUSN 110 Introduction to Business and COMM 111 Communication in Society.

**BUSN 275 Field Experience**
*1-3 hours.* Supervised experiences in businesses, nonprofit organizations, and public agencies. Pass/No Pass.

**BUSN 285 Selected Topics**
*3 hours.* Occasional special courses chosen to fit the interests and needs of students and faculty.

**BUSN 290 Business Ethics**
*3 hours.* This course is designed to prepare students to meet the ethical challenges facing employees in modern business and nonprofit organizations. The course will address moral issues at every organizational level - personal, interpersonal, group, and system wide. Topics will include identifying personal mission and values; developing character; faith in the workplace; ethical perspectives, moral reasoning, and decision-making formats; ethical organizational communication and influence; ethical group behavior and leadership; and the creation of ethical organizational climates. Prerequisite or Co-requisite of BUSN 110.

**BUSN 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**BUSN 300 Global Business**

*3 hours.* The importance of thinking globally and understanding the legal, technological, political and economic differences that affect business practice are explored through readings and projects. The focus is on the global changes that are impacting national sovereignty, regionalization, and the balance of economic and political power. Prerequisites: ECON 200 Principles of Economics and MGMT 260 Principles of Management.

**BUSN 301 Business Analytics: Introduction to Business Intelligence**

*3 hours.* In this course students will be introduced to the tools and techniques of business analytics. Students will learn basic programming and advanced applications of software with business applications. By doing so students will increase their fluency in data and mathematical communication. Upon completion of this course students will be ready to take courses on advanced topics in business analytics and complete the Business Analytics Certificate. Prerequisite: A grade of B- or higher in BUSN 240 Business Statistics or equivalent 200-level or higher course in statistics.

**BUSN 303 Planning Your Financial Future**

*3 hours.* This course is designed to prepare students to think critically about their relationship with money, develop their own personal financial philosophy and implement practical application of personal financial management. Topics include relationship with money, biblical financial foundations, budgets, loans, spending, housing, insurance, investments and taxes. Prerequisite: Non-business majors only.

**BUSN 360 Business Law**

*3 hours.* Covers the legal aspects of common business transactions. Includes the law of contracts, agency, negotiable instruments, and other phases of private law.

**BUSN 399 Cross-Cultural Experience**

*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. (Offered in May Term. Students must meet eligibility requirements.) Additional course fee is required.

**BUSN 401 Business Analytics: Decision Science**

*3 hours.* In this course, you will learn to identify, evaluate, and capture business analytic opportunities to create value. You will learn basic analytic methods and be able to analyze case studies on organizations. We will explore the challenges that can arise in starting and using analytics in organizations. The course emphasizes that business analytics is not solely a theoretical discipline: these techniques are used to provide real insights and improve the speed, reliability, and quality of decisions. The concepts learned in this class will help students identify opportunities in which business analytics can be used to improve performance and support important decisions. Prerequisite: A grade of B- or higher in BUSN 301 Intro to Business Intelligence.

**BUSN 402 Business Analytics: Data Visualization**

*3 hours.* This course provides an introduction as well as hands-on experience in Tableau and data visualization. It introduces students to design principles for creating meaningful displays of quantitative and qualitative data to facilitate managerial decision-making. A primary emphasis is placed on storytelling with data and developing competency in Tableau. Prerequisites: A grade of B- or higher in BUSN 301 Intro to Business Intelligence.

**BUSN 410 Econometrics**
*3 hours.* This course deals with the application of statistical techniques to the analysis of economic data. Economists, financial analysts and others rely on econometric methods to estimate relationships and forecast employment, income and other trends. This course emphasizes hands-on application of econometric techniques to a variety of publicly available data. Considerable attention will be paid to the nature and sources of economic data and the application of econometric methods to common questions of value to managers and public decision-makers. Prerequisite: A grade of B- or higher in BUSN 301 Business Analytics: Intro to Business Intelligence.

**BUSN 411 Business Analytics: Capstone**
*3 hours.* Students will integrate competencies of business analytics and decision sciences as they influence the world of business. This capstone course is project-based in nature, and students will incorporate components of the business analytics certificate curriculum. Students will engage externally with business and other stakeholders to complete projects using “data to decision making” processes learned throughout their certificate study. The course culminates in a public oral defense of their work. Prerequisites: BUSN 301 Business Analytics: Intro to Business Intelligence and two (2) other Business Analytics courses from the certificate program passed with a B- or better.

**BUSN 475 Field Experience**
*1-6 hours.* Supervised experiences in businesses, nonprofit organizations, and public agencies. Pass/No Pass.

**BUSN 485 Selected Topics**
*1-3 hours.* Occasional special courses chosen to fit the interests and needs of students and faculty.

**BUSN 486 Strategic Management**
*3 hours.* The study of administrative policy and strategy in organizations. Emphasis is placed on the integration and inter-relationships of functional business areas (accounting, economics, finance, marketing, and management) for the purpose of developing an organizational-wide perspective. Students learn a model of strategy formulation and implementation and, through analyzing cases, apply this model to a variety of institutional settings. Prerequisites: MGMT 260 Principles of Management, MKTG 260 Principles of Marketing, FINC 260 Business Finance, ACCT 272 Principles of Managerial Accounting, and senior standing.

**BUSN 493 Senior Capstone - Strategy, Planning and Implementation**
*3 hours.* Students will integrate key principles of strategic thinking and management as they relate to the world of business. The course is interactive in nature, and students will incorporate many components of marketing, accounting, finance, economics and management. In this course student teams will actually develop a business model, including a financial, marketing and economic plan. Prerequisites: ACCT 272 Principles of Managerial Accounting, FINC 260 Business Finance, MGMT 260 Principles of Management, MKTG 260 Principles of Marketing and senior standing.

**BUSN 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# CHEM

**CHEM 120 Foundations of Chemistry**
*4 hours.* This course will cover introductory concepts of chemistry. Special attention is given to topics of current interest, such as environmental chemistry, alternative energy, or biochemistry. This course meets general education requirements and is designed for non-science majors. Three lectures and one laboratory period per week. Additional course fee is required.

**CHEM 150 Foundations of General, Organic, and Biochemistry**
*4 hours.* This course covers intermediate principles of chemistry. Special emphasis is placed on those aspects of general and organic chemistry that are pertinent to biochemistry. This course provides a background for students with interests in prenursing, nutrition, and related allied health areas. (This course does not meet the requirements for science majors.) Three lectures and one two-hour laboratory per week. Additional course fee is required. Prerequisite: Successful completion of MATH 180 College Algebra (or equivalent).

**CHEM 211 General Chemistry I**
*4 hours.* This course covers fundamental chemical principles, reactions, and mode theories. Special emphasis is given to the role of chemistry in everyday life. Three lectures and one laboratory period per week. Additional course fee is required. Prerequisite: Successful completion of MATH 190 Precalculus Mathematics (or equivalent).

**CHEM 212 General Chemistry II**
*4 hours.* This course covers fundamental chemical principles, reactions, and mode theories. Special emphasis is given to the role of chemistry in everyday life. Three lectures and one laboratory period per week. Additional course fee is required. Prerequisite: CHEM 211 General Chemistry I.

**CHEM 275 Field Experience**
*1-3 hours.* Supervised experience with an off-campus industry or agency using applied chemistry. Prerequisite: instructor's permission. Pass/No Pass.

**CHEM 285 Selected Topics**
*1 hour.* Scheduled as a regular class with topics chosen to meet the special needs and interests of students, faculty, or visiting professors. Prerequisite: upper-division status.

**CHEM 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**CHEM 300 Quantitative Analysis**
*4 hours.* This course covers the principles and techniques of quantitative analysis in biochemical and chemical systems. The subject matter includes: the use of statistical methods of data analysis; the primary methodologies for conducting quantitative experiments; and the use of modern instrumentation for quantitation of chemical and biochemical compounds. The laboratory component focuses on the development of specific skills used in the laboratory and the use of spectroscopic, electrochemical, and chromatographic methods for quantitative analysis. Additional course fee is required. Prerequisites: CHEM 211 General Chemistry I and CHEM 212 General Chemistry II.

**CHEM 320 Advanced Inorganic Chemistry**
*3 hours.* A survey of topics in inorganic chemistry, including atomic structure, chemical bonding, periodic trends of structure, physical properties and reactivities of the elements, group theory as applied to molecular structure, and nonmetal and transition metal chemistry. Three lectures per week. Prerequisites: CHEM 212 General Chemistry II.

**CHEM 331 Organic Chemistry I**
*4 hours.* A study of principles, structure, bonding, reactions, and energy as related to carbon chemistry. The laboratory stresses materials, equipment, and skills in synthesis, purification, and identification of representative groups of organic compounds. Three lectures and one three-hour laboratory per week. Additional course fee is required. Prerequisites: CHEM 211 General Chemistry I and CHEM 212 General Chemistry II.

**CHEM 332 Organic Chemistry II**
*4 hours.* A study of principles, structure, bonding, reactions, and energy as related to carbon chemistry. The laboratory stresses materials, equipment, and skills in synthesis, purification, and identification of representative groups of organic compounds. Three lectures and one three-hour laboratory per week. Additional course fee is required. Prerequisites: CHEM 331 Organic Chemistry I.

**CHEM 341 Biochemistry I**
*4 hours.* A systematic and theoretical study of the biochemical activities of living cells. Topics to be covered will include: the structure, properties, and molecular interactions of biomolecules, metabolic pathways, bioenergetics, and metabolism of biomolecules, and RNA, DNA, and protein synthesis. Three lectures and one three-hour laboratory per week. Additional course fee is required. Prerequisites: CHEM 331 Organic Chemistry I.

**CHEM 342 Biochemistry II**
*4 hours.* A systematic and theoretical study of the biochemical activities of living cells. Topics to be covered will include: the structure, properties, and molecular interactions of biomolecules, metabolic pathways, bioenergetics, and metabolism of biomolecules, and RNA, DNA, and protein synthesis. Three lectures and one three-hour laboratory per week. Additional course fee is required. Prerequisites: CHEM 341 Biochemistry I.

**CHEM 365 Advanced Topics in Biochemistry**
*4 hours.* These courses offer a rotating list of advanced topics relevant to student interests for example: Environmental Chemistry & Nanotoxicology and Nutrition and Food Chemistry. Designed to help students in the Department of Biological and Molecular Science become acquainted with latest ideas on advanced topics in biochemistry. Emphasis on analysis of key concepts in the field with reference to classical papers and recent literature. Additional course fee is required. Prerequisites: CHEM 211 General Chemistry I, CHEM 212 General Chemistry II, and CHEM 331 Organic Chemistry I.

**CHEM 399 Cross-Cultural Experience**
*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. (Offered in May Term. Students must meet eligibility requirements.) Additional course fee is required.

**CHEM 400 Biochemical Thermodynamics**

*4 hours.* This course focuses on the intersection of energy and biochemical and biological systems from the electron to the molecule to the ensemble. An overview of quantum mechanics, kinetics, thermodynamics, and statistical mechanics is presented, with an emphasis on real-world biochemical and biological applications. Topics such as assembly of cell membranes, binding of growth factors to cells, ligand-gated ion channels, thermodynamic models of transcription, connection of macroscopic thermodynamic properties to microscopic molecular properties using statistical mechanics, chemical potentials, equilibrium states, binding cooperativity, behavior of macromolecules in solution and at interfaces, and solvation. Additional course fee is required. Prerequisites: CHEM 211 General Chemistry I, CHEM 212 General Chemistry II, and CHEM 331 Organic Chemistry I.

**CHEM 450 Quantum Chemistry**

*3 hours.* An introduction to the quantum mechanical description of matter. Emphasis on the development of fundamental principles of quantum theory and applications to atomic and molecular structure and spectroscopy. Three lectures per week. Prerequisites: CHEM 332 Organic Chemistry; MATH 202 Calculus II; Corequisites: PHYS 202 General Physics II or PHYS 212 General Physics with Calculus II; MATH 301 Calculus III

**CHEM 461 Chemistry Seminar**

*1 hour.* An advanced, senior-level course that will focus on reading and searching the chemical literature for the purpose of designing an independent research project. One lecture per week. Prerequisites: Instructor’s permission.

**CHEM 462 Experimental Chemistry**

*2 hours.* An advanced, senior-level laboratory course integrating synthetic techniques, instrumental methods, reaction kinetics, thermodynamics, spectroscopy and an original research project. The purpose is to build on and consolidate the student’s previous experiences in experiment design and execution, data acquisition and analysis, problem solution, and oral and written communication of results. Two laboratory sessions per week. Additional course fee is required. Prerequisites: CHEM 461.

**CHEM 465 Chemical Research**

*1-4 hours.* Experimental and/or theoretical research in a topic of the student's choosing, supervised by the chemistry faculty. Prerequisite: upper-division chemistry majors and by permission of individual faculty member.

**CHEM 475 Field Experience**

*1-3 hours.* Supervised experience with an off-campus industry or agency using applied chemistry. Prerequisite: instructor's permission. Pass/No Pass.

**CHEM 485 Selected Topics**

*1-4 hours.* Scheduled as a regular class with topics chosen to meet the special needs and interests of students, faculty, or visiting professors. Prerequisite: upper-division status.

**CHEM 495 Individualized Study**

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# CINE

**CINE 160 History of U.S. Cinema**
*3 hours.* An historical examination of the moving image, including television programming and film in the United States. Employs contextual and ethical methods for illuminating the relationship of these media artifacts to modern culture, both secular and religious.

**CINE 210 Storyboarding and Concept Design**
*3 hours.* This is the study of pre-production and previsualization techniques used in animation. Topics include developing story, storyboarding, concept design, and editing animatics. Additional course fee required. Prerequisites: ARTD 110 Creative Suite and ARTS 111 Drawing I or instructor's permission.

**CINE 212 Introduction to Animation**
*3 hours.* This is an introduction to the fundamentals of animation production, from traditional hand drawn techniques to stop motion animation. In this hands-on workshop, students will produce short animation projects. Additional course fee required.

**CINE 214 2D Computer Animation**
*3 hours.* This is an introduction to 2D computer animation using industry standard software and techniques. Students will create character animations and short animation projects. Additional course fee required. Prerequisite: ARTD 110 Creative Suite and CINE 212 Introduction to Animation or instructor’s permission.

**CINE 220 History of International Cinema**
*3 hours.* Film is a truly an international medium, stretching across borders, decades, and cultures. Students will study international films in terms of the historical, cultural, political, and economic forces that shaped them.

**CINE 230 Storytelling, Moving Images & Sound**
*3 hours.* Students work collaboratively to explore story and script essentials, the technical, creative, and aesthetic elements of the video production process. Course includes professional script formatting, basic lighting, sound, camera operation, composition, and design of visual elements, producing and directing basics through lecture, classroom and supervised laboratory experiences.

**CINE 233 Contemporary Christian Songwriting and Producing**
*3 hours.* Working with professionals in the contemporary Christian music field, students will learn basic techniques of songwriting including lyrics and song structure. Students will write their own songs, which they will then produce and record. Prerequisite: CINE 243 Introduction to Audio or instructor's permission.

**CINE 243 Introduction to Audio**
*3 hours.* Concentrating on recording, editing, and mixing multitrack audio on a digital platform. The course will look at special recording techniques for (a) human voices in speaking, singing, and dramatic performance; (b) musical instruments; (c) dramatic sound effects. Students will complete projects in editing and mixing of multitrack sound programs.

**CINE 275 Field Experience**
*2-10 hours.* An internship experience designed to give students an opportunity to practice video and film techniques and principles in an off-campus, professional setting. Students choose from a variety of options - cable, broadcast, corporate, medical, or

commercial production facilities - based on the student's goals and interests. Up to 3 hours may apply to the communication media major. Pass/No Pass. Prerequisite: instructor's permission.

**CINE 280 Film Theory and Criticism**
*3 hours.* An introduction to film as a narrative and visual medium, emphasizing the terms, methods and techniques of film analysis, as well as prominent critical theoretical approaches to understanding film.

**CINE 285 Selected Topics**
*1-3 hours.* An introductory seminar offered on an occasional basis addressing a current topic in the field that is of special interest to students and current faculty.

**CINE 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**CINE 310 Intermediate Directing**
*3 hours.* Working with classmates as crew, students take turns directing scenes from Hollywood movies in this hands-on directing workshop. Beyond storyboarding and shot planning, this class focuses on working with actors, working with crew, and other skills required for balancing the technical and the artistic aspects of directing. Prerequisite: CINE 230 Storytelling, Moving Images & Sound or instructor's permission.

**CINE 312 3D Computer Animation I**
*3 hours.* This is an introduction to 3D computer animation using industry standard software and techniques. Emphasis is placed on modeling texturing, lighting and rendering. Students will create original 3D artwork. Additional course fee is required. Prerequisite: ARTD 110 Creative Suite.

**CINE 320 Dramatic Scriptwriting**
*3 hours.* Professional techniques and artistry of writing for the screen. Students create story premises, write scripts for short films, original and spec television series and feature films. This course examines plot structure, characterization, dialogue, action, genre, and the business aspects, including agents, script sales, and the Hollywood system. Prerequisite: CINE 230 Storytelling, Moving Images & Sound

**CINE 333 Camera and Lighting**
*3 hours.* This course explores the various camera and lighting techniques used in film and digital video production. Students will focus on applying lighting techniques and camera movement to create specific visual effects. Students will apply the ideas discussed in the text and lectures to a series of in-class explorations, in addition to scenes filmed outside of class. Prerequisite: CINE 230 Storytelling, Moving Images & Sound or instructor's permission. Additional course fee required.

**CINE 343 Sound Design**
*3 hours.* This class explores the use of digital sound technology to record, edit, and mix audio for film and television. Students will use their audio skills to record sound both in the field and in the recording studio. Prerequisite: CINE 243 Introduction to Audio or instructor's permission.

**CINE 344 Studio Sound Recording**
*3 hours.* Students will learn to record music and vocal tracks in a digital multitrack studio environment. Students will produce music, advertising, and other audio projects in this

hands-on studio course. Prerequisite: CINE 243 Introduction to Audio or instructor's permission.

**CINE 350 Editing Video**
*3 hours.* Theory and practice in editing the moving image. Analysis of Hollywood and avant-garde styles of editing is followed by practice exercises illustrating each concept. Additional course fee required. Prerequisite: CINE 230 Storytelling, Moving Images & Sound or instructor's permission.

**CINE 363 Motion Graphics and Visual Effects**
*3 hours.* Students explore different means of producing visual effects using digital computer imaging, blue-screens, compositing, and old-fashioned movie magic. Students will also learn how to create animated text sequences and video graphics. Additional course fee required.

**CINE 371 Documentary Production I**
*3 hours.* The documentary filmmaker must juggle a multitude of skills while maintaining a relationship with their subject in an ethical manner. Students will explore the historical, critical, and ethical aspects of the documentary while studying the steps taken during preproduction. Prerequisite: CINE 230 Storytelling, Moving Images & Sound.

**CINE 372 Documentary Production II**
*3 hours.* This course continues the documentary experience started in Documentary Production I. Students will apply their understanding of documentary filmmaking while exploring the aspects of production and post-production. Prerequisite: CINE 371 Documentary Production I.

**CINE 399 Cross-Cultural Experience**
*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. (Offered in May Term. Students must meet eligibility requirements.) Additional course fee is required.

**CINE 410 3D Computer Animation II**
*3 hours.* This is an advanced course in 3D computer animation using industry standard software and techniques. Emphasis is placed on rigging and character animation. Students will create short animation projects. Additional course fee required. Prerequisite: CINE 212 Introduction to Animation and CINE 312 3D Computer Animation I

**CINE 430 Producing and Directing Video**
*3 hours.* An advanced course in video directing and producing. Students explore the preproduction, production, and postproduction of original short feature videos for the Fox Film Festival. Prerequisite: CINE 350 Editing Video. Additional course fee required.

**CINE 475 Field Experience**
*1-10 hours.* An internship experience designed to give students an opportunity to practice video and film techniques and principles in an off-campus, professional setting. Students choose from a variety of options - cable, broadcast, corporate, medical, or commercial production facilities - based on the student's goals and interests. Up to 6 hours may apply to the cinematic arts major. Pass/No Pass. Prerequisite: instructor's permission.

**CINE 481 Advanced Production Workshop I**

*3 hours.* In this intensive hands-on production course, students will draw on all their filmmaking skills to produce 10- to 30-minute shorts - narrative, documentary, or animated - for their portfolios and film festivals. This semester focuses on preproduction and production, including script breakdown, casting, and actual filming. Prerequisites: one of the following: CINE 310 Intermediate Directing, CINE 320 Dramatic Scriptwriting, CINE 333 Camera & Lighting, CINE 343 Sound Design, CINE 350 Editing Video, CINE 430 Producing & Directing Video, or instructor's permission. Admission to the class is a competitive process based on the student proposal and script. Additional course fee required.

**CINE 482 Advanced Production Workshop II**

*3 hours.* This course continues the project started in Advanced Production Workshop I into postproduction, including editing, sound design, color correction, and DVD authoring. Prerequisite: CINE 481 Advanced Production Workshop I or instructor's permission.

**CINE 485 Selected Topics**

*1 hour.* An advanced seminar offered on an occasional basis addressing a current topic in the field that is of special interest to students and current faculty.

**CINE 490 Senior Portfolio**

*1 hour.* This class helps prepare students for entry into the professional realm by developing networking and marketing strategies, and by preparing a professional reel of their best work, which will be critiqued by members of the local media industry. Prerequisite: senior status. Additional course fee required.

**CINE 495 Individualized Study**

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# COMM

**COMM 111 Communication in Society**
*3 hours.* This course introduces students to the professional, personal, and spiritual dimensions of communication. By identifying how to live out one's faith in interpersonal relationships, through public presentations, and by engaging in mediated communication, students will be encouraged to pursue clarity in communication motivated by the question: how do we better understand others and help them to understand us?

**COMM 200 Persuasive Communication**
*3 hours.* A presentation of key principles of persuasion as they are reflected in typical organizational communication contexts. Focus on developing a planning sequence that will function as a practical guide for designing, executing, and evaluating communication events. Students will be expected to develop a "real world" communication event, e.g., publicity campaign, speech, newsletter. Prerequisite: COMM 100 Introduction to Communication or equivalent.

**COMM 210 Interpersonal Communication**
*3 hours.* Theoretical and reflective study and guided experience in dyadic and small-group communication, with attention given to interpersonal communication, listening behavior, nonverbal communication, and conflict resolution.

**COMM 230 Mass Media and Popular Culture**
*3 hours.* Survey of the historical development of newspapers, magazines, broadcast media, and cinema. Analysis of the role(s) of mass media in shaping and altering opinion and values in contemporary culture.

**COMM 240 Introduction to Public Relations**
*3 hours.* A course designed to introduce and develop a clear concept of public relations as a communication profession. Topics to be covered include the function of public relations in both public and private enterprises; the process of planning and implementing a public relations communication campaign; techniques for communicating with various publics; and the laws and ethics governing the practice of public relations.

**COMM 250 Business Communication**
*3 hours.* This course will teach you the art of effective interpersonal communication in business. You will learn to deliver clear, concise, and convincing messaging to advance ideas, build consensus, resolve conflict, and negotiate. You will learn to translate metrics for decision making and to communicate to a lay audience. You will learn how to craft crisp emails, carry out business documentation and reports, and polish your business presentation skills. (BUSN 250 and COMM 250 are identical courses.) Prerequisites: BUSN 110 Introduction to Business and COMM 111 Communication in Society.

**COMM 260 Introduction to Communication Research Methods**
*3 hours.* This course is an introduction to quantitative and qualitative research methods commonly used in the field of communication and in social science in general.

**COMM 270 Introduction to Organizational Communication**
*3 hours.* An examination of organizations from a communication vantage point. Combines study of theoretical perspectives with skill development. Students will

build organizational communication competencies through understanding the nature of communication in the organizational context and by practicing effective communication skills. Possible topics include communication networks and climates, superior-subordinate relationships, computer-mediated communication, organizational identification, communication audits, group and team communication, interviewing, meetings, and presentations.

**COMM 275 Field Experience**
*1-10 hours.* Experience in supervised field situations, either on or off campus, involving extensive and exploratory communication activity. Admission to course and amount of credit determined by the faculty supervisor. This course is offered each term. Up to 6 hours may count toward major requirements. Pass/No Pass.

**COMM 285 Selected Topics**
*3 hours.* A variety of topics may be offered that reflect the interests of faculty, visiting professors, and students.

**COMM 290 Small Group Communication**
*3 hours.* A course that examines and applies theories of small-group structures, climate, roles, leadership, motivation, and conflict management. Prerequisite: Comm 100 Introduction to Communication.

**COMM 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**COMM 300 Communication Theory and Research**
*3 hours.* A study of the major sources of communication theory (e.g., meaning theory, humanistic psychology, symbolic interactionism, relational theory, information processing) together with specific contemporary exemplifications of each approach. Special focus is on the nature and progress of scientific inquiry in communication theory. Prerequisite: 6 hours of communication arts or media communication courses, including COMM 100 Introduction to Communication.

**COMM 305 Professional Communication or Scholarly Activities**
*1-3 hours.* This course is structured to give students experience in real-world communication events, either on or off campus. Extensive research projects may also qualify for this course. This course is offered each term. It may be repeated for a maximum of 6 hours total. Pass/No Pass. Prerequisite: Communication Arts or Organizational Communication major, junior standing, completed 9 credits of COMM coursework.

**COMM 311 Social Media**
*3 hours.* This course examines how social media intersects with existing psychological, communication, and marketing theories. In addition to providing a foundation in current terminology and trends, the course will also require students to develop critical thinking techniques in order to improve their media literacy. Students will analyze, evaluate, and prescribe communicative approaches in a variety of contemporary case studies, such as: crisis communication, public relations and branding, campaigns, citizen journalism, “big data,” micromarketing, and social protest. Prerequisite: COMM 100 and Sophomore class standing.

**COMM 315 Forensics**

*0-3 hours.* This course prepares students to create competitive speeches and debates in regional intercollegiate tournaments. May be repeated for a maximum of 6 hours total. Additional course fee required.

**COMM 321 Public Relations Case Studies and Campaigns**

*3 hours.* This course gives students an opportunity to apply their existing coursework to variety of historical and hypothetical situations. Students will learn to work in teams to research, craft, and present an effective and ethical message in a short amount of time; to recognize and evaluate the various PR techniques used in historical cases; to demonstrate knowledge of how PR strategies interact with the changing face of modern journalism, marketing, and advertising; and how to construct a strategic campaign that would roll out across a variety of platforms over a set schedule. Prerequisites: COMM/ JOUR 240 Introduction to Public Relations and Junior standing or instructor permission.

**COMM 324 Argumentation and Critical Thinking**

*3 hours.* A course in practical reason. Includes a survey of theories of argumentation, analysis of public arguments, and several speeches, including a debate. Prerequisite: COMM 100 Introduction to Communication or instructor's permission.

**COMM 380 Advanced Organizational Communication**

*3 hours.* This is an advanced study of organizational communication. Topics include, but are not limited to, organizational storytelling, communication technologies, career theory, power and resistance in organizations, and impression management. Students will be encouraged to recognize ways organizational communication can be improved through their everyday interactions. Prerequisite: COMM 270 Introduction to Organizational Communication or consent of instructor.

**COMM 400 Critical Approaches to Communication**

*3 hours.* Methods of rhetorical criticism as applied to public communication of the past and present, including but not limited to speeches, broadcasts, films, and campaigns. Analysis of current trends in rhetorical criticism. Prerequisite: junior standing or above.

**COMM 410 Gender Comm Across Cultures**

*3 hours.* A course designed to introduce students to the nature and function of gender differences in communication on a cross-cultural basis. Examines biological, cultural, linguistic, and power theories that attempt to explain these differences. Focus given to verbal (spoken and written) language as well as nonverbal communication codes. Counts toward globalization requirement.

**COMM 420 Intercultural Communication**

*3 hours.* This covers communication as it affects and is affected by language and culture. Topics include contextualized use of communication within speech communities, intercultural effectiveness, cultural communication theory, competent intercultural experiences in co-cultures (ethnic, gender, intergenerational, deaf, etc.) and global cultural groups. A student may not earn credit for both the lower-division and upper-division versions of this course.

**COMM 430 Advanced Research Methods & Data Visualization**

*3 hours.* This course is an advanced study of research methods, data management, and data visualization. Topics covered in this course include, but are not limited to, advanced research methods, data cleaning and management, data visualization theory (e.g. perception, visual cognition), design, and data narratives and storytelling. Students will have opportunities to critique, replicate, and redesign current data visualizations, as well create original data visualizations that tell important stories to

lay audiences. Prerequisites: COMM 260 Introduction to Communication Research Methods, equivalent course, or instructor permission; Junior standing.

**COMM 475 Field Experience**
*1-10 hours.* This course is an experience in supervised field situations, the internship can be either on or off campus, involving extensive communication activity usually overseen by a professional or expert in their field. Admission to course and amount of credit are determined by the faculty supervisor. This course is offered each term. Up to 6 hours may count toward major requirements. Pass/No Pass. Prerequisite: Communication Arts or Organizational Communication major, junior standing, completed 9 credits in COMM coursework.

**COMM 480 Senior Capstone: Ethical and Spiritual Dimensions of Communication**
*3 hours.* Designed to integrate skills and concepts from communication course work with ethical and spiritual principles through readings, written assignments, and assessment instruments. Students will complete portfolios that will include work samples and department exit exams along with a statement of what it means to be a Christian communicator. A service component may be included as part of the course.

**COMM 485 Selected Topics**
*3 hours.* A variety of topics may be offered that reflect the interests of faculty, visiting professors, and students.

**COMM 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# CPAS

**CPAS 100 Effective College Learner**
*1 hour.* A course related to the Academic Success Program through which personal confidence is enhanced by instruction in study skills, methods, and tools used by successful college students. It may be taken during the spring semester by students not in the Academic Success Program. Pass/No Pass.

**CPAS 105 Individual Academic Coaching**
*1 hour.* Students meet weekly with a success coach for support and accountability. Success coaches help students navigate academic, personal, family, and work responsibilities. The course includes review of weekly schedules, semester planning, and a meeting with the student's CAP Coach and Faculty Advisor. Permission is required to enroll in the course. Pass/No Pass.

**CPAS 111 Writing Portfolio Development**
*4 hours.* This course is designed to help non-native speakers of English become proficient with college-level academic writing. Students must create and submit a passing writing portfolio, one component of the writing proficiency milestone.

**CPAS 125 Academic English Development**
*1-3 hours.* This course assists students in improving their academic English skills. Students concurrently enroll in a designated general education or disciplinary course, and the content, activities and assignments for that course provide the context for developing academic English skills including listening and reading comprehension, note taking, writing, vocabulary, speech and study skills. Prerequisite: Instructor's permission. Corequisite: Enrollment in the designated general education course.

**CPAS 130 Becoming a Master Student**
*1-3 hours.* This course is designed to empower students to reach their academic goals. It introduces strategies, techniques, and self-management tools that research has shown contribute to educational success. Topics include academic goal setting, campus resources, use of technology, academic note-taking, test-taking strategies, and introduction to research skills necessary for university course work.

**CPAS 214 Discover Your Calling**
*1 hour.* This course promotes self-discovery and understanding in relationship to vocational calling, values, interests, strengths development and personality. Educational and occupational pathways are examined, with selecting a major and clarifying one's calling as the intended outcomes. Students will also be introduced to the importance of building a network, cultivating skills, and strategic academic planning. Prerequisite: freshman or sophomore status.

**CPAS 216 Internship: Finding, Landing and Succeeding**
*1 hour.* This course will help you to: identify a career direction, create a personal brand, build a professional network, write an effective resume and cover letter, create a LinkedIn profile that gets results, interview with confidence, create an internship search strategy, and succeed in your internship experience. Prerequisite: sophomore or junior status.

**CPAS 285 Selected Topics**
*1-3 hours.* A variety of topics may be offered to meet the special needs and interests of students, faculty or visiting professors.

**CPAS 295 Academic Tutorial**
*1-3 hours.* Students meet individually with a faculty member to improve their academic language skills and to develop more effective study strategies. Pass/No Pass.

**CPAS 318 Navigating College to Career**
*1 hour.* This course will focus on developing a personal and professional brand that expresses uniqueness, passion, and strengths to hiring managers. Navigating professional opportunities with important tools such as resume design, e-presence, networking, behavioral interviewing, and employer search and engagement strategies, along with identifying and creating professional goals will be emphasized. Students will participate in mock interviews with local recruiters. Prerequisite: junior or senior status.

**CPAS 485 Selected Topics**
*1-3 hours.* A variety of topics may be offered to meet the special needs and interests of students, faculty or visiting professors.

**CPAS 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# CSIS

**CSIS 201 Intro to Computer Science**
*3 hours.* A foundational course for the study of computer science and information systems. The course covers an overview of programming methodology and gives the student an ability to write computer programs using standard style and structure. Programming projects are completed in one or more high-level languages. Prerequisite: high school algebra or equivalent. Additional course fee required.

**CSIS 202 Intro to Computer Science II**
*3 hours.* A foundational course for the study of computer science and information systems. The course covers an overview of programming methodology and gives the student an ability to write computer programs using standard style and structure. Programming projects are completed in one or more high-level languages. Prerequisite: CSIS 201 Introduction to Computer Science I or ENGR 152 Engineering Principles II. Additional course fee required.

**CSIS 275 Field Experience**
*1 hour.* Supervised experience with an off-campus industry, business, or institution, using computer science or data processing. Prerequisite: upper-division computer information science majors.

**CSIS 285 Selected Topics**
*1-3 hours.* A scheduled class with topics chosen to meet the special needs and interests of students, faculty, or visiting professors. Prerequisite: upper-division computer information science majors.

**CSIS 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**CSIS 300 Numerical Methods**
*3 hours.* A study of numerical solutions of mathematical problems, including nonlinear equations, systems of linear equations, polynomial approximations, root finding, integration, and differential equations. Computer programs are written to solve these problems. (Identical to CSIS 300.) Prerequisites: MATH 311 Differential Equations with Linear Algebra and either CSIS 201 Introduction to Computer Science I or ENGR 152 Engineering Principles II.

**CSIS 304 Web-Based Programming**
*3 hours.* A computer programming course using web-based technologies. The emphasis of the course is placed on fundamental concepts of computer programming and application development through the creation of interactive Web applications. The course is designed for students who want to design and implement web-based applications. Additional course fee required.

**CSIS 310 Data Structures**
*3 hours.* An introduction to the concepts of information organization, methods of representing information both internally and externally. The course begins with basic structures (stacks, queues, linked lists, and trees) and moves through more complex data structures into the processing of files (sequential, relative, indexed sequential, and others). Programming projects are completed in one or more high-level languages.

Additional course fee required. Prerequisites: CSIS 201 Introduction to Computer Science I and CSIS 202 Introduction to Computer Science II.

**CSIS 312 Computer Security and Digital Forensics**
*3 hours.* In a highly connected, data intensive, and cost-focused business environment, the practice of information security is not a business advantage; it is a customer requirement. Viruses, malware, trojans, denial of service attacks, phishing, and even Wiki leaks have become headline news. Failure to insure the confidentiality, integrity, and availability of data, costs companies millions, if not billions of dollars in legal settlements, lost business, and trade secrets. In this breadth-based course, you will get an overview of information security principles and practices, including security models, risk management, access controls, intrusion detection and prevention, cryptography, software vulnerabilities, and ethical issues. This class will also provide an overview of digital forensics. Students will learn techniques behind digital forensic investigations and evidence collection, and will cover the fundamental steps of the traditional computer forensic methodology. Topics will include building forensic workstations, collecting evidence, extracting artifacts, identifying unknown files and reassembling evidence from network packet captures and device images. Additional course fee required. Prerequisite: CSIS 202 Introduction to Computer Science II.

**CSIS 314 Client-Server Systems**
*3 hours.* This course provides an introduction to constructing complete information systems based on the client-server model. On the client side, we introduce graphical user-interfaces, their design and implementation, as well as commonly used tools such as database access clients, and report generators. On the server side, we introduce database management systems and the use of server-side programming tools that provide connectivity for clients and access to database systems. Along the way, students are introduced to the basics of distributed computing and computer networks. Additional course fee required. Prerequisite: CSIS 202 Introduction to Computer Science II.

**CSIS 321 Software Engineering**
*3 hours.* An introduction to the strategies used in producing quality software. The life cycle of software development is presented and utilized. Larger projects are undertaken by teams of students in the initial phases. Additional course fee required. Prerequisite: CSIS 202 Introduction to Computer Science II.

**CSIS 330 Human-Computer Interactions (HCI)**
*3 hours.* Course is an introduction to the principles and methods with which one builds effective interfaces for users. A basic precept of HCI is that users should be able to focus on solving problems, rather than dealing with the intricacies of complex software. Interfaces must be accessible, meaningful, visually consistent, comprehensive, accurate, and oriented around the tasks that users tend to perform. The course will provide a balance of practical and theoretical knowledge, giving students experience ordinarily not provided by other courses in computer science. Students will also participate in group-projects to design, implement, and evaluate user interfaces. Additional course fee required. Prerequisite: CSIS 201 Intro to Computer Science I.

**CSIS 340 Database Systems**
*3 hours.* A study of the organization of database systems for information storage, retrieval, and security. Examples of hierarchic, network, and relational-based systems are presented. Additional course fee required. Prerequisite: CSIS 310 Data Structures and File Processing.

**CSIS 350 Data Communications and Networks**
*3 hours.* An introduction to the field of communications among computers and computer systems, with an emphasis placed on LANS (Local Area Network Systems) and the OSI model. Students will experience the installation of one or more network systems. Additional course fee required. Prerequisite: CSIS 202 Introduction to Computer Science II.

**CSIS 360 Computer Architecture and Assembly Language**
*3 hours.* An introduction to digital computer hardware architecture and organization. Topics include digital logic, processor design, instruction sets, and system architecture. Programs written in assembly language will be used to gain hands-on experience with the underlying system architecture. Additional course fee required. Prerequisite: CSIS 310 Data Structures and File Processing.

**CSIS 370 Object-Oriented Analysis & Design**
*3 hours.* This course covers the fundamental concepts of object-oriented programming languages, including data abstraction and typing, class inheritance and generic types, prototypes and delegation, concurrency control and distribution, object-oriented databases, and implementation. Object-oriented solutions will be developed in one or more high-level languages. Additional course fee required. Prerequisite: CSIS 310 Data Structures

**CSIS 390 Emerging Mobile Technologies**
*3 hours.* As more communications are conducted via mobile and cellular technologies, these technologies have become critical to both industry and private life. This course covers how data is processed and transmitted using mobile and wireless devices. Sample topics include but are not limited to: an overview of smart phone technologies, embedded operating systems, wireless and mobile specific protocols, mobile identifiers, location based services, Internet of Things, drone technologies and more. Prerequisites: CSIS 350 Data Communications and Networks and CSIS 460 Operating Systems

**CSIS 399 Cross-Cultural Experience**
*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. (Offered in May Term. Students must meet eligibility requirements.) Additional course fee is required.

**CSIS 413 Advanced Security**
*3 hours.* This course would cover a number of advanced topics such as cellular and mobile technologies and their security, system vulnerabilities and penetration testing of corporate networks/systems, risk management of information systems, and other current topics. Students will also be introduced to both international and U.S. cyber laws including reporting compliance. Prerequisite: CSIS 312 Computer Security & Digital Forensics

**CSIS 420 Structures of Programming Languages**
*3 hours.* A study of the basic design of computer programming languages, with the greater emphasis placed on semantics (over syntax). A comparative analysis is made among several of the common languages. Additional course fee required. Prerequisite: CSIS 310 Data Structures and File Processing.

**CSIS 430 Analysis of Algorithms**

*3 hours.* An introduction to the design and analysis of algorithms. The course covers the fundamentals of analyzing algorithms for correctness and time and space bounds. Topics include advanced sorting and searching methods, graph algorithms, geometric algorithms, matrix manipulations, string and pattern matching, set algorithms, and polynomial computations. Additional course fee required. Prerequisite: CSIS 310 Data Structures and File Processing.

**CSIS 434 Parallel & Distributed Computing**

*3 hours.* A theoretical and practical survey of parallel processing, including a discussion of parallel architectures, parallel programming languages, and parallel algorithms. Students will program one or more parallel computers in a higher-level parallel language. Additional course fee required. Prerequisite: CSIS 310 Data Structures

**CSIS 440 Artificial Intelligence (AI)**

*3 hours.* This course introduces the student to the basic concepts and techniques of artificial intelligence, knowledge representation, problem solving, and AI search techniques. AI solutions will be developed in an appropriate AI language. Additional course fee required. Prerequisite: CSIS 310 Data Structures and File Processing.

**CSIS 450 Network Administration**

*3 hours.* This course introduces the student to system administration of a LAN. Topics covered include adding and removing users; monitoring and controlling processes; adding, removing, and managing groups; mounting and unmounting filesystems; monitoring and troubleshooting a TCP/IP network; managing and controlling network and system security; and administration of network file systems. Prerequisite: CSIS 350 Data Communications and Networks. Additional course fee required.

**CSIS 451 Cyber Defense**

*4 hours.* This course introduces students to the concepts of defense in-depth, a security industry best practice. Topics include firewalls, backup systems, redundant systems, disaster recovery, and incident handling. Upon completion, students should be able to plan effective information security defenses, backup systems, and disaster recovery procedures. This course requires a lab component that provides practical experience working with current technologies for defense. Prerequisites: CSIS 413 Advanced Security and CSIS 450 Network Administration

**CSIS 460 Operating Systems**

*3 hours.* A study of the organization and architecture of computer systems. The major principles of operating systems are presented, along with case studies involving actual operating systems. Additional course fee required. Prerequisite: CSIS 310 Data Structures and File Processing.

**CSIS 473 Secure Software**

*3 hours.* Many security problems in software occur when software developers make poor implementation decisions or unwittingly introduce bugs into their code. This course will focus on many of the classic flaws in systems that can lead to security problems including: buffer overflows, format string problems, race conditions, memory leaks, etc. It will also cover many web-application specific topics such as SQL injection attacks and cross-site scripting (XSS) attacks. Prerequisite: ENGE 320 Microprocessor Architecture.

**CSIS 475 Field Experience**

*1-3 hours.* Supervised experience with an off-campus industry, business, or institution, using computer science or data processing. Pass/No Pass. Prerequisite: upper-division computer information science majors.

**CSIS 480 Principles of Compiler Design**
*3 hours.* This course introduces the student to the basics of building a compiler using a multiphase translation process. It covers lexical analysis, parsing, and translation to abstract syntax using modern parser generator technology. It discusses binding of identifiers and symbol table organization, and a variety of intermediate representations that are suitable for backend analysis. Other topics include type checking, attribute grammar representations, and printing from abstract syntax. Additional course fee required. Prerequisite: CSIS 310 Data Structures and File Processing. (CSIS 420 Structures of Programming Languages preferred.)

**CSIS 485 Selected Topics**
*3 hours.* A scheduled class with topics chosen to meet the special needs and interests of students, faculty, or visiting professors. Prerequisite: Upper-division Computer Science majors.

**CSIS 490 Applied Software Development**
*1-3 hours.* Special software development projects designed and completed by the student in an area that applies computers. This is an independent-study course and is supervised by staff in both the computer area as well as in the selected area of study. Prerequisite: upper-division computer information science majors and by permission.

**CSIS 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# ECON

**ECON 150 Radical Economics: From Sabbath to Socialism**
*3 hours.* Influential thinkers from Moses to Marx have sought to understand and overcome the problem of scarcity in surprising and radical ways. In this class students will learn about ways in which individuals and groups have used these ideas to shape the economy around them. Students will explore the work of secular and Christian thinkers as they seek to understand how to flourish as consumers, workers, and citizens in the modern world.

**ECON 200 Principles of Economics**
*3 hours.* This course is an introduction to the fundamental principles of economics, and their application at the micro and macro level. In the microeconomic portion of the course the behavior of individuals, households, and firms will be explored. The macroeconomic portion of the course will focus on economy-wide conditions, such as gross domestic product, unemployment, and recessions. Throughout the course the ways in which the economy contributes to, and deters from, human flourishing and well-being will be considered, discussed, and debated.

**ECON 275 Field Experience**
*3-6 hours.* Supervised experiences in business, financial and research firms, and government agencies. Pass/No Pass. Prerequisite: upper-division students and by permission.

**ECON 285 Selected Topics**
*2-3 hours.* Occasional special courses chosen to fit the interests and needs of students and faculty.

**ECON 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**ECON 311 Intermediate Macroeconomics**
*3 hours.* The course studies the economy as a whole by examining the national income account, monetary policy and its aggregates such as money supply, price level, and interest rates, and fiscal policy and its aggregates such as real income, consumption, and investment. It covers topics presented in ECON 200 in a more advanced manner. The course will analyze the economy in the long run when prices are flexible, in the very long run with a special emphasis on capital accumulation, and in the short run when prices are sticky. It also discusses the microeconomics behind macroeconomics by analyzing the aggregate consumption function in more detail. Prerequisites: ECON 200 Principles of Economics and MATH 190 Pre-Calculus or higher.

**ECON 340 Public Economics**
*3 hours.* An overview of the economic role and impact of government, including topics in public finance, fiscal policy, monetary policy, and the banking system, and the economics of regulation. Prerequisite: ECON 200 Principles of Economics.

**ECON 370 International Economic Development**
*3 hours.* This course introduces students to causes and consequences of 'the wealth of nations.' Students will learn theories of economic growth and poverty alleviation. Topics to be covered include: globalization, education, international trade, holistic conceptions

of development, and the role of institutions. (Identical to INTL 370 and SOCI 370.) Prerequisites: ECON 211 Principles of Macroeconomics or ECON 212 Principles of Microeconomics

**ECON 399 Cross-Cultural Experience**
*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. (Offered in May Term. Students must meet eligibility requirements.) Additional course fee is required.

**ECON 410 Econometrics**
*3 hours.* This course deals with the application of statistical techniques to the analysis of economic data. Economists, financial analysts and others rely on econometric methods to estimate relationships and forecast employment, income and other trends. This course emphasizes hands-on application of econometric techniques to a variety of publicly available data. Considerable attention will be paid to the nature and sources of economic data and the application of econometric methods to common questions of value to managers and public decision-makers. Prerequisite: A grade of B- or higher in BUSN 301 Business Analytics: Intro to Business Intelligence.

**ECON 440 Urban and Regional Economics**
*3 hours.* This course introduces students to the particular economic challenges and opportunities faced by rural areas, towns, and cities within the United States. Students will gain an understanding of the role of the market, firms,and government as local areas seek to improve the well-being they afford their citizens. Particular attention will be paid to transportation, affordable housing, natural amenities and other contemporary topics. Prerequisite: ECON 200 Principles of Economics.

**ECON 465 Economic Research**
*1-3 hours.* Students will conduct an original research project that is overseen by a faculty member or approved party outside of the University. Prerequisites: upper division economics majors and by permission.

**ECON 475 Field Experience**
*3-6 hours.* Supervised experiences in business, financial and research firms, and government agencies. Pass/No Pass. Prerequisite: upper-division students and by permission.

**ECON 485 Selected Topics**
*1-3 hours.* Occasional special courses chosen to fit the interests and needs of students and faculty.

**ECON 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# EDUC

**EDUC 250 Teaching as a Profession**
*2 hours.* This is a one-semester introductory course on the teaching profession for those planning to enroll in an MAT program or considering teaching as a profession. Students will expand their understandings of the field of education and the role of teachers through class topics and experiences. They will also participate in a 10-hour classroom field experience. The George Fox University MAT program application process and requirements will be discussed. (This course is not part of the undergraduate elementary education major.) Prerequisite: junior or senior status

**EDUC 260 Teaching, Schooling and Learning**
*4 hours.* Course is an overview of history and diverse social issues in education and an exploration of teaching as a career. Serves as an introduction to the teacher education program at George Fox University. Survey of learning theories and possible applications in the elementary classroom are explored. Required for elementary teaching majors and music education majors. Includes 10 hours of clinical practice. Prerequisite: declared major of undergraduate teacher education.

**EDUC 270 Intercultural Communication in the ESOL/Bilingual Context**
*2 hours.* Examines the diverse and dynamic role of culture in the ESOL student's language development and academic achievement. The course also emphasizes the application of this knowledge for instruction and the involvement of community and its resources for maximizing ESOL students' academic achievement.

**EDUC 275 Field Experience**
*1-2 hours.* An elective field placement individually designed with approval of the instructor. Does not substitute for required field assignments; 40 hours fieldwork per credit is required. Pass/No Pass.

**EDUC 285 Selected Topics**
*1-3 hours.* A seminar dealing with various topics as announced that represent current faculty interests and competencies.

**EDUC 295 Individualized Study**
*.5-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**EDUC 324 Trends and Methods of Early Childhood Education**
*4 hours.* This course provides an overview of early childhood as a profession in relation to its historical, philosophical and social foundations. Students will examine how these functions influence current thought and be able to translate those theories into practice. Included will be age-level characteristics and child-centered activities that enhance developmentally appropriate practice, assessment, curriculum/instruction, environment, and family/community collaboration. The role of the teachers and ethical considerations are considered to promote reflective thinking, cultural competency, and positive use of technology to meet the needs of young children. Course goals align with the Sate of Oregon program objectives for early childhood and elementary OAR 584-017-0100, ages 3 years to the 4th grade and to the National Association for the Education of Young Children (NYAEYC) initial license standards. Prerequisite: Successful admission into the Undergraduate Elementary Education major program.

**EDUC 343 Adventures in Math and Science I**
*4 hours.* This first course is designed to provide you with a firm understanding of research-based, best practices for teaching mathematics and science at the elementary and middle school levels. Prospective teachers will engage in activities that enhance conceptual knowledge of selected mathematics and science topics, while also developing pedagogical content knowledge. The instruction in the course models the type of learning experiences that have been shown to make a difference in students' thinking, understanding, and achievement. This course encourages prospective teachers to view school mathematics and science as a space for making sense of the world and promotes what it means to understand and do mathematics and science. Mathematics and science are disciplines where all students should be given opportunities to observe, investigate, explore, verify, explain, conjecture, discover, and generalize concepts and ideas using their own questions, curiosities, and interests in order to foster equity, access, and empowerment.

**EDUC 344 Adventures in Math and Science II**
*4 hours.* This second course is designed to provide you with a firm understanding of research-based, best practices for teaching mathematics and science at the elementary and middle school levels. Prospective teachers will engage in planning and instruction tasks that enhance conceptual knowledge of selected mathematics and science topics, while also developing pedagogical content knowledge. Part of developing pedagogical content knowledge entails a specific focus on utilizing technology and integration of mathematics and science across disciplines. This course encourages prospective teachers to view school mathematics and science as a space for making sense of the world and promotes what it means to understand and do mathematics and science. Mathematics and science are disciplines where all students should be given opportunities to observe, investigate, explore, verify, explain, conjecture, discover, and generalize concepts and ideas using their own questions, curiosities, and interests in order to foster equity, access, and empowerment. Prerequisite: Completion of EDUC 343 Adventures in Math and Science I.

**EDUC 346 The Inclusive Classroom in a Diverse Society**
*4 hours.* Examines strategies for planning, managing and teaching English as a second language and discipline-focused content to ESOL students. Emphasis is placed on curriculum, teaching, and hands-on learning approaches that accommodate a diverse population. Also included are strategies for collaborating with educators and community members in order to provide comprehensive, challenging educational opportunities for ESOL students. In this course, you are invited to evaluate best practices, use strategies for developing and integrating language skills, as well as choosing and adapting classroom resources, and reflecting on your role as an agent of change who will effectively empower students to reach their potential. This course will examine the diversity of cultures, languages, experiences, and knowledge that our students bring to our classrooms. This course will examine the tensions and barriers that are evident when students of diversity encounter the mainstream classroom in which they are the minority culture. Teacher perceptions and biases will be examined and challenged. Prerequisite: Successful admission into the Undergraduate Elementary Education major program.

**EDUC 353 Trends and Issues in Middle-Level Education**
*4 hours.* This course provides an overview of middle level teaching as a profession in relation to its historical, philosophical and educational foundations. Students examine how these functions influence current thought and will be able to translate those

theories into practice. Included will be adolescent development and current teaching methods and structures that are developmentally appropriate for creating a positive learning environment. The role of teachers and ethical considerations are explored to promote reflective thinking, cultural competency, and positive use of technology to meet the needs of adolescents. Prerequisite: Admission to Teacher Education Program.

**EDUC 354 Pedagogy of Health, Human Performance and the Arts**
*2 hours.* Students will examine how the connections between the Fine Arts and Health and Human Performance (HHP) and other elementary subjects provide a holistic approach into the development of the whole child. This course will offer opportunities to demonstrate how the national/state standards of the Fine Arts and HHP can be integrated into the EC/EL curriculum planning. Prerequisite: Successful admission into the Undergraduate Elementary Education major program.

**EDUC 371 Curriculum Design with ESOL**
*4 hours.* Working within the differentiation framework (background knowledge, language, academic and behavior) BLAB, this course will examine and apply the concepts and instructional strategies that are essential for the academic achievement of our students from cultural, diverse, language, behavioral and academic backgrounds. Specific emphasis will be devoted to the success of our exceptional students and our second language learners. Integration of Social Studies into the methodology of the work sample will be addressed. Requires 20 hours of practicum. Prerequisite: Successful admission into the Undergraduate Elementary Education major program.

**EDUC 375 Practicum I**
*4 hours.* The teacher candidate enters the classroom as a co-teacher who is collaborating with a cooperating teacher in developing and presenting instruction that is designed for the success of all students. Successful teaching and completion of a work sample is required. The work sample is a written documentation of the student's ability to teach all students. The practicum is scheduled 4 days a week for EDUC and 5 days a week for ELED. Pass/No Pass. Prerequisite: Successful admission into the Undergraduate Elementary Education major program.

**EDUC 376 Student Teaching I for Middle-Level Authorization**
*1 hour.* A laboratory experience consisting of general and specific tasks, managing and instructing pupils and assisting teaching in the classroom. Prerequisites: EDUC 353 Trends & Issues in Middle-Level Education and EDUC 375 Student Teaching I & Classroom Management.

**EDUC 381 Classroom Management**
*2 hours.* Clearly, individual classroom teachers can have a major impact on student achievement. Of the three major roles of the classroom teacher – making choices about instructional strategies, designing classroom curriculum, and employing classroom management techniques – classroom management is arguably the foundation. Research on classroom management is integrated into the course. This course introduces the teacher candidate to research-based effective classroom management strategies. Prerequisite: Successful admission into the Undergraduate Elementary Education major program.

**EDUC 399 Cross-Cultural Experience**
*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures.

(Offered in May Term. Students must meet eligibility requirements.) Additional course fee is required.

**EDUC 412 Literacy for Children and Adolescents**
*2 hours.* This course provides an overview of the content of children's and adolescent literature and its use in culturally responsive teaching. Children's and adolescent literature will be explored with an overview of the genre of literature, the work of authors and illustrators, and the use of children's and adolescent literature in teaching of all students. Prerequisite: Successful admission into the Undergraduate Elementary Education major program.

**EDUC 413 Reading and Writing Methods I**
*4 hours.* This course creates a foundation for teaching listening, speaking, reading and writing in all grades, with a focus on beginning readers and writers from Pre-School to Grade 2. Literacy theory, literacy learner development, assessment, planning, teaching, and reflection will be modeled and applied. Using current standards, best practice, content on the language learning and development for English Language Learners (ELL) students the course will introduce and reinforce learning from English for Speakers of Other Languages (ESOL) courses with a focus on teaching all students well. Prerequisite: Successful admission into the Undergraduate Elementary Education major program.

**EDUC 414 Reading and Writing Methods with the Common Core Subjects**
*4 hours.* This course builds on the foundation gained in Reading and Writing I and focuses on grade 3-8 readers and writers. Theory, learner development, diversity and content knowledge will be applied in lesson and unit planning and in teaching children in the placement. Assessment, planning, teaching and reflection will be modeled and experienced in classroom settings using the CCSS, best practice and attention to the needs of all learners. Prerequisite: Successful admission into the Undergraduate Elementary Education major program.

**EDUC 430 History and Foundations of Literacy Learning**
*2 hours.* Offered spring and summer semesters. Format: classroom centered. Thoughtful classroom practice depends on sound theory. This course examines some current competing theories, looks at the implications of various literacy theories as they impact classroom decision making, and, through reading and discussion, helps develop a personal understanding of literacy processes. The linguistic framework of reading and its place in the language arts will also be explored.

**EDUC 431 Analysis of Reading and Writing Assessments**
*2 hours.* Offered fall and summer semesters. Classroom teachers become acquainted with a wide variety of methods for assessing student progress in reading and writing. Administration and scoring of these tests will be explored. Information about how testing results can facilitate teaching and learning is the goal.

**EDUC 432 Advanced Strategies in Literacy Instruction: Assessment and Remediation**
*2 hours.* This course focuses on current methods and materials for reading/literacy instruction. The strategies used by proficient readers will be explored and teaching methods will be modeled and implemented. Methods of assessment and strategies for remediation will also be explored.

**EDUC 433 Advanced Studies in Children's and Adolescent Literature**

*2 hours.* This course focuses on a critical examination of children's literature as literature, considers curriculum development based on children's literature, and on a further development of a broad understanding of literacy learning issues.

**EDUC 434 Issues and Application of Literacy Instruction**

*2 hours.* This course focuses on the issues related to public and school-based concerns about literacy learning. The discussion of issues will lead to research-based applications that can be translated into the classroom practice at the elementary, middle, or high school level.

**EDUC 436 Reading and Writing in the Content Areas**

*2 hours.* This course focuses on the reading and writing needs of the student at the middle level and in the high school. The teaching of critical reading and writing strategies will be included as well as assessment tools. This course is required for those pursuing the middle level and high school authorizations of the Reading Endorsement, but is appropriate for teachers of all levels.

**EDUC 437 Emergent Literacy**

*2 hours.* This course explores theoretical principles and practices based on current research. Emphasis is on strategies for coming to print, print conventions, and reading aloud. Shared, guided, and independent reading and writing is also explored. These strategies are based on theoretical assumption from the psychology of language and cognition development and linguistics.

**EDUC 438 Organization Reading Programs**

*3 hours.* The content of this course includes: the organization of reading programs within the context of state and federal regulation and within the structure of the school-wide program; the types of testing used to diagnose and monitor student progress; the methods that can be used to involve parents, paraprofessionals, and volunteers; and the methods available to assess program effectiveness. Observations in a variety of school settings will be organized.

**EDUC 439 Early Childhood and Elementary Reading Practicum**

*2 hours.* The reading practicum will provide a context in which to apply methods, assessment techniques, and teaching strategies in a school setting. It will also provide opportunity for an observation of a reading program in application. The practicum setting must include assessment, teaching, and evaluation of students at both authorization levels. Pass/No Pass. Prerequisites: EDUC 430 History and Foundations of Literacy Learning, EDUC 431 Analysis of Reading and Writing Assessments, EDUC 432 Advanced Strategies in Literacy Instruction, EDUC 438 Organization of Reading Programs, or by permission.

**EDUC 461 Applied English Linguistics**

*4 hours.* In this course, we will examine the nature of language, as well as research and examine language teaching strategies specific to the English Language Development classroom. Students will investigate and identify the underlying structure of language and its component systems through interactive, semester-long projects with second-language learners. The course examines the fundamental elements, processes and patterns of oral and written language for the teacher of English to speakers of other languages. Topics include phonetics, phonology, pragmatics, morphology, orthography and writing conventions, syntax, semantics, and discourse analysis. English is the primary focus of the course, with reference to other languages commonly spoken by students in Oregon classrooms. Additionally, students will develop a repertoire of best

practices and scaffolds that support language development through the Language Development Specialist lens.

**EDUC 462 How Languages are Learned**
*2 hours.* Communication is the basis for all human interaction. In this course, we will explore key language theories of first- and second-language acquisition, since multiple fields intersect in their quest to explain language. Students will deepen their understanding of how languages are learned, including the factors that impact language learners, the historical perspectives that influence English language teaching. Topics include language learning, language acquisition, interlanguage, translanguaging, language progressions, language loss, language shift, and language attrition. English is the primary focus of the course, with reference to other languages commonly spoken by students in Oregon classrooms. Prerequisite: Successful admission into the Undergraduate Elementary Education major program.

**EDUC 475 Practicum II**
*10 hours.* The teacher candidate enters the classroom as a co-teacher who is collaborating with the collaborating with a cooperating teacher in developing and presenting instruction that is designed for the success of all students. Successful teaching and completion of a work sample is required. The work sample is a written documentation of the student's ability to teach all students. The practicum is scheduled 5 days a week. Pass/No Pass. Prerequisite: Successful admission into the Undergraduate Elementary Education major program.

**EDUC 478 ESOL/Bilingual Practicum - Early Childhood/Elementary**
*2 hours.* A supervised practicum in an approved early childhood and elementary school demonstrating knowledge and strategies developed in the ESOL/bilingual courses. Candidates set goals for professional growth in the English-language teaching field. Course is offered on a Pass/No Pass basis only. Prerequisites: successful completion of all required ESOL/bilingual courses (or their equivalent) and approval of the faculty advisor.

**EDUC 480 Classroom Assessment: Assessing and Planning for All Learners**
*4 hours.* Building on the conceptual ideas of Assessment for Learning, this course focuses on the idea that assessment is a collaborative process that involves the student, teacher, and other stakeholders in a collaborative experience that is designed to empower student success. The four dimensions of background knowledge, language abilities, academics, and behavior assessments will provide the impetus for a course which investigates, develops, and plans assessments for all students, specifically including English language learners, special education students, talented and gifted students, and mainstream students. A wide diversity of classroom assessments will be explored. Additionally, the use and interpretation of standardized assessments will be examined. Through direct practice, teacher candidates will gain insights into identification, placement, monitoring and exiting criteria for ELL students according to federal and state policies; and will be prepared to implement fair and realistic accommodations/assessments in the mainstream classroom. Prerequisite: Successful admission into the Undergraduate Elementary Education major program.

**EDUC 485 Selected Topics**
*1-3 hours.* A seminar dealing with various topics as announced that represent current faculty interests and competencies.

**EDUC 490 Senior Seminar**

*2 hours.* This course assists teacher candidates to synthesize their foundation, methods and content background during the full time clinical experience, including content to prepare the teacher candidates as they transition into the teaching profession. The course content is presented in a professional development workshop while encouraging an understanding of the need for continued growth as teaching professionals as well as additional information on classroom management and differentiation. Prerequisite: Successful admission into the Undergraduate Elementary Education major program.

**EDUC 495 Individualized Study**

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# ENGB

**ENGB 285 Selected Topics**
*2-4 hours.* Occasional special courses chosen to fit the interests and needs of engineering students and faculty. Additional course fee is required.

**ENGB 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**ENGB 330 Biotransport**
*3 hours.* Fluid mechanics principles applied to biological systems and medical devices. Properties of biological fluids, energy and momentum balances, computational modeling. Prerequisite: MATH 311 Differential Equations with Linear Algebra.

**ENGB 340 Mechanics of Biomaterials**
*3 hours.* Mechanical behavior and material selection process required in engineering for medical applications. Materials to be covered include both short-exposure, such as surgical tools and catheters, and long-exposure, such as implants / shunts. Topics to be included are: stress, strain, torsion and deflection of biomaterials, the manufacturing process, performance characteristics, biocompatibility testing, and long-term biological response (tissue formation / fibrosis). Relevant design considerations will be discussed, including common medical device standards relating to biomaterials testing and performance. Behavior of deformable body systems for biomaterials under combinations of external loading is presented. Two lectures and one laboratory per week. Additional course fee is required. Prerequisites: ENGM 211 Statics, ENGM 250 Principles of Materials Science and MATH 311 Differential Equations with Linear Algebra.

**ENGB 350 Biosignal Analysis**
*3 hours.* Medical imaging techniques have become important tools for monitoring of diseases and understanding of the molecular aspects of living organisms. This course provides a broad-based overview of major imaging techniques used in biomedical patient care and research. Application of analog, digital, and statistical techniques to the processing of biomedical signals. Includes sources, recording, and analysis of ECG, EEG, EMG, x-ray, computed tomography (CT), ultrasound, nuclear medicine (PET), and magnetic resonance imaging (MRI), The underlying physics, image formation theories and selected applications are presented. Prerequisites: MATH 311 Differential Equations with Linear Algebra, ENGE 260 Circuits and Instrumentation.

**ENGB 351 Biosignal Analysis Lab**
*1 hour.* Measurements of biomedical signals and systems in time and frequency domain, filter design and feedback control as applied to common biomedical imaging systems. One two-hour laboratory per week.

**ENGB 370 Tissue Engineering**
*3 hours.* Introduction to solving clinical issues including biomaterials, scaffolds, artificial organs, stem cell engineering, and regenerative medicine. Students will understand the fundamental principles of tissue engineering and apply these principles toward the fabrication of 3-D artificial tissue, organ regeneration, and regenerative medicine therapy. Provides various strategic approaches of cell/tissue-based engineering to

restore, maintain, and improve damaged and/or diseased tissue. Prerequisites: BIOL 211 General Biology I and ENGM 250 Principles of Material Science

**ENGB 410 Design of Medical Devices**
*3 hours.* The fundamental objective of this course is to explore medical device design and manufacturing. Students will thus learn about the working principles, design, manufacture, reliability and some regulatory hurdles involved in the development of biomedical devices and sensors. These include both external and implanted devices. Students will apply what they have learned to a design project culminating in a prototype presentation. Prerequisites:BIOL 222 Human Anatomy and Physiology II, ENGB 330 Biotransport, and ENGB 340 Mechanics of Biomaterials.

**ENGB 420 Biomechanics**
*3 hours.* From a biomechanical perspective, the healthy human skeleton is an optimal structure that has adapted its form in response to its function. Studying the mechanics of the skeleton provides information that can be used not only to design artificial prostheses and materials — and thus address specific health care issues — but also to aid in the design of more traditional engineering structures by understanding the behavior and underlying design features of this complex dynamic structure. The purpose of this course is twofold: to learn the fundamental concepts of orthopedic biomechanics and to enhance skills in mechanical engineering and bioengineering by analyzing the mechanical behavior of various complex biomedical problems. Prerequisites: ENGM 360 Finite Elements and Computer Modeling

**ENGB 430 Rehabilitation Engineering**
*3 hours.* The course provides a basic understanding of assistive technology research and application in: wheelchair technology, augmentative communication, computer access, transportation safety, home and work site modifications, environmental access, and prosthetics. Issues related to terminology, interdisciplinary communication, consumer empowerment, information resources and service delivery development are also stressed. Course includes a weekly laboratory session that incorporates in vivo non-invasive kinematics measurements. Prerequisites: BIOL 222 Human Anatomy and Physiology II and ENGB 340 Mechanics of Biomaterials.

**ENGB 485 Selected Topics**
*2-4 hours.* Occasional special courses chosen to fit the interests and needs of engineering students and faculty. Additional course fee is required.

**ENGB 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# ENGC

**ENGC 210 Site Development w/ AutoCAD and Civil 3D**
*2 hours.* Introduction to civil design for transportation, municipal, and private development projects. Creation of digital topographic maps using survey data of existing terrain is emphasized. For transportation systems the geometric layout of highways, streets, and intersections is covered using current AASHTO and ODOT standards. For private and municipal projects, site plans include vehicle access, parking, and pedestrian access in accordance with ADA requirements and Oregon state codes. Storm water drainage and sanitary sewer pipe systems are designed in accordance with local or state standards. The development of grading plans for on-site construction activities is emphasized. This course introduces students to drafting and design using AutoCAD and Civil3D software. Additional course fee is required. Prerequisites: ENGR 151 Engineering Principles and MATH 201 Calculus I.

**ENGC 220 Engineering Surveying**
*2 hours.* Basic principles of land surveying and surveying equipment. Concepts include calculating position on spherical and plane surfaces. Principles of vertical and horizontal measurements in engineering and construction projects. One lecture and one three-hour laboratory per week. Additional course fee is required. Prerequisite: MATH 190 Precalculus Mathematics

**ENGC 285 Special Topic**
*1-31 hours.* An introductory seminar offered on an occasional basis addressing a current topic in the field that is of special interest to students and current faculty.

**ENGC 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**ENGC 310 Environmental Engineering**
*3 hours.* Course covers fundamental environmental engineering and science principles relevant to engineered and natural systems. Topics include an introduction to sustainability, equilibria, kinetics, mass and energy balances, mass transport processes, population dynamics, water quality, sources of pollution, ecosystem structure and function, biogeochemical cycling, and oxygen demand. The course also includes an introduction to application of these principles to the design of environmental control measures and engineered systems, including design of water supply and treatment processes, wastewater treatment processes, processes for air pollution control, and groundwater remediation. Prerequisites: CHEM 211 General Chemistry and MATH 311 Differential Equations with Linear Algebra.

**ENGC 330 Structural Analysis and Design**
*3 hours.* Analysis and design of statically determinate and indeterminate structures; beams, trusses, frames, arches, and cables. Methods include classical, energy, matrix, and computer solutions. Additional course fee is required. Prerequisites: ENGM 320 Mechanics of Materials.

**ENGC 340 Geotechnical Engineering**
*4 hours.* Course covers basic physical and mechanical properties of soils, including specific gravity, grain size distribution, plasticity, permeability, consolidation and shear strength. Includes the application of these properties to calculate stresses in a soil

mass, lateral earth pressures for walls and anchor blocks, and slope stability analysis. Instruction in site investigation and introduction to insitu testing. Three lectures and one two-hour laboratory per week. Additional course fee required. Prerequisites: ENGM 320 Mechanics of Materials.

**ENGC 350 Water Resources Engineering**
*4 hours.* Fundamental concepts of hydraulics and hydrology, and their application in civil engineering. Topics include applications of fluid mechanics to hydraulic infrastructure, principals of open channel flow, the hydrologic cycle, precipitation, evaporation, stream flow hydrographs, hydrologic and hydraulic stream routing, hydrologic measurements, and application of hydrologic models. Three lectures and one two-hour laboratory per week. Additional course fee is required. Prerequisites: ENGM 330 Fluid Mechanics.

**ENGC 360 Engineering Economics**
*2 hours.* Introduction to economic analysis techniques for engineering decision-making. Topics include the time value of money, cost estimation methods, cash flow, interest, equivalence, depreciation, and inflation. Compare engineering alternatives on the basis of economic parameters. Additional course fee is required. Prerequisites: Senior standing or instructor permission.

**ENGC 370 Transportation Engineering**
*3 hours.* Introduction to planning, design, and operation of transportation systems. Concepts of human factors and vehicle performance characteristics in design. Topics include geometric design of highways, traffic stream variables, basic traffic flow models, applications of statistical analysis in traffic queueing theory, highway and street intersection capacity, level of service analysis for highways, traffic control concepts, travel demand and traffic forecasting, and an introduction to highway materials and pavement design. Additional course fee is required. Corequisite: MATH 330 Engineering Statistics Prerequisites: ENGM 211 Statics and ENGC 220 Engineering Surveying

**ENGC 430 Reinforced Concrete Design**
*3 hours.* Fundamental principles of reinforced concrete design in accordance with the ACI Building Code. Topics include concrete materials, beams in bending, shear, and torsion, development, anchorage and splicing, serviceability, columns, slabs, frames, and footings. Additional course fee is required. Prerequisites: ENGC 330 Structural Analysis and Design.

**ENGC 450 Construction Management and Professional Practice**
*2 hours.* Principles and practice of construction engineering and project management. Development of cost estimates and project schedules. Basic construction methods and fundamental construction terminology. Overview of civil engineering professional practice including career paths, ethics and professionalism, project planning, dispute resolution, and effective decision making. Two lectures and one two-hour laboratory per week. Additional course fee is required. Prerequisites: Senior standing or consent of instructor.

**ENGC 460 Design of Steel Structures**
*3 hours.* Basic principles of structural steel design and analysis. Topics include axial members, beams, bolted and welded connections, composite beams, and structural systems. Emphasis will be on the LRFD Method and AISC Code. Additional course fee is required. Prerequisites: ENGC 330 Structural Analysis and Design.

### ENGC 475 Field Experience

*1-3 hours.* Supervised experience in the discipline including internships and practica required for professional programs. This advanced experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Pass/No Pass. Prerequisite: instructor's permission.

### ENGC 485 Selected Topics

*1-3 hours.* An advanced seminar offered on an occasional basis addressing a current topic in the field that is of special interest to students and current faculty. Additional course fee required.

### ENGC 495 Individualized Study

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# ENGE

### ENGE 220 Digital Logic Design
*4 hours.* Introduction to digital systems and binary codes; Boolean algebra and digital logic devices; combinational logic circuits and design methods; ROM and RAM memory elements; sequential logic circuits and design methods. Laboratory experience includes TTL logic circuits and CAD tools. Three lectures and one laboratory per week. Additional course fee is required. Prerequisite: ENGR 152 Engineering Principles II or CSIS 201 Introduction to Computer Science I.

### ENGE 250 Electrical Circuit Analysis
*4 hours.* Basic concepts of DC and AC electrical circuits are covered, as are voltage-current relationships for circuit elements, Kirchhoff's laws, and Thévenin and Norton theorems. Includes basic transient and sinusoidal steady-state analysis; frequency domain analysis; frequency response, resonance and measurement concepts. Applications of the operational amplifier. Analysis and design aided by circuit simulation software. Three lectures and one laboratory per week. Additional course fee is required. Prerequisites: ENGR 152 Engineering Principles II, MATH 311 Differential Equations with Linear Algebra and PHYS 212 General Physics with Calculus II.

### ENGE 260 Circuits and Instrumentation
*4 hours.* An introduction to DC and AC circuit theory, electronics, and instrumentation. Specific areas of study include Ohm’s law, basic circuit analysis techniques, electrical power, motor selection, circuit simulation software, measurement methods, various types of instrumentation devices, and data acquisition. Three lectures and one laboratory per week. Additional course fee is required. Prerequisites: ENGR 152 Engineering Principles II and PHYS 212 General Physics with Calculus II.

### ENGE 270 Electric Power Systems
*3 hours.* This course is an introduction to electrical power systems, with a focus on power generation, transmission, and loads. AC and DC electric machines, transformers, power transmission lines, and three phase power systems are discussed. Includes phasor analysis, rms signals and power factor. Additional course fee is required. Corequisite: ENGE 250 Electrical Circuit Analysis. Prerequisite: PHYS 212 General Physics with Calculus II.

### ENGE 275 Field Experience
*1-3 hours.* Supervised experience in the discipline including internships and practica required for professional programs. This introductory experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Pass/No Pass. Prerequisite: instructor's permission.

### ENGE 285 Special Topic
*1-3 hours.* An introductory seminar offered on an occasional basis addressing a current topic in the field that is of special interest to students and current faculty. Additional course fee required.

### ENGE 295 Individualized Study
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**ENGE 300 C Programming with Applications**

*3 hours.* Introduction to the C programming language as a means to perform low-level access and control of hardware with a high-level language. Custom software applications, portability issues, application of pointers, and introduction to data structures. Applications to engineering problems, including data acquisition and control systems. Additional course fee is required. Prerequisites: ENGE 220 Digital Logic Design.

**ENGE 311 Electronic Devices and Circuits**

*4 hours.* Introduction to the terminal characteristics of active semiconductor devices. Operation and small-signal models of diodes, junction and field-effect transistors, and operational amplifiers. Basic single-stage and multistage amplifiers: gain, biasing, and frequency response. Switching characteristics of transistors in saturation and cutoff. Three lectures and one three-hour laboratory per week. Additional course fee is required. Prerequisites: ENGE 220 Digital Logic Design and ENGE 250 Electrical Circuit Analysis.

**ENGE 312 Applications of Electronic Devices**

*4 hours.* Analog and digital applications of electronic devices: amplifiers, oscillators, filters, modulators, logic circuits, and memory elements. Feedback, stability, and noise considerations. Emphasis on practical design problems and the formulation of design objectives. Three lectures and one three-hour laboratory per week. Additional course fee is required. Prerequisite: ENGE 311 Electronic Devices and Circuits and ENGE 330 Electrical Signals and Networks.

**ENGE 320 Microprocessor Architecture**

*4 hours.* This course teaches students fundamental knowledge in microprocessor architecture. Course topics include microcomputer architecture, assembly language and higher-level programming, I/O programming, data communications, data acquisition systems, memory interfacing and memory architecture. Three lectures and one three-hour laboratory per week. Additional course fee is required. Prerequisite: CSIS 202 Introduction to Computer Science II and CSIS 310 Data Structures or ENGE 220 Digital Logic Design.

**ENGE 330 Electrical Signals and Networks**

*3 hours.* Fundamental concepts of continuous-time and discrete-time signals and systems are covered. Topics covered include linear time-invariant systems, the convolution integral and impulse response; Fourier series and frequency domain analysis; Fourier and Laplace techniques; principles of sampling and modulation; theoretical and practical aspects of electrical networks; loop and nodal analysis of multi-port networks; admittance, impedance, and transmission parameters; and matrix solutions. Additional course fee is required. Prerequisite: ENGE 250 Electrical Circuit Analysis and MATH 301 Calculus III.

**ENGE 350 Electrical Network Analysis**

*3 hours.* Theoretical and practical aspects of electrical networks. Loop and nodal analysis of multi-port networks. Admittance, impedance, and transmission parameters; matrix solutions. Butterworth, Chebyshev, and other useful network response functions; network theorems. Synthesis of passive and active networks. Additional course fee is required. Prerequisite: ENGE 250 Electrical Circuit Analysis.

**ENGE 360 Electromagnetic Fields and Waves**

*3 hours.* Theoretical study of static and dynamic electric and magnetic fields. Gauss' law and the static electric field; boundary value problems in electrostatics. Effects of dielectric and magnetic media properties. Magnetostatics; Faraday's law and

applications. Maxwell's equations for time-varying fields; wave propagation; Poynting's theorem. Numerical methods and computer simulation tools in electromagnetics are introduced. Additional course fee is required. Prerequisites: ENGE 250 Electrical Circuit Analysis and MATH 301 Calculus III.

**ENGE 399 Cross-Cultural Experience**
*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. (Offered in May Term. Students must meet eligibility requirements.) Additional course fee is required.

**ENGE 410 Digital System Design**
*3 hours.* Practical aspects of digital design with Hardware Description Languages including the design, construction, and testing of significant digital subsystems. Explorations of advanced digital design concepts such as timing-driven synthesis, integration of intellectual property and design for reuse. Extensive use is made of computer-aided engineering (CAE) tools and Field-Programmable-Gate-Array (FPGA) technology in course assignments. Two lectures and one two-hour laboratory per week. Additional course fee is required. Prerequisite: ENGE 420 Microprocessors.

**ENGE 420 Embedded System Design**
*3 hours.* This course teaches students how to design and manufacture microcontroller-based embedded computer systems. Course topics include printed circuit board design and fabrication, I/O interface design, I/O peripheral devices, and data communication interfaces. Real-time operating systems and their integration into an embedded system will be examined. Design projects involve the construction and programming of a microcontroller-based embedded system. Two lectures and one three-hour laboratory per week. Additional course fee is required. Prerequisites: ENGE 311 Electronic Devices and Circuits and ENGE 320 Microprocessor Architecture.

**ENGE 430 Communication Systems**
*3 hours.* Introduction to analog and digital communications theory and applications. Topics include encoding, modulation and multiplexing techniques, spectral analysis, transmission line effects, noise analysis and filtering, multiple-channel and fiber optic communications, telecommunication systems, and data communications applications. Additional course fee is required. Prerequisite: ENGE 330 Electrical Signals and Networks.

**ENGE 460 Microwave Engineering and Applications**
*3 hours.* Study of microwave circuits, devices, and techniques as applied to cellular communications and other modern systems. Propagation and reflection on ideal and lossy transmission media. Smith chart and S-parameter tools. Strip lines, microstrip and coplanar lines, and cross talk. Analysis and design of microstrip circuits. Introduction to antenna fundamentals. Includes computer and laboratory exercises. Two lectures and one three-hour laboratory per week. Additional course fee is required. Prerequisites: ENGE 312 Applications of Electronic Devices and ENGE 360 Electromagnetic Fields and Waves.

**ENGE 470 Power Electronics and Renewable Energy**
*3 hours.* This course is an introduction to DC-DC converters, rectifiers, inverters, and electrical renewable energy sources. Power electronics switch characterization is discussed and a renewable energy project is integral to the course. Additional course

fee is required. Prerequisites: ENGE 270 Electrical Power Systems and ENGE 312 Applications of Electronic Devices.

**ENGE 475 Field Experience**
*1-3 hours.* Supervised experience in the discipline including internships and practica required for professional programs. This advanced experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Pass/No Pass. Prerequisite: instructor's permission.

**ENGE 480 Digital Signal Processing**
*3 hours.* Sampling as a modulation process, aliasing, the sampling theorem, the Z-transform and discrete-time system analysis, direct and computer-aided design of recursive and nonrecursive digital filters, the Discrete Fourier Transform (DFT) and Fast Fourier Transform (FFT), digital filtering using the FFT, analog-to-digital and digital-to-analog conversion, effects of quantization and finite-word-length arithmetic. Additional course fee is required. Prerequisite: ENGE 312 Applications of Electronic Devices.

**ENGE 485 Selected Topics**
*1-3 hours.* An advanced seminar offered on an occasional basis addressing a current topic in the field that is of special interest to students and current faculty. Additional course fee required.

**ENGE 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# ENGM

**ENGM 211 Statics**
*3 hours.* Static force and moment vectors, resultants. The free-body diagram is used extensively to understand the equilibrium of a whole physical system through isolation of each component, particle, or body. Applications to simple trusses, frames, and machines. Distributed loads. Internal forces in beams. Properties of areas, second moments. Laws of friction. Additional course fee is required. Co-requisite: MATH 301 Calculus III Prerequisites: ENGR 152 Engineering Principles II and PHYS 211 General Physics w/Calculus I.

**ENGM 212 Dynamics**
*3 hours.* This course considers the mathematical description of particles and rigid bodies in motion under the action of forces, moments and couples. Students learn how to describe the geometry of motion (kinematics) and then move into two and three-dimensional kinetic analysis. Applications using computer software are included. Additional course fee is required. Prerequisite: ENGM 211 Statics

**ENGM 220 Materials and Processes in Manufacturing**
*3 hours.* Mechanical and metallurgical fundamentals of cutting operations, metal forming by deformation, material fabrication, and nontraditional processing. Manufacturing systems, concepts in production, green design, and design for manufacturability (DFM). Additional course fee is required. Corequisite: ENGM 250 Principles of Materials Science

**ENGM 250 Principles of Materials Science**
*3 hours.* Course concerns the science underlying the behavior of engineering materials, including the relation between atomic structure and mechanical, electrical, and magnetic properties in metals, ceramics, polymers, composite materials, and semiconductors. Phase diagrams, heat treatment, and corrosion mechanisms are also presented. Laboratory exercises are included to enhance course theory and to provide hands-on experience with materials measurement apparatus and analysis techniques. Two lectures and one laboratory per week. Additional course fee is required. Prerequisites: CHEM 211 General Chemistry I and ENGR 152 Engineering Principles II.

**ENGM 275 Field Experience**
*1-3 hours.* Supervised experience in the discipline including internships and practica required for professional programs. This introductory experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Pass/No Pass. Prerequisite: instructor's permission.

**ENGM 285 Special Topics**
*2-4 hours.* Occasional special courses chosen to fit the interests and needs of engineering students and faculty. Additional course fee is required.

**ENGM 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**ENGM 311 Engineering Thermodynamics**
*3 hours.* Classical treatment of thermodynamics emphasizing the first and second laws and their application to closed and open (control volume) systems undergoing

steady, unsteady, and cyclic processes. Introduction to vapor power systems. Tabular and graphical thermodynamic property data are used in analytical work. Additional course fee is required. Prerequisite: ENGR 152 Engineering Principles II and PHYS 212 General Physics with Calculus II.

**ENGM 312 Applications of Engineering Thermodynamics**
*2 hours.* Advanced topics in the first and second laws of thermodynamics. Covered topics include availability and irreversibility, vapor and gas power cycles, mixtures of gases and vapors, non-reacting flows, and compressible flow. Also covered are applications to spark and compression ignition engines, gas and vapor turbines, refrigeration systems, heat exchangers, and psychrometrics. Additional course fee is required. Prerequisite: ENGM 311 Engineering Thermodynamics.

**ENGM 320 Mechanics of Materials**
*3 hours.* Behavior of deformable body systems under combinations of external loading is presented. Analysis of stress, deformation, strain, failure fatigue, and creep are included. Mathematical, graphical, and energy methods are utilized. Additional course fee is required. Prerequisites: ENGM 211 Statics and ENGM 250 Principles of Materials Science.

**ENGM 321 Mechanics of Materials Lab**
*1 hour.* Behavior of deformable body systems under combinations of external loading is presented. Analysis of stress, deformation, strain, failure fatigue and creep are included. Mathematical, graphical and energy methods are utilized. One two-hour laboratory per week. Additional course fee is required. Corequisite: ENGM 320 Mechanics of Materials.

**ENGM 330 Fluid Mechanics**
*3 hours.* Course covers presentation and development of fundamental concepts of fluids such as continua, including velocity, pressure, and viscosity. Topics include fluid statics, hydrostatic analysis of submerged bodies and manometry methods; development of the governing equations of mass, momentum, and energy conservation for fluid motion using both integral and differential control volume analysis; incompressible inviscid flow, dimensional analysis and similitude; pipes, ducts, and open channel flow; and boundary-layer concepts and their application to lift and drag. Additional course fee is required. Prerequisites: ENGM 212 Dynamics, ENGM 311 Engineering Thermodynamics and MATH 311 Differential Equations w/ Linear Algebra.

**ENGM 350 Machine Dynamics and Vibrations**
*3 hours.* Kinematic and dynamic analysis of basic mechanisms with an introduction to kinematic synthesis. Fundamentals of vibration theory and their application to lumped parameter systems. Both single- and multi-degree of freedom systems having steady-state and transient responses are considered. Concepts of machine dynamics and design are supplemented with mathematical, graphical, and computer techniques and analysis. Applications using dynamic analysis software are included. Additional course fee is required. Prerequisites: ENGM 212 Dynamics and MATH 311 Differential Equations with Linear Algebra.

**ENGM 360 Finite Elements and Computer Modeling**
*3 hours.* Solution to problems in mechanical engineering using numerical techniques. Development of numerical models beginning with physical model analysis, description of appropriate governing equations, selection of critical parameters, choice of solution methodology, and application of numerical solution procedure. Applications selected from a wide variety of topics in mechanical engineering. Problems will be solved by

hand using the finite element method (FEM) and via software packages that use both FEM and the finite volume method. Advanced solid modeling techniques are also covered. Additional course fee is required. Corequisite: ENGM 380 Heat Transfer Prerequisites: ENGM 320 Mechanics of Materials and ENGM 330 Fluid Mechanics. or ENGB 330 Biotransport and ENGB 340 Mechanics of Biomaterials.

**ENGM 380 Heat Transfer**
*3 hours.* Course covers fundamental aspects of conduction, convection, and radiation heat transfer; analytical and numerical solutions of heat transfer problems, estimation of heat transfer coefficients, and heat exchanger design. Boiling and condensation are also considered. Additional course fee is required. Prerequisite: ENGM 330 Fluid Mechanics.

**ENGM 381 Energy Lab**
*1 hour.* Laboratory exercises are included to enhance course theory from Application of Engineering Thermodynamics, Fluid Mechanics, and Heat Transfer. Hands-on experiences will occur with measurement apparatus and analysis techniques. Common misconceptions will be addressed. One two-hour laboratory per week. Additional course fee is required. Corequisite: ENGM 380 Heat Transfer. Prerequisites: ENGM 312 Application of Engineering Thermodynamics and ENGM 330 Fluid Mechanics.

**ENGM 399 Cross-Cultural Experience**
*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. (Offered in May Term. Students must meet eligibility requirements.) Additional course fee is required.

**ENGM 400 Mechanical Engineering Design**
*3 hours.* Fundamental principles for the synthesis, analysis, and design of mechanical elements and systems. The use of statics, dynamics, mechanics of materials, and failure theories to evaluate mechanical systems under static and dynamic loading. Application of design techniques to specific mechanical components such as gears, springs, shafts, bearings, and fasteners, with an emphasis on design for manufacturability. Computer modeling tools including finite element analysis are utilized. Additional course fee is required. Prerequisites: ENGM 320 Mechanics of Materials and ENGM 350 Machine Dynamics and Vibrations. Corequisite: ENGM 360 Finite Elements and Computer Modeling

**ENGM 420 Biomechanics**
*3 hours.* From a biomechanical perspective, the healthy human skeleton is an optimal structure that has adapted its form in response to its function. Studying the mechanics of the skeleton provides information that can be used not only to design artificial prostheses and materials — and thus address specific health care issues — but also to aid in the design of more traditional engineering structures by understanding the behavior and underlying design features of this complex dynamic structure. The purpose of this course is twofold: to learn the fundamental concepts of orthopedic biomechanics and to enhance skills in mechanical engineering and bioengineering by analyzing the mechanical behavior of various complex biomedical problems. Prerequisites: ENGM 360 Finite Elements and Computer Modeling

**ENGM 450 Fundamentals of Flight Dynamics**

*3 hours.* This course provides an introduction to flight dynamics of aircraft and autonomous aircraft systems. Longitudinal, lateral and directional static stability will be analyzed for conventional aircraft. The complete aircraft governing dynamic equations will be developed and reduced to conventional linear mode approximations using small disturbance theory. Linear systems theory is used to analyze, design aircraft, and develop control systems to meet desired dynamic performance metrics. Additional course fee is required. Prerequisites: ENGM 350 Machine Dynamics and Vibration.

**ENGM 470 Energy Systems Engineering**

*3 hours.* Fundamental principles of energy engineering with applications to both fossil fuel combustion and alternative energy systems. The first half of the course is dedicated to a quantitative understanding of fossil fuel combustion and its applications. Stoichiometry, flame temperature, chemical kinetics and applications of both premixed and diffusion flames, as well as sources of emissions and emission control strategies are presented. The second half of the course is focused on alternative and renewable energy systems, from a technical, economic, and environmental perspective. Students will study the basic theory of fuel cells, wind turbines, photovoltaic devices, biomass and nuclear energy generation and determine component and system efficiencies. Additionally, students will become familiar with the relationship between ethical issues and the quality of our environment, and the complex interplay between engineering systems and society. This course builds on previous studies in thermodynamics, fluid mechanics and heat transfer. Additional course fee required.

**ENGM 475 Field Experience**

*1-3 hours.* Supervised experience in the discipline including internships and practica required for professional programs. This advanced experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Prerequisite: instructor's permission.

**ENGM 480 Control Systems Engineering**

*3 hours.* This course covers various aspects of control system engineering including dynamic system modeling, control system stability and performance analysis in the frequency and time domains. Special attention is given to compensator design by PID. Principles of closed loop mechanical, electrical, hydraulic, pneumatic, and thermal systems are considered. Laboratory experiments include both MATLAB simulations and PLC programming with applications. Two lectures and one laboratory per week. Additional course fee is required. Prerequisite: ENGM 350 Machine Dynamics and Vibrations and MATH 311 Differential Equations with Linear Algebra.

**ENGM 485 Special Topics**

*1-4 hours.* Occasional special courses chosen to fit the interests and needs of engineering students and faculty. Additional course fee is required.

**ENGM 495 Individualized Study**

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# ENGR

**ENGR 151 Engineering Principles I**
*3 hours.* Introduction to the concepts and methods of engineering problem solving and design. Topics include the following: analysis and design methodologies, structured computer programming, basic principles of engineering graphics, the visualization and modeling of real-world systems, and an introduction to the history and ethics of the engineering profession. Computer-aided-design (CAD) tools, solid modeling and simulation software, and mathematics software applications are presented. Students work on numerous team design projects, communicating their results through oral and written reports. Meets twice weekly in a lecture/lab environment. Additional course fee is required. Prerequisite: MATH 190 Precalculus Mathematics or equivalent.

**ENGR 152 Engineering Principles II**
*3 hours.* Introduction to the concepts and methods of engineering problem solving and design. Topics include the following: analysis and design methodologies, structured computer programming, basic principles of engineering graphics, the visualization and modeling of real-world systems, and an introduction to the history and ethics of the engineering profession. Computer-aided-design (CAD) tools, solid modeling and simulation software, and mathematics software applications are presented. Students work on numerous team design projects, communicating their results through oral and written reports. Meets twice weekly in a lecture/lab environment. Additional course fee is required. Prerequisite: ENGR 151 Engineering Principles I.

**ENGR 275 Field Experience**
*1-4 hours.* Supervised experience with an off-campus industry, business, or institution where the student is working in some engineering-related discipline. Admission and credit hours determined by instructor. Pass/No Pass.

**ENGR 285 Selected Topics**
*1 hour.* Occasional special courses chosen to fit the interests and needs of engineering students and faculty. Additional course fee is required.

**ENGR 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**ENGR 381 Servant Engineering I**
*2 hours.* Servant engineering is a two-semester course sequence typically taken in the student's junior year. In the summer before the course begins, students research a potential engineering project designed to serve others. These projects are proposed early in the first semester, and the most feasible projects are selected for the program. Students are then assigned to a team of four or five who work on a selected project. Projects might require a multi-disciplinary team ranging from computer science to civil engineering, or they might be more focused on a specific skill-set. Each team has a faculty mentor who helps guide the project. In both semesters, teams meet weekly with their faculty mentors and work through problem definition, specification development and conceptual development, with the goal of selecting a specific design for detailed design-and-build. Every project will be an opportunity to use the gifts that God has given us to serve others. Additional course fee is required. Prerequisite: ENGR 152. Final enrollment is contingent on approval from the College of Engineering.

**ENGR 382 Servant Engineering II**
*2 hours.* Servant engineering is a two-semester course sequence typically taken in the student's junior year. In the summer before the course begins, students research a potential engineering project designed to serve others. These projects are proposed early in the first semester, and the most feasible projects are selected for the program. Students are then assigned to a team of four or five who work on a selected project. Projects might require a multi-disciplinary team ranging from computer science to civil engineering, or they might be more focused on a specific skill-set. Each team has a faculty mentor who helps guide the project. In both semesters, teams meet weekly with their faculty mentors and work through problem definition, specification development and conceptual development, with the goal of selecting a specific design for detailed design-and-build. Every project will be an opportunity to use the gifts that God has given us to serve others. Additional course fee required. Prerequisite: ENGR 381. Final enrollment is contingent on approval from the College of Engineering.

**ENGR 399 Cross-Cultural Experience**
*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. (Offered in May Term. Students must meet eligibility requirements.) Additional course fee is required.

**ENGR 475 Field Experience**
*1-4 hours.* Supervised experience with an off-campus industry, business, or institution where the student is working in some engineering-related discipline. Admission and credit hours determined by instructor. Pass/No Pass.

**ENGR 481 Senior Design I**
*1 hour.* In the senior design sequence, students apply their knowledge and design skills gained through course work to an industry-based project. In the first semester, interdisciplinary teams are formed to begin projects in conjunction with participating industrial sponsors. Necessary background research and feasibility studies are completed. Students must also consider the ethical, moral, environmental, and social impact of their designs. Collaboration with other departments of the university is encouraged. Additional course fee is required. Prerequisite: senior status in the engineering major.

**ENGR 482 Senior Design II**
*3 hours.* The projects that were initiated in the first semester are further developed through simulation, prototyping, and testing. Use of analytic, computer, experimental, and design techniques is applied throughout the project. The design sequence culminates in the construction of the projects, oral presentations, and formal written reports. Additional course fee is required. Prerequisite: ENGR 481 Senior Design I.

**ENGR 485 Selected Topics**
*2-4 hours.* Occasional special courses chosen to fit the interests and needs of engineering students and faculty. Additional course fee is required.

**ENGR 490 Senior Seminar**
*1 hour.* A seminar series that discusses current trends and issues in the engineering profession. Features invited speakers from the industrial sector. Preparation for job search and post-graduation life. Additional course fee is required. Prerequisite: senior status in the engineering major or by permission.

**ENGR 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# FINC

**FINC 260 Business Finance**
*3 hours.* An introduction to the finance function of a business entity. Specific topics to be studied include capital budgeting, cost of capital determination, sources of financing, leverage and its effect on the profits and risk of business, and managing the asset mix and capital structure of a business. Prerequisites: ACCT 271 Principles of Financial Accounting, ACCT 272 Principles of Managerial Accounting (may also be a co-requisite), ECON 200 Principles of Economics and college level statistics course 200 level or higher. Students who've taken PSYC 240 or SOCI 340 must also complete MATH 150 or higher.

**FINC 285 Selected Topics**
*1 hour.* Occasional special courses chosen to fit the interests and needs of students and faculty.

**FINC 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**FINC 300 Intermediate Financial Management**
*3 hours.* This course is a second level financial management course that provides more depth in the study of the analysis of financial statements, working capital management, and obtaining credit. Students will determine the cost of capital of a firm and apply its use in capital budgeting and asset valuation. Prerequisite: FINC 260 Business Finance.

**FINC 340 Financial Markets and Institutions**
*3 hours.* This is an exploration of financial markets and institutions. The course will examine the role of depository institutions, insurance companies, investment banks and other financial intermediaries in the global economy. Topics include recent developments in financial markets and in the regulatory environment of these markets and institutions. Prerequisites: ECON 211 Principles of Macroeconomics, ECON 212 Principles of Microeconomics and FINC 260 Business Finance.

**FINC 460 Financial Analysis and Modeling**
*3 hours.* This course provides students a foundation for financial analysis using Microsoft Excel, and bridges the gap between financial theories and real-world application. It is designed to help students understand finance concepts/theories intuitively and deeply, and to prepare students with the Excel and modeling skills they need to succeed in their future careers. Topics that will be covered in this class include financial statement analysis and modeling, time value of money analysis, stock & bond valuations and modeling, making capital budgeting decisions, portfolio theory and investment modeling, and financial derivatives. Prerequisite: FINC 300 Intermediate Financial Management.

**FINC 475 Field Experience**
*1-6 hours.* Supervised experiences in businesses, nonprofit organizations, and public agencies. Pass/No Pass.

**FINC 485 Selected Topics in Finance**
*1-4 hours.* Occasional special courses chosen to fit the interests and needs of students and faculty.

**FINC 490 Seminar in Finance**
*3 hours.* This seminar will focus on current issues and developments in the field of finance. Prerequisites: FINC 300 Intermediate Financial Management and senior standing.

**FINC 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# FINP

**FINP 250 Personal Financial Planning for Professionals**
*3 hours.* In this course, we will cover Topics 1-21 of the CFP Board Principal Knowledge Topics. Areas of focus will include: the financial planning process, the client/planner relationship, communication and counseling, personal financial statements, cash flow management and financing strategies, time value of money, economic concepts, financial institution regulation, consumer laws, and CFP Board's Code of Ethics, Rules of Conduct, Practice Standards and Disciplinary Procedures. Prerequisite: BUSN 120 Personal Finance

**FINP 310 Insurance Planning and Risk Management**
*3 hours.* In this course, we will cover Topics 22 – 32 of the CFP Board Principal Knowledge Topics. Areas of focus will include: principles of risk and insurance, risk exposure, health insurance, disability insurance, long-term care insurance, annuities, life insurance, taxation, business insurance, needs analysis, policy selection, property and casualty insurance. Prerequisite: FINP 250 Personal Financial Planning for Professionals.

**FINP 320 Income Tax Planning**
*3 hours.* In this course, we will cover Topics 42 – 51 of the CFP Board Principal Knowledge Topics. Areas of focus will include: tax law fundamentals, compliance, tax calculations, taxation of business entities, trust and estate tax, alternative minimum tax, tax reduction techniques, property transactions, passive activity and at-risk rules, tax implications of special circumstances, charitable contributions and deductions. Prerequisite: FINP 250 Personal Financial Planning for Professionals.

**FINP 330 Estate Planning**
*3 hours.* In this course, we will cover Topics 63 – 72 of the CFP Board Principal Knowledge Topics. Areas of focus will include: property titling, transferring property, documents, gift and estate tax compliance, estate liquidity, trusts, marital deductions, intra-family transfer, postmortem estate planning. Prerequisite: FINP 250 Personal Financial Planning for Professionals.

**FINP 450 Investment Planning**
*3 hours.* In this course, we will cover Topics 33 – 41 of the CFP Board Principal Knowledge Topics. Areas of focus will include: characteristics, uses and taxation of investment vehicles, types of investment risk, measures of investment returns, asset allocation and diversification, bond and stock valuation, portfolio development and analysis, investment strategies, and alternative investments. Prerequisite: FINC 260 Business Finance.

**FINP 470 Retirement Planning**
*3 hours.* In this course, we will cover Topics 52 – 62 of the CFP Board Principal Knowledge Topics. Areas of focus will include: retirement needs analysis, Social Security, Medicare, Medicaid, retirement plans, plan rules, tax advantages, regulatory considerations, distribution rules, retirement strategies, and business succession planning. Prerequisites: FINP 250 Personal Financial Planning for Professionals and FINP 450 Investment Planning (may also be a co-requisite).

**FINP 491 Personal Financial Planning Capstone**
*3 hours.* In this course, we will cover all 72 topics of the CFP Board Principal Knowledge. Topics. We will tie together the concepts by constructing a financial

plan. The focus of this course is on case study application. Areas of focus will include: cash flow and financial situation, income tax evaluation, education funding evaluation, retirement evaluation, risk management/insurance evaluation, estate planning evaluation, and plan construction and communication. Prerequisites: FINP 310 Insurance Planning and Risk Management, FINP 320 Income Tax Planning, FINP 330 Estate Planning, FINP 450 Investment Planning and FINP 470 Retirement Planning.

# GEED

### GEED 130 First Year Seminar
*1 hour.* Members of the entire entering freshman class select a small seminar-style topical course for the first ten weeks of their first semester, meeting weekly with an advisor and a returning student peer advisor. Selected topics and issues introduce students comfortably to the academic and social life of the university community. Required of all first-time freshmen. Pass/Fail.

### GEED 170 Freshman Honors Seminar
*1 hour.* Members of the entering freshman class who are invited to apply for honors at admission, and whose applications are accepted, take this seminar in the middle five weeks of fall semester. Students are introduced to the interdisciplinary pursuit of knowledge at the university level, examining a current public issue from a wide variety of disciplinary perspectives, using creative class activities and assignments. Students who earn an excellent rating are eligible to continue in the University Scholars program. Pass/No Pass. Prerequisite: admission as an incoming freshman to the University Scholars program.

### GEED 271 Honors Colloquium
*1 hour.* Investigation of a variety of issues and subjects from a broad interdisciplinary perspective, through readings, discussions, creative activities, excursions, and written projects. Typically team-taught by faculty from different disciplines, over the course of a year the student uses the methods and frames of reference of nearly every discipline in the liberal arts curriculum to learn about several engaging topics. Class activities are designed to prepare students to do interdisciplinary University Scholars projects during their junior year. Pass/No Pass. Prerequisite: admission to the University Scholars program and at least sophomore status.

### GEED 272 Honors Colloquium
*1 hour.* Investigation of a variety of issues and subjects from a broad interdisciplinary perspective, through readings, discussions, creative activities, excursions, and written projects. Typically team-taught by faculty from different disciplines, over the course of a year the student uses the methods and frames of reference of nearly every discipline in the liberal arts curriculum to learn about several engaging topics. Class activities are designed to prepare students to do interdisciplinary University Scholars projects during their junior year. Pass/No Pass. Prerequisite: GEED 271 Honors Colloquium I, admission to the University Scholars program, and at least sophomore status.

### GEED 275 Field Experience
*1-3 hours.* Supervised experience in the discipline including internships and practica required for professional programs. This introductory experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Prerequisite: instructor's permission.

### GEED 285 Selected Topics
*1-3 hours.* A variety of topics may be offered to meet the special needs and interests of students, faculty, or visiting professors.

### GEED 295 Individualized Study
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**GEED 335 International Service Learning**
*3 hours.* This course is attached to an International Service Learning experience of at least one week duration. During preparatory class meetings, the history background, cultural differences, and service skills of the service learning experience will be discussed. The concept of cultural humility will be reinforced through experiential learning, group debrief sessions, and continual reflection during and after the experience, although the travel itself is separate from this course. Instructor permission required.

**GEED 355 Cross-Cultural Experience - Domestic**
*2 hours.* This course offers cross-cultural study designed to prepare and enhance the intercultural and international awareness of our campus community and to gain appreciation for various cultural perspectives different from the students' own. Each individual course includes in-depth study from a variety of perspectives, such as the fine arts, religion, language, natural or behavioral science or history. The course includes class meetings and is a requirement to participate in GEED 455, the actual travel to locations throughout the U.S.. Students must meet the Juniors Abroad eligibility requirements. Additional course fee is required.

**GEED 365 Cross-Cultural Experience - International**
*2 hours.* This course offers cross-cultural study designed to prepare and enhance the intercultural and international awareness of our campus community and to gain appreciation for various cultural perspectives different from the students' own. Each individual course includes in-depth study from a variety of perspectives, such as the fine arts, religion, language, natural or behavioral science or history. The course includes class meetings and is a requirement to participate in GEED 465, the actual travel to locations throughout the world. Students must meet the Juniors Abroad eligibility requirements. Additional course fee is required.

**GEED 371 University Scholars Projects**
*1 hour.* In conjunction with an upper-division course of the student's choosing, the student proposes a significant interdisciplinary research project. Once approved by the professor of the home course and the USP director, the student completes the project under the supervision of a senior peer mentor, publicly presents the project results, and submits the project to the undergraduate academic journal. Prerequisites: GEED 271 Honors Colloquium I, GEED 272 Honors Colloquium II, and permission of the USP director.

**GEED 372 University Scholars Projects**
*1 hour.* In conjunction with an upper-division course of the student's choosing, the student proposes a significant interdisciplinary research project. Once approved by the professor of the home course and the USP director, the student completes the project under the supervision of a senior peer mentor, publicly presents the project results, and submits the project to the undergraduate academic journal. Prerequisites: GEED 371 University Scholars Projects I, and permission of the USP director.

**GEED 375 Cultural Field Experience**
*1-12 hours.* Supervised experience in a cultural setting that contributes to the educational goals of the student. Pass/No Pass. Prerequisites: permission of advisor and the academic dean.

**GEED 399 Cross-Cultural Experience**
*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes

class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. (Offered in May Term. Students must meet eligibility requirements.) Additional course fee is required.

**GEED 455 Cross-Cultural Experience - Domestic**
*1 hour.* Students will travel on an approximately three week tours to various locations throughout the U.S.. This is an experiential course, which includes interaction with the local culture through informal and formal contacts. (Offered May Term through the Juniors Abroad program.). Prerequisite: GEED 355

**GEED 465 Cross-Cultural Experience - International**
*1 hour.* Students will travel on an approximately three week tours to various locations throughout the world. This is an experiential course, which includes interaction with the local culture through informal and formal contacts. (Offered May Term through the Juniors Abroad program.). Prerequisite: GEED 365

**GEED 471 Undergraduate Academic Journal I**
*1 hour.* Service on the editorial committee, or as a senior editor, of the Undergraduate Academic Journal. Pass/No Pass. Prerequisites: GEED 371 University Scholars Projects I, GEED 372 University Scholars Projects II, and permission of the USP director.

**GEED 472 Undergraduate Academic Journal II**
*1 hour.* Service on the editorial committee, or as a senior editor, of the Undergraduate Academic Journal. Pass/No Pass. Prerequisites: GEED 471 Undergraduate Undergraduate Academic Journal I and permission of the USP director.

**GEED 475 Field Experience**
*1-3 hours.* Supervised experience in the discipline including internships and practica required for professional programs. This advanced experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Pass/No Pass. Prerequisite: instructor's permission.

**GEED 485 Selected Topics**
*1-3 hours.* A variety of topics may be offered to meet the special needs and interests of students, faculty, or visiting professors.

**GEED 490 Liberal Arts and Critical Issues**
*3 hours.* An advanced liberal arts course integrating the varied strands of general education in a rich capstone integrative common experience. Students will be challenged to develop coherence in a Christian worldview, deepen their understanding of how we know truth about the world around us and our moral duty in it, practice taking an interdisciplinary approach to basic problems of human existence, and develop as potential Christ-like leaders in public issues. Specific topics to be explored vary from semester to semester.

**GEED 495 Individualized study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# GSCI

### GSCI 130 Fundamentals Of Geology

*3 hours.* A systematic study of planet earth. The nature and origin of common minerals, rocks, and geologic structures. Topics will include geology of the earth's crust, plate tectonics, the geology of Oregon, ground water contamination, and geologic hazards such as volcanoes, earthquakes, erosion, landslides, and flooding. This course meets general education requirements and requires no previous knowledge of geology. Two lectures, one two-hour laboratory per week, and two day-long field trips.

### GSCI 170 Science and Faith

*4 hours.* This course introduces the empirical study of the natural world, and explore the ways in which the patterns and processes of creation reveal and reflect the nature of the Creator. Course content surveys fundamental concepts related to energy, diversity, and disease, highlighting the roles of curiosity and intellectual humility in generating and responding to scientific knowledge. Emphasis is given to critical evaluation of questions at the nexus of science and faith, such as whether science and Christianity are in conflict and how we may use scientific knowledge to make choices that honor God and extend His love to others. Additional course fee.

### GSCI 285 Selected Topics in General Science

*3 hours.* A variety of topics may be offered to meet the special needs and interests of students, faculty, or visiting professors.

### GSCI 485 Selected Topics

*3 hours.* A variety of topics may be offered to meet the special needs and interests of students, faculty, or visiting professors.

# HHPA

**HHPA 109 Ballroom Dancing**
*1 hour.* Instruction in basic to intermediate steps and etiquette in ballroom dance including 6 count and 8 count swing, fox-trot, waltz, and tango.

**HHPA 120 Lifelong Fitness**
*2 hours.* Students in this course will learn to think critically about their personal health and wellness in the context of Christian commitment. They will learn scientific principles of aerobic conditioning and weight training. Popular lifetime fitness activities will be introduced. Special emphasis will be placed on developing and maintaining lifestyle habits that optimize well-being. (May not be repeated for credit.)

**HHPA 145 Intercollegiate Athletics**
*.5-1 hours.* Credits may be earned by student athletes for participation in Intercollegiate Athletics while at George Fox University. The student athlete may earn one credit per sport per year for team participation for a maximum of 4 credits per sport up to a total of eight credits (for the multi-sport athlete) over the student athlete's career. For sports that overlap semesters (basketball, golf, swimming, tennis, etc.) student athletes can earn .5 credits per semester for a maximum of 4 credits per sport. Once past the add/drop date student athletes cannot petition to add the credit. Students receive Pass/No Pass for participation.

**HHPA 185 Selected Topics**
*1 hour.* A seminar dealing with various topics, as announced, that represent current faculty interests and competencies.

**HHPA 285 Selected Topics**
*1 hour.* A seminar dealing with various topics, as announced, that represent current faculty interests and competencies.

**HHPA 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**HHPA 309 Ballroom Dancing**
*1 hour.* Instruction in basic to intermediate steps and etiquette in ballroom dance including 6 count and 8 count swing, fox-trot, waltz, and tango.

**HHPA 345 Intercollegiate Athletics**
*.5-1 hour.* Credits may be earned by student athletes for participation in Intercollegiate Athletics while at George Fox University. The student athlete may earn one credit per sport per year for team participation for a maximum of 4 credits per sport up to a total of eight credits (for the multi-sport athlete) over the student athlete's career. For sports that overlap semesters (basketball, golf, swimming, tennis, etc.) student athletes can earn .5 credits per semester for a maximum of 4 credits per sport. Once past the add/drop date student athletes cannot petition to add the credit. Students receive Pass/No Pass for participation.

**HHPA 385 Selected Topics**
*1 hour.* A seminar dealing with various topics, as announced, that represent current faculty interests and competencies.

### HHPA 485 Selected Topics

*1 hour.* A seminar dealing with various topics, as announced, that represent current faculty interests and competencies.

### HHPA 495 Individualized Study

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# HHPE

**HHPE 200 History and Principles of Physical Education**
*2 hours.* A survey of the history and development of physical education and athletics in America. The course will also emphasize fundamental principles of physical education and sport.

**HHPE 201 Fall Sports in Physical Education**
*2 hours.* This course provides learning experiences that will lead to the development of basic skills in Physical Education activities and sports. In addition to skill acquisition, the course will focus on how to plan and implement the stages of skill development in games through the use of extending, refining, and applying tasks. An emphasis will be placed on the use of the game stages and movement framework as a guide for designing a variety of sport game experiences for students in grades K-12.

**HHPE 202 Spring Sports in Physical Education**
*2 hours.* This course provides learning experiences that will lead to the development of basic skills in Physical Education activities and sports. In addition to skill acquisition, the course will focus on how to plan and implement the stages of skill development in games through the use of extending, refining, and applying tasks. An emphasis will be placed on the use of the game stages and movement framework as a guide for designing a variety of sport game experiences for students in grades K-12.

**HHPE 210 Introduction to Exercise Science**
*2 hours.* The Introduction to Exercise Science course will help students gain an understanding of the underlying principles, theories, and scientific methods used in exercise science and kinesiology. Additionally, it will provide an overview of the anatomy and physiology of the musculoskeletal, cardiovascular, and respiratory system and how these systems are used during exercise. Finally, this course will help students identify career paths one may take as an exercise science major at George Fox University.

**HHPE 228 Principles of Conditioning**
*2 hours.* Instruction in concepts related to developing and maintaining physical fitness and movement skills.

**HHPE 275 Field Experience**
*1-6 hours.* Supervised experience in the discipline including internships and practica required for professional programs. This introductory experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Pass/No Pass. Prerequisite: instructor's permission.

**HHPE 285 Selected Topics**
*2-3 hours.* A seminar dealing with various topics, as announced, that represent current faculty interests and competencies.

**HHPE 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**HHPE 300 Coaching Theory and Practice**
*2 hours.* The development of a philosophy of coaching. Emphasizes the psychological, sociological, and technical aspects of athletic participation.

**HHPE 301 Sports Psychology**
*2 hours.* This course is designed to enhance the understanding of how personality, self-esteem, goal setting and behavior can influence performance and performance preparation. It is also designed to provide future teachers/coaches with coping skills and observational techniques which will serve them well in coaching as well as in managerial settings.

**HHPE 360 Organization and Administration of Sport and Physical Education**
*2 hours.* Instruction in the planning and implementation of health, physical education and athletics programs. Course content will include curriculum design, budget formation, facility design, and coordination. Professional conduct and ethics will be stressed.

**HHPE 366 General Medical Conditions in Athletic Training**
*2 hours.* Examines the knowledge, skills, and values that the entry-level certified athletic trainer must possess to recognize, treat, and refer, when appropriate, the general medical conditions and disabilities of athletes and others involved in physical activity. Students will be introduced and exposed to various health care providers.

**HHPE 378 Athletic Training Practicum V**
*3 hours.* Supervised experience in an athletic training environment. Additional study required, with an emphasis on athletic training techniques and athletic injury management. Prerequisites: HHPE 377 Athletic Training Practicum IV.

**HHPE 379 Athletic Training Practicum VI**
*3 hours.* Supervised experience in an athletic training environment. Additional study required, with an emphasis on athletic training techniques and athletic injury management. Prerequisites: HHPE 378 Athletic Training Practicum V.

**HHPE 380 Experiential Recreational Leadership**
*3 hours.* A study of theory and practice of experiential leadership in adventure and recreation education/programming. Leadership styles, techniques, methods, and practices will be the core subjects taught in this highly experiential class involving an outdoor lab component. Additional course fee required.

**HHPE 384 Pharmacology in Athletic Training**
*1 hour.* An emphasis on the knowledge, skills, and values required of an athletic trainer on pharmacologic applications, including indications, contraindications, precautions, interactions, and governing regulations relevant to the treatment of injuries and illnesses of the physically active. Prerequisites: BIOL 221 Human Anatomy and Physiology I and BIOL 222 Human Anatomy and Physiology II.

**HHPE 390 Care and Prevention of Athletic Injuries**
*3 hours.* An introductory survey of athletic training. Emphasis will be on terminology, injury prevention, evaluation, treatment, and emergency care procedures. Common taping techniques also will be presented. Additional course fee is required.

**HHPE 394 Biomechanics**
*3 hours.* Application of human anatomy and physical laws to the explanation of movement activities. Special emphasis is given to detailed analysis of various sports activities. Prerequisites: BIOL 221 Human Anatomy and Physiology I and BIOL 222 Human Anatomy and Physiology II.

**HHPE 399 Cross-Cultural Experience**
*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes

class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. (Offered in May Term. Students must meet eligibility requirements.) Additional course fee is required.

**HHPE 400 Health Promotion and Management**
*3 hours.* Addresses practical applications of health promotion theories. Presents examples of planning, implementation, and evaluation of health promotion and management programs in a variety of settings as guides for the development of health promotion and disease prevention programs.

**HHPE 401 Physical Examination of the Lower Extremities**
*4 hours.* In-depth study of the lower extremities including skills of injury evaluation, physical examination and differential diagnosis. One 1-hour lab per week. Prerequisite: HHPE 390 Care and Prevention of Athletic Injuries.

**HHPE 402 Physical Exam of the Spine and Upper Extremities**
*4 hours.* In-depth study of the spine and upper extremities including skill development in injury evaluation, physical examination and differential diagnosis. One 1-hour lab per week. Prerequisite: HHPE 390 Care and Prevention of Athletic Injuries.

**HHPE 410 Teaching Physical Education**
*2 hours.* Development of competence, style, and confidence in teaching physical education for the physical education major. Emphasis is given to analysis of objectives, unit and lesson planning, instruction methods, means of evaluation, and class procedures and control.

**HHPE 413 Therapeutic Exercise**
*3 hours.* Course will help students correctly identify and select the proper modalities in the treatment of injuries through research of Evidence Based Practice, modality selection with respect to the healing phase of injury, and a thorough understanding of the indications and contraindication for each modality studied. Includes a lab for practice of application of therapeutic modalities to classmates in a simulated clinical setting. Prerequisite: HHPE 390 Care and Prevention of Athletic Injuries.

**HHPE 420 Exercise Prescription**
*3 hours.* Application of exercise testing and prescription of individuals ranging from athletes to special populations. Includes aspects of nutrition, disease, training methods, and exercise responses. Prerequisites: BIOL 221 Human Anatomy and Physiology I and BIOL 222 Human Anatomy and Physiology II. Additional course fee required.

**HHPE 430 Exercise Physiology**
*3 hours.* Application of principles of physiology to physical activity. Special attention is given to the effect of exercise on the various body systems and the construction of training programs. The laboratory component explores the assessment of resting metabolic rate, energy expenditure, body composition, respiratory function, maximum oxygen uptake, lactate threshold, strength and flexibility, and other physiological responses to exercise. Three lectures and one laboratory per week. Prerequisites: BIOL 221 Human Anatomy and Physiology I and BIOL 222 Human Anatomy and Physiology II.

**HHPE 460 Adapted Physical Education**
*3 hours.* This course considers the nature and etiology of disability and handicapping conditions, as well as the implications for and development of appropriate physical education programs.

**HHPE 470 Motor Development and Motor-Skill Learning**
*3 hours.* A study of the development of motor skills. Psychological principles of learning are applied to motor-skill learning. A review of research and an inquiry into the effect of various conditions on the learning and performance of motor skills from early childhood through the adult years.

**HHPE 475 HHP Field Experience**
*3-6 hours.* 3-6 hours. A supervised experience in the discipline, including internships and practica required for professional programs. This experience must have an on-site supervisor and a departmental instructor overseeing, designing and evaluating the content of the course. Pass/No Pass. Prerequisite: instructor's permission.

**HHPE 480 Fundamentals of Exercise and Fitness Testing**
*2 hours.* Emphasis is given to methods of evaluation in programs of physical education. Testing procedures, standard tests, physical examinations, and evaluation activities are discussed.

**HHPE 485 Selected Topics**
*2-3 hours.* A seminar dealing with various topics, as announced, that represent current faculty interests and competencies.

**HHPE 490 Senior Research Project**
*3 hours.* This course builds an understanding of the theories, methods and models used in Exercise Science research and provides the required knowledge regarding how to apply these research practices to develop a novel research question and design and implement a research study as part of their capstone project.

**HHPE 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# HIST

**HIST 100 World History**
*3 hours.* This course is offered through High School Concurrent Enrollment Program.

**HIST 110 Western Civilization to 1648**
*3 hours.* A survey of Western civilization from the ancient world through the Reformation and religious wars, including attention to the origins and development of religious, political, and economic life and ideas. Course is offered through Concurrent Enrollment only.

**HIST 111 The Modern and Postmodern World**
*3 hours.* This course examines the history of the United States and Europe from 1750 to the present day. It critically explores the rise of the ideas of freedom, equality, and justice, while asking what role did the Christian faith, and the courage to express it, have in the formation of the modern and postmodern world?

**HIST 151 United States to 1865**
*3 hours.* The first half of a two-semester survey of American history. The course surveys historical development from human origins in North America through the founding of the United States to the end of the Civil War. Course is offered through Concurrent Enrollment only.

**HIST 250 Colonial Vestiges & Liberal Hopes: Latin America**
*3 hours.* Latin American countries from colonial times to the present, with an emphasis on the conditions that have led to the crises of recent years.

**HIST 285 Selected Topics**
*3 hours.* Occasional special courses scheduled to fit the interests of students and faculty and the needs of a shifting society. A course in presidential elections is offered in presidential-election years (2012, 2016).

**HIST 290 Introduction to Historical Studies**
*3 hours.* An introduction to the basic skills, methods, and resources of historical scholarship; the types of historical literature and scholarship; Christian foundations for historical interpretation; historical schools of interpretation; and the uses of historical scholarship.

**HIST 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**HIST 330 Myth & Reality in the American West**
*3 hours.* Examines the relationship of the American West to the rest of the nation through its exploration, settlement, and development. Special attention is given to the Pacific Northwest and to the Native American experience.

**HIST 331 England to 1688**
*3 hours.* The growth of the English nation from Roman times to the Glorious Revolution, with special attention given to constitutional and religious development.

**HIST 332 England from 1688**
*3 hours.* England in the modern age, emphasizing the response of its institutions to its rapidly changing role in the European and world communities.

**HIST 340 History of the Middle East**
*3 hours.* Explores the political, economic, social, and religious developments in the Middle East from the ancient to the modern era, with emphasis on the latter period.

**HIST 343 History of Southern Africa**
*3 hours.* A study of the history of southern Africa from about 1500 to the present with particular attention to the native groups of the region, Dutch colonization and British imperialism, and relations between diverse ethnic groups in the last two centuries.

**HIST 360 Modern Russia**
*3 hours.* A study of 20th- and 21st-century Russia and other former Soviet republics, with emphasis on their current significance in the world and the factors in their history that brought the Revolution of 1917 and the collapse of the Soviet Union.

**HIST 380 Race and Slavery in America**
*3 hours.* Explores the development of race-based slavery in the American colonies, slavery and abolitionism in the nineteenth century, and Black resistance to racism and pursuit for racial justice.

**HIST 393 Making History Matter: Introduction to Public History**
*3 hours.* This course will introduce students to the various fields within public history, the ethical and methodological standards, and give students the opportunity to work on a public history project.

**HIST 399 Cross-Cultural Experience**
*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. (Students must meet eligibility requirements.) Additional course fee is required.

**HIST 401 Christianity: Ancient Rome to the Reformations**
*3 hours.* The development of Christianity from its appearance within the Greco-Roman world through the period of the Reformations.

**HIST 402 Christianity: 1600 to Present**
*3 hours.* Christianity's development from the period of the Reformations through its global spread during the modern era, observing its historical context and relationship to the surrounding cultures.

**HIST 410 All Roads Lead to Rome**
*3 hours.* A survey of Republican and Imperial Rome from the 6th century BCE through the collapse of the Roman Empire in the West in the fifth century A.D. Political, economic, and social developments are stressed, including the rise of Christianity and the early church.

**HIST 419 Castles & Cathedrals: Europe 1050-1300**
*3 hours.* A survey of Europe and the Middle East in the High Middle Ages. Special attention is given to the important political, economic, and religious developments of this period.

**HIST 421 Europe: Enlightenment to 1890**
*3 hours.* European political, economic, cultural, and intellectual developments from the late 17th century through 1890.

**HIST 422 Europe: 1890-Present**

*3 hours.* Europe in the 20th and 21st centuries, with emphasis on the upheavals of the two world wars and the status of the European states today.

**HIST 456 Classics of American History**

*3 hours.* This course is a seminar that allows students to study some of the great works of American history. In addition to mastering the historical knowledge the books provide, students will develop an advanced understanding of both the social and political climate within which the books were written, and the histiographical traditions that informed the interpretations.

**HIST 457 The Colonial Experience, 1607-1763**

*3 hours.* Studies Colonial life in the British colonies of North America from the founding of Jamestown to the end of the French and Indian War. Emphasis is placed on religious conflict and development, the growing sense of a unique American identity, and the importance of community as opposed to the distant British government in the lives of everyday citizens.

**HIST 458 Tea & Taxes: America,1754-1825**

*3 hours.* Studies the world of the founders. Emphasis is placed on the ideological, social, and political milieu that gave birth to the American Revolution and Constitution. The course also considers the radical changes in American society the revolution set in motion.

**HIST 459 The State(s) of the Union: America, 1825-1898**

*3 hours.* Examines the causes of the Civil War. In addition, slavery, Christianity, the westward movement, the struggle for power in Congress, Abraham Lincoln, the rise of Northern industrialism, and Southern society are all studied in their own right and in relation to the conflict some historians call "the crossroads of our being."

**HIST 460 America, 1898-Present**

*3 hours.* Explores America’s changing roles in the 20th century and the ways these influenced the social, economic, intellectual, and political currents in American life. This course also examines the rise of interest groups, the increased political prominence of ethnic and women's groups, and the impact of these groups on American culture.

**HIST 468 America in the Time of the Two World Wars, 1898-1945**

*3 hours.* Considers how economic growth and then depression challenged the American government and people to redefine the American Dream and to discover new avenues for achieving it. At the same time, Europe confronted America with two world wars, which also changed the nature of American society and the role of the United States in the world.

**HIST 469 Recent America, 1945-Present**

*3 hours.* Studies America as the leader of the Western world during the Cold War and how that role impacted the social, economic, intellectual, and political currents in American life. This course also examines the rise of interest groups, the increased political prominence of ethnic and women's groups, and the impact of these groups on American culture.

**HIST 470 Renaissance and Reformation**

*3 hours.* The political, social, and religious life of Europe from the beginning of the Renaissance to the Peace of Westphalia, with emphasis on the various reform movements and their impact on the modern world.

**HIST 475 Field Experience**

*2-10 hours.* Supervised experiences in museums, historical societies, and government agencies. Pass/No Pass. Prerequisites: upper-division history majors, and by permission.

**HIST 485 Selected Topics**

*3 hours.* Occasional special courses scheduled to fit the interests of students and faculty and the needs of a shifting society. A course in presidential elections is offered in presidential-election years (2012, 2016, etc).

**HIST 490 History Seminar**

*3 hours.* The course examines the methods professional historians use in writing history and the main currents in American historiography through the reading of America's most influential historians. Working closely with the instructor, students are required to write a research paper based on primary sources. The paper will be permanently retained by the history faculty.

**HIST 495 Individualized Study**

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# HLTH

**HLTH 210 Drug Education**
*2 hours.* Issues concerned with the use, misuse, and abuse of selected pharmacological agents. Social, psychological, physical, and moral implications are considered. Particular consideration is given to ergogenic aids in athletics.

**HLTH 223 Sociology of Families**
*3 hours.* A study of marriage and the family from a sociological perspective, including historical, cross-cultural, and economic backgrounds. A Christian faith perspective will emphasize the worth of people, the importance of the family as a place of nurture, and the gift of marriage. (SOCI 223 and HLTH 223 are identical)

**HLTH 230 First Aid and Safety**
*1 hour.* Instruction in first aid and safety and leading to certification in first aid and cardiopulmonary resuscitation CPR). Additional course fee is required.

**HLTH 240 Stress Management**
*3 hours.* A study of causes, symptoms, and results of stress. Introduces practical techniques to alleviate stress, promote relaxation, and encourage a healthy lifestyle.

**HLTH 285 Selected Topics**
*1-3 hours.* A seminar dealing with various topics as announced that represent current faculty interests and competencies.

**HLTH 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**HLTH 300 Nutrition**
*3 hours.* A study of nutrients present in food and their relation to the nutritive needs of the human body. Emphasis on the young adult, along with discussion of contemporary nutrition-related topics of national and global concern. Computer-assisted dietary analysis included.

**HLTH 320 Contemporary Health Issues**
*3 hours.* A study of our nation's current health problems and concerns. Emphasis on health consumerism and current trends, diseases, the sanctity of life, and fitness. Goal is to develop an educated view on current health issues.

**HLTH 399 Cross-Cultural Experience**
*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. (Students must meet eligibility requirements.) Additional course fee is required.

**HLTH 475 Field Experience**
*1-3 hours.* Supervised experience in the discipline including internships and practica required for professional programs. This advanced experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Pass/No Pass. Prerequisite: instructor's permission.

### HLTH 485 Selected Topics

*1-3 hours.* A seminar dealing with various topics as announced that represent current faculty interests and competencies.

### HLTH 495 Individualized Study

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# HNRS

**HNRS 150 Athens & Jerusalem**
*6 hours.* A Socratic seminar on the greatest works of the Ancient World, with an emphasis on literature and philosophy from ancient Greece and Mesopotamia, the Old Testament, and key touchpoints with the ancient Far East. Additional course fee required.

**HNRS 190 Rome & the Early Church**
*6 hours.* A Socratic seminar on the rise of Christianity in its Classical Roman context, featuring key texts of Roman literature and philosophy, New Testament gospels and epistles, writings of the Early Church Fathers, and Hindu and Buddhist scriptures.

**HNRS 250 The Medieval World**
*6 hours.* A Socratic seminar on the greatest works of Medieval literature, philosophy, history, and theology, with a focus on the mystical and scholastic streams of Medieval Christian thought, as well as the monotheistic traditions of Judaism and Islam. Additional course fee required.

**HNRS 290 Renaissance & Reformation**
*6 hours.* A Socratic seminar on prominent works of European literature, theology, political science, and philosophy during the Early Modern era. Emphasis on Reformation theology, Renaissance literature, as well as key touchpoints with the Scientific Revolution and New World colonization. Additional course fee required.

**HNRS 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**HNRS 350 The Rise of Modernity**
*6 hours.* A Socratic seminar on great texts from the 18-19th centuries, with an emphasis on intellectual and political upheavals of this era in the realms of politics, philosophy, theology, literature, and science. Areas of focus include the Enlightenment, the American Revolution, Romanticism, Darwinism, Industrialism, and Marxism, as well as developments in Christian thought and practice. Additional course fee required.

**HNRS 450 The Twentieth Century**
*6 hours.* A Socratic seminar on great texts from the 20th century, with an emphasis on major intellectual and political movements of this century in the realms of philosophy, theology, literature, and social science. Areas of focus include totalitarianism, existentialism, feminism, postcolonialism, and Christian responses to postmodernity. Additional course fee required.

**HNRS 490 Honors Thesis**
*3 hours.* Honors students who have completed all core honors seminars can elect to write a substantive, original thesis that responds to a central question of contemporary relevance. This thesis must synthesize multiple voices from across the honors curriculum and make a compelling longform argument. Students must give an oral defense of their theses. Prerequisite: HNRS 450 The Twentieth Century.

**HNRS 495 Individualized Study**

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# HPLS

**HPLS 265 Humanities Plus Lab**
*1-3 hours.* This is a semester-long lab experience in the humanities. It can be taken and repeated for variable credit hours. Additional course fee required. Prerequisite: HPLS 290 Introduction to Computational Methods in the Humanities.

**HPLS 290 Introduction to Computational Methods in the Humanities**
*3 hours.* An introductory theory and methods course for the Humanities Plus Program. This course will introduce students to computational methods and the software tools used to implement them. It will also focus intensively on the theory and epistemological problems inherent in traditional and computer-aided humanistic research. Additional course fee required.

**HPLS 490 Portfolio Seminar**
*1 hours.* This is the capstone course for the Humanities Plus Program in which students will complete an industry-ready portfolio showcasing their expertise. Weekly meetings will focus on how to communicate a coherent story constructed about the integrative educational experience completed in the Humanities Plus Program. Final evaluation will be based on performance throughout the semester, the resulting portfolio, and an oral examination. Prerequisites: HPLS 265 Humanities Plus Lab and HPLS 290 Introduction to Computational Methods in the Humanities.

# INTD

**INTD 131 CADD I**
*3 hours.* This course is an introduction to computer-aided design and drafting using Autodesk AutoCAD. Students will use CADD software effectively to create computer-generated plans for commercial space while reviewing Life Safety, ANSI, ADA and regional building codes related to their projects. Additional course fee is required.

**INTD 200 Interior Foundations**
*3 hours.* This is the first studio in a sequential series of interior courses in which students apply their skills, knowledge and understanding of the design process to living environments. Emphasis is placed on the interrelationship of design elements and principles, spatial organization and sequencing, and conceptual problem solving in three-dimensional space. Open to all students. Additional course fee required.

**INTD 210 Textiles Foundations**
*3 hours.* An introductory course offering a foundation for textile applications in interior design. The course introduces the student to textiles for interior design including fiber properties, manufacture of yarns, fabric identification, fabrication methods, finishes and end-use application for different types of interiors. Students will learn testing procedures, performance classification, safety issues, and related fire codes. Oral and written project presentations and library research required. Additional course fee is required.

**INTD 212 Materials, Resources, and Lighting**
*3 hours.* Study of materials used in the built environment with emphasis on the interior. Students develop knowledge of material characteristic, selection, application, installation methods, and industry regulations. Lighting design plans will also be covered. Students produce product specifications following Master Specification standards. Additional course fee is required.

**INTD 220 Architectural Rendering**
*3 hours.* A study of 3D graphics, including isometrics and axonometrics. Students render perspective-based drawing in a variety of mediums including watercolor, color markers, pastels and colored pencils as they explore drawing as a tool for communicating visual information, developing presentations, analyzing space, and expanding their design vocabulary. Additional course fee is required.

**INTD 285 Selected Topics**
*3 hours.* A variety of topics may be offered that reflect the interests of faculty, visiting professors, and students.

**INTD 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**INTD 300 Space Planning and Programming**
*3 hours.* This course builds on concepts and theories introduced in Interior Foundations and guides students through the complexities of the space planning process addressing both function and aesthetics. Students will complete a series of assignments increasing in size and difficulty designed to develop space planning skills. Additional course fee is required. Prerequisite: INTD 200 Interior Foundations and ARTS 111 Drawing I

**INTD 311 Detailing Interiors**
*3 hours.* This course will study methods and materials for interior construction. Students will create details and specify materials for interior components, including walls, floors, ceilings, glazing, millwork and cabinetry. Additional course fee is required. Prerequisite: INTD 200 Interior Foundations

**INTD 320 Informed Interior: Systems and Codes**
*3 hours.* This course examines the construction systems, codes and regulations for the built environments in both commercial and residential interiors. Specific topics include plumbing, thermal, HVAC, electrical, communications, security and acoustics. Students are required to determine occupancy types and loads, applicable ADA regulations, means of egress, compartmentalization, and a variety of fire protection systems and their locations. Additional course fee is required. Prerequisites: INTD 311 Detailing Interiors, and INTD 131 CADD I

**INTD 331 CADD II**
*1.5 hours.* A continuation of CADD I. This course includes advanced CAD techniques and introduces Building Information Modeling (BIM) software for 3D modeling interior design. Students learn how to render spaces and use creative suite techniques from Photoshop and InDesign for portfolio purposes. Additional course fee is required. Prerequisite: INTD 131 CADD I

**INTD 411 Residential Design Studio**
*3 hours.* A study of the design process involved in a residential space. Students refine space planning skills and develop furniture, finishes, fabric, materials and source knowledge with respect to the residential environment. Students learn and apply residential kitchen and bath principles to projects while working on construction documentation. LEED, Life Safety, Fire, ANSI, ADA and regional building codes related to their projects will be reviewed. Additional course fee is required. Prerequisite: INTD 300 Space Planning and Programming.

**INTD 412 Commercial Design Studio**
*3 hours.* A study of the design process involved in a commercial space. Students refine space planning skills and develop furniture, finishes, fabric, materials and source knowledge with respect to the commercial environment. Students learn and apply commercial kitchen and bath principles to projects while working on construction documentation. LEED, Life Safety, Fire, ANSI, ADA, and regional building codes related to their projects will be reviewed. Additional course fee is required. Prerequisite: INTD 300 Space Planning and Programming.

**INTD 475 Interior Design Internship**
*1-3 hours.* Students will intern with a commercial concern under the direction of a professional. The student will assume major responsibilities for planning and making arrangements for this experience in consultation with their instructor and will present a written proposal outlining such arrangements for their instructor's approval mid-way through the semester preceding enrollment. Students will meet with the instructor periodically throughout the internship.

**INTD 485 Selected Topics**
*3 hours.* A variety of topics may be offered that reflect the interests of faculty, visiting professors, and students.

**INTD 495 Individualized Study**

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# INTL

**INTL 200 Cultural Geography and Global Relations**
*3 hours.* A study of the world's cultural regions developed through the themes of location, human environmental relationships, movement, and regions, with emphasis on the interrelatedness of culture, physical, economic, historical, and political geography in creating the dynamic cultural landscapes existing today.

**INTL 230 Introduction to International Affairs**
*3 hours.* An introduction to the core issues and problems that affect the entire world, including threats to security such as war and terrorism, the rise of globalization, the persistence of inequality between rich and poor countries, and the degradation of the environment. (INTL 230 and PSCI 230 are identical courses.)

**INTL 260 Global Awareness Proseminar**
*1 hour.* This course will provide a foundation in the intellectual and social abilities required for international experiences. The primary goals of this course are to develop global awareness and cross-cultural competencies that will provide students with the practical skills necessary for effective off-campus study abroad and internationally-focused internships.

**INTL 275 Field Experience**
*1-10 hours.* Supervised experience in the discipline including internships and practica required for professional programs. This introductory experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Pass/No Pass. Prerequisite: instructor's permission.

**INTL 285 Selected Topics**
*1-3 hours.* An introductory seminar offered on an occasional basis addressing a current topic in the field that is of special interest to students and current faculty.

**INTL 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**INTL 303 International Conflict and Peace**
*3 hours.* Why do wars and conflicts occur and how do we prevent these? This course considers the causes of global insecurity (from wars between countries to transnational terrorism to genocide) and examines the various approaches to their resolution, including the creation of international institutions and military alliances. Special emphasis will be placed on the role of religion in global political conflict.

**INTL 310 Cultural Anthropology**
*3 hours.* A comparative study of world societies and their ways of life.

**INTL 330 Politics of the Developing World**
*3 hours.* This course covers the main issues faced by developing countries in Africa, the Middle East, Latin America, and Asia. Special attention is given to economic development and the impact of globalization on these nations. (PSCI 330 and INTL 330 are identical courses)

**INTL 370 International Economic Development**
*3 hours.* This course introduces students to causes and consequences of 'the wealth of nations.' Students will learn theories of economic growth and poverty alleviation. Topics

to be covered include: globalization, education, international trade, holistic conceptions of development, and the role of institutions. (Identical to INTL 370 and SOCI 370.) Prerequisites: ECON 211 Principles of Macroeconomics or ECON 212 Principles of Microeconomics

**INTL 375 Cultural Immersion**
*8 hours.* Supervised experiences in a non-American culture. Pass/No Pass. Prerequisite: upper-division international studies majors or minors, and by permission.

**INTL 420 Intercultural Communication**
*3 hours.* This covers communication as it affects and is affected by language and culture. Topics include contextualized use of communication within speech communities, intercultural effectiveness, cultural communication theory, competent intercultural experiences in co-cultures (ethnic, gender, intergenerational, deaf, etc.) and global cultural groups. A student may not earn credit for both the lower-division and upper-division versions of this course.

**INTL 440 World Religions**
*3 hours.* A comparative study between Christianity and other prominent religions of the world, such as Buddhism, Islam, Hinduism, and contemporary kinds of alternative religion. [THEO 410 and INTL 440 are identical courses].

**INTL 475 Internship**
*3 hours.* Supervised experience in the discipline including internships and practica required for professional programs. This introductory experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Pass/No Pass. Prerequisite: instructor's permission.

**INTL 485 Selected Topics**
*1-3 hours.* An advanced seminar offered on an occasional basis addressing a current topic in the field that is of special interest to students and current faculty.

**INTL 490 International Studies Senior Seminar**
*3 hours.* Required of senior international studies majors, the course emphasizes the investigation of theoretical and current applications of interdisciplinary research in international studies. Students with a significant interest in international issues are welcome, with the consent of the instructor. A research paper based upon primary source materials is the main assignment of the course.

**INTL 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# JOUR

**JOUR 200 Persuasive Communication**
*3 hours.* A presentation of key principles of persuasion as they are reflected in typical organizational communication contexts. Focus on developing a planning sequence that will function as a practical guide for designing, executing, and evaluating communication events. Students will be expected to develop a "real world" communication event, e.g., publicity campaign, speech, newsletter. Prerequisite: COMM 100 Introduction to Communication or equivalent.

**JOUR 210 Practical Grammar and Editing**
*3 hours.* This course helps those who want to understand and to be able to explain to others what can be done to make writing correct, clear, and precise. Focuses on constructing, editing, and correcting sentences and paragraphs. This is not a remedial course.

**JOUR 230 Introduction to Journalism**
*3 hours.* A course designed to provide fundamental knowledge and experience in reporting, writing, and editing news for the print media. Prerequisite: WRIT 111 Caring for Words, enrollment in the Honors Program, or instructor permission.

**JOUR 240 Introduction to Public Relations**
*3 hours.* A course designed to introduce and develop a clear concept of public relations as a communication profession. Topics to be covered include the function of public relations in both public and private enterprises; the process of planning and implementing a public relations communication campaign; techniques for communicating with various publics; and the laws and ethics governing the practice of public relations.

**JOUR 275 Field Experience**
*1-3 hours.* Experience in supervised field situations, generally off campus, involving extensive communication activity. Admission to course and amount of credit determined by the faculty supervisor. Pass/No Pass.

**JOUR 285 Selected Topics**
*1-3 hours.* A variety of topics may be offered that reflect the interests of faculty, visiting professors and students.

**JOUR 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**JOUR 310 Professional Writing**
*3 hours.* This course explores trends in media convergence, focusing as well on the ways reporters, editors, and designers create stories for the web. Particular emphasis will be on web-based story design, the coordination of text and art, and the creation of stories for a variety of new media outlets. Prerequisite: WRIT 111 Caring for Words, enrollment in the Honors Program, or instructor permission.

**JOUR 330 Magazine and Feature Writing**
*3 hours.* A workshop approach to writing feature articles and other shorter nonfiction forms for periodicals. Student-produced material is submitted to various publications as

part of course expectations. Prerequisite: WRIT 111 Caring for Words, enrollment in the Honors Program, or instructor permission.

**JOUR 470 Journalism II**
*3 hours.* Students hone journalistic skills in areas such as interviewing techniques, cultivating sources, investigative reporting, and editing and layout. Prerequisite: JOUR/ WRIT 230 Introduction to Journalism or instructor's permission.

**JOUR 475 Field Experience**
*1-3 hours.* Experience in supervised field situations, generally off campus, involving extensive communication activity. Admission to course and amount of credit determined by the faculty supervisor. Pass/No Pass.

**JOUR 480 Senior Capstone: Ethical and Spiritual Dimensions of Communication**
*3 hours.* Designed to integrate skills and concepts from communication course work with ethical and spiritual principles through readings, written assignments, and assessment instruments. Students will complete portfolios that will include work samples and department exit exams along with a statement of what it means to be a Christian communicator. A service component may be included as part of the course.

**JOUR 485 Selected Topics**
*1-3 hours.* A variety of topics may be offered that reflect the interests of faculty, visiting professors and students.

**JOUR 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# LANG

**LANG 275 Field Experience**
*1-12 hours.* Experience in supervised field situations, generally off campus, involving extensive communication activity. Admission to course and amount of credit determined by the faculty supervisor. Pass/No Pass.

**LANG 285 Selected Topics**
*1-3 hours.* A variety of topics may be offered that reflect the interests of faculty, visiting professors, and students.

**LANG 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**LANG 340 General and Cultural Linguistics**
*3 hours.* A study of the nature of verbal symbols as they function in communication. The course will include phonetic transcription, semantics, modern grammatical theories, history of the English language, and modern English dialects.

**LANG 343 Second Language Acquisition**
*3 hours.* This course familiarizes students with linguistic, psychological, cognitive, and socio-cultural aspects of second (or additional) language acquisition and related language acquisition theories. Students reflect on their own language learning and acquisition experiences in light of these theories and consider implications for the teaching and learning of additional languages. Offered every other year.

**LANG 350 Issues in Second Language Acquisition**
*3 hours.* An introduction to the theory and practice of teaching English (or any language) to non-native speakers. Topics include principles of language teaching, communicative and interactive approaches, teaching methods and techniques for improving different language skills, lesson planning, materials selection and adaptation, testing, cultural issues, teaching English as Christian witness, and working with English-as-a-second-language students in a mainstream class. Students relate theory to practice in a school- or community-based practicum.

**LANG 475 Field Experience**
*1-12 hours.* Experience in supervised field situations, generally off campus, involving extensive communication activity. Admission to course and amount of credit determined by the faculty supervisor. Pass/No Pass.

**LANG 485 Selected Topics**
*1-3 hours.* A variety of topics may be offered that reflect the interests of faculty, visiting professors, and students.

**LANG 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# LEAD

**LEAD 110 Introduction to Leadership**
*1 hour.* This course is designed to provide students with an introduction to leadership by focusing on what it means to be a good leader. Emphasisi in the ocurse is on the practice of leadership, providing ample opportunity for reflection, observation and skill development. The class will examine such topics as the nature of leadership, recognizing leadership traits, creating a vision, setting a tone, handling conflict, overcoming obstacles, and leadership ethics. Students will be encouraged to identify leadership roles they can fill on campus. Pass/no pass

**LEAD 235 Residence Life Seminar**
*1 hour.* An integrative seminar linking residence-life leadership, course work, and group exercises. Examines the educational implications of residence life by giving attention to what causes dissonance in the lives of undergraduates, how community is created, and how leaders function as models on a college campus. Pass/No Pass. Prerequisite: current member of the residence life staff.

**LEAD 260 Leadership Advance I**
*1 hour.* Designed as an introduction to leadership for first and second year students. Required for incoming Miller Scholarship recipients. Delivered in either a weekly class format or through a series of workshops. Students also engage in an outdoor education experience. Possible topics include leadership styles and theories, followership, decision making, team building, communication, discovering personal vocation and identifying spiritual gifts. Pass/No Pass.

**LEAD 270 Leadership Advance II**
*1 hour.* Designed as an introduction to student leadership for first and second year students. Required for incoming Miller Scholarship recipients. Students engage in a community service project as well as a capstone project assisting a local organization. May include workshop or class sessions.

**LEAD 275 Leadership Experience**
*1-3 hours.* Designed to provide students with an opportunity to develop their leadership skills through work or volunteer experience. All leadership experience proposals subject to the approval of the leadership studies program directors. Possible placements might include leading a church youth group, directing a social-concern project, managing the campus radio station, or serving as a member of student government. Pass/No Pass.

**LEAD 285 Selected Topics**
*1-3 hours.* An introductory seminar offered on an occasional basis addressing a current topic in the field that is of special interest to students and current faculty. Pass/No Pass.

**LEAD 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**LEAD 360 Student Leader Development I**
*1 hour.* Provides a common core of leadership knowledge and skill for students in formal roles and programs on campus (i. e. student government, spiritual life, Act VI scholars, residence life). Focus on the development of effective and innovative leaders through self-understanding, skill development, relational competence and service.

Possible topics include community building and group dynamics, emergency response, identifying individual strengths, diversity, decision-making, dealing with conflict and setting leadership priorities. Pass/No Pass.

**LEAD 370 Student Leader Development II**
*1 hour.* Provides a common core of leadership knowledge and skill for students in formal roles and programs on campus (i. e. student government, spiritual life, Act VI scholars, residence life). Focus on the development of effective and innovative leaders through self-understanding, skill development, relational competence and service. Possible topics include community building and group dynamics, emergency response, identifying individual strengths, diversity, decision-making, dealing with conflict and setting leadership priorities. Fall Semester. Pass/No Pass. Prerequisite: LEAD 360 Student Leader Development I.

**LEAD 399 Cross-Cultural Experience**
*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. (Students must meet eligibility requirements.) Additional course fee is required.

**LEAD 435 Advanced Residence Life Seminar**
*1 hour.* An integrative seminar linking residence-life leadership, course work, and group exercises. Examines the educational implications of residence life by giving attention to what causes dissonance in the lives of undergraduates, how community is created, and how leaders function as models on a college campus. Pass/No Pass. Prerequisite: current member of the residence life staff.

**LEAD 475 Leadership Experience**
*1-3 hours.* Designed to provide students with an opportunity to develop their leadership skills through work or volunteer experience. All leadership experience proposals subject to the approval of the leadership studies program directors. Possible placements might include leading a church youth group, directing a social-concern project, managing the campus radio station, or serving as a member of student government. Pass/No Pass.

**LEAD 485 Selected Topics**
*1-3 hours.* An advanced seminar offered on an occasional basis addressing a current topic in the field that is of special interest to students and current faculty. Pass/No Pass.

**LEAD 491 Leadership Seminar I**
*1 hour.* Integrative seminar linking leadership practicum, course work, and readings. Topics include servant leadership, transformational leadership, and leadership development. Occasional retreats and other off-campus activities. Pass/No Pass.

**LEAD 492 Leadership Seminar II**
*1 hour.* Integrative seminar linking leadership practicum, course work, and readings. Topics include servant leadership, transformational leadership, and leadership development. Occasional retreats and other off-campus activities. Pass/No Pass.

**LEAD 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# LIBA

**LIBA 285 Selected Topics**
*1-3 hours.* A variety of topics may be offered to meet the special needs and interests of students, faculty, or visiting professors.

**LIBA 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**LIBA 300 Transfer Student Seminar**
*1 hour.* This course, designed particularly for transfer students, is intended to help you build community, practice the habits and virtues of the liberal arts, and access the support needed to fulfill your calling as a scholar at George Fox University. It creates opportunities to discuss important topics around identity, community, and calling - providing a civil and safe space for students to explore a variety of opinions and different life experiences. The course doesn't question or critique the path that brought you to George Fox, but rather, is grounded in the belief that everyone who chooses to become a member of the George Fox University community belongs here and has a unique role to play in positively impacting this institution's culture and history. Pass/No Pass

**LIBA 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# LITR

**LITR 100 Introduction to Literature**
*3 hours.* Explores the major genres, themes, and elements of literature. Course is offered through Concurrent Enrollment only.

**LITR 111 Faith and Story**
*3 hours.* How do stories redeem the past and shape the future? What stories might make sense of your past and shape your future? “Faith and Story” introduces students to literature as a method of human inquiry, with particular attention to the importance of carefully reading texts from multiple genres, periods, cultures and voices, examining narrative and form through a Christian lens, and cultivating the virtues of imagination and empathy. Topics and texts vary by section.

**LITR 200 Studies in Literature**
*3 hours.* Introduces important concepts in the study of literature. Students will learn techniques in close reading, and will read, discuss, and produce written analyses of a variety of literary texts in order to better understand historical, political, cultural, and formalistic aspects of literary works.

**LITR 240 Understanding Drama**
*3 hours.* A study of significant plays from the classical period to the present, both as literary works and staged productions, the goal being a deeper understanding and appreciation of drama as a symbolic form. Primary focus is on literary values, with attention also given to the constraints and interpretations embodied in the staging, acting, and directing of a play. (Identical to THEA 240.)

**LITR 241 World Literature I**
*3 hours.* Introduces and examines as literary texts significant works of world mythologies. Readings stress those cross-cultural themes and literary forms exemplifying the ideals, values, and concerns that have shaped our shared human condition. The course surveys myths from African, Middle Eastern, Asian, Native American, Meso-American, Oceanic, and European literatures. Universal motifs and unique differences in these traditional sacred and secular stories are examined with an eye to understanding how myths underpin cultural, community, and individual values, ethical teachings, and spiritual experiences that continue to inform the world's cultures.

**LITR 242 World Literature II**
*3 hours.* Considers works written in Africa, the Middle East, Asia, Oceania, Europe, and the Americas during the medieval and early modern periods. Students examine culturally defining texts that reflect both the uniqueness of culture and the universality of literary themes. Students read a sample of texts written between the medieval period and 1900. The focus is on texts that continue to be important to the culture they represent, such as The Tale of Genji, Journey to the West, The Thousand and One Nights, The Divine Comedy, and Shakuntala.

**LITR 275 Field Experience**
*1-3 hours.* Supervised experience in the discipline including internships and practica required for professional programs. This introductory experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Pass/No Pass. Prerequisite: instructor's permission.

**LITR 280 Literary Foundations of Women's Studies**

*3 hours.* Introduces students to literature that presents the groundwork for women's studies and considers a selection of contemporary texts that apply that perspective. Reading will include significant novels, poems, and essays that demonstrate the history of women's contribution to literature, culture, and Christianity.

**LITR 285 Selected Topics**

*3 hours.* An occasional course that allows professors and students to investigate interesting literary byways. Past selections have included studies in science fiction, the literature of human rights, the short story, and the works of particular authors.

**LITR 290 Professional Seminar**

*1 hour.* This course examines career options for English majors. Goal setting, professional development, and marketing skills are emphasized. Required of all English majors. Prerequisite: English major with sophomore standing.

**LITR 295 Individualized Study**

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**LITR 335 Advanced Studies in American Literature**

*3 hours.* An advanced study of selected authors and topics in American Literature. May be repeated with permission of instructor. Prerequisite: Students must have completed any two of the following literature sequence courses: LITR 241, LITR 242, LITR 356, LITR 357, LITR 381, LITR 382

**LITR 350 Literary Criticism**

*3 hours.* Introduces students to various schools of literary criticism. Students will practice using different critical approaches to writing about literature. Recommended for juniors and seniors. Prerequisite: WRIT 200 Understanding Literature and 6 hours of literature courses or instructor's permission.

**LITR 356 American Literature I**

*3 hours.* A selective look at early American literature, from 1607 to 1890. Examines themes, movements, and writers who influenced and were influenced by the growth of the nation. Prerequisite: LITR 111 Faith and Story, any 100 or 200 level LITR course or equivalent, enrollment in the Honors Program, or instructor permission.

**LITR 357 American Literature II**

*3 hours.* A selective look at the literature of the United States, from 1890 to the present. Particular attention is given to the masterworks of Naturalism and Modernism, especially to those that have proven influential in contemporary literature. Prerequisite: LITR 111 Faith and Story, any 100 or 200 level LITR course or equivalent, enrollment in the Honors Program, or instructor permission.

**LITR 365 Advanced Studies in British Literature**

*3 hours.* An advanced study of selected authors and topics in British Literature. May be repeated with permission of instructor. Prerequisite: Students must have completed any two of the following literature sequence courses: LITR 241, LITR 242, LITR 356, LITR 357, LITR 381, LITR 382

**LITR 379 Shakespeare**

*3 hours.* A consideration of the life and works of the poet/playwright and the sociopolitical history of the Renaissance. The course examines the sonnets and a selection of the plays from each genre: comedy, tragedy, history, and tragicomedy.

Prerequisite: LITR 111 Faith and Story, any 100 or 200 level LITR course or equivalent, enrollment in the Honors Program, or instructor permission.

**LITR 380 Gender Theory**
*3 hours.* This course is designed expose students to the ways that gender theory, including feminism, womanism, anti-sexism, and masculinism, has developed over the years, and how that theory is applied to literature.

**LITR 381 British Literature I**
*3 hours.* A selective look at the literature of the British Isles, from the earliest texts through 1660. Particular attention is given to the Anglo-Saxon, Medieval, and Renaissance periods. Prerequisite: LITR 111 Faith and Story, any 100 or 200 level LITR course or equivalent, enrollment in the Honors Program, or instructor permission.

**LITR 382 British Literature II**
*3 hours.* A selective look at the literature of the British Isles during the Victorian, Modern, and Contemporary periods. Particular attention is given to the literature of doubt and faith, the development of the novel, and post-Colonial issues. Prerequisite: LITR 111 Faith and Story, any 100 or 200 level LITR course or equivalent, enrollment in the Honors Program, or instructor permission.

**LITR 399 Cross-Cultural Experience**
*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. (Students must meet eligibility requirements.) Additional course fee is required.

**LITR 475 Field Experience**
*1-3 hours.* Supervised experience in the discipline including internships and practica required for professional programs. This introductory experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Pass/No Pass. Prerequisite: instructor's permission.

**LITR 480 International Women's Voices**
*3 hours.* Considers contemporary writings from women around the world. Students analyze these literary texts, examine the cultures they represent, and keep apprised of current events related to women. Prerequisite: LITR 111 Faith and Story, any 100 or 200 level LITR course or equivalent, enrollment in the Honors Program, or instructor permission.

**LITR 485 Selected Topics**
*3 hours.* An occasional course that allows professors and students to investigate interesting literary byways. Past selections have included studies in science fiction, the literature of human rights, the short story, and the works of particular authors.

**LITR 490 Senior Experience**
*2 hours.* Students will choose to research and write a senior thesis, working with a faculty member in their area of interest; or will complete a service project in a community organization, in a school classroom, or in another identified literacy program; or will complete a professional internship; or will create a portfolio of written work. Prerequisite: Senior Standing

### LITR 495 Individualized Study

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# MAND

**MAND 101 Introductory Mandarin I**
*3 hours.* 3 hours. An integrated introductory study of Mandarin Chinese. Listening, speaking, reading and writing are all integral to learning the language. Cultural aspects of China are also presented as essential components. Three class hours per week.

**MAND 102 Introductory Mandarin II**
*3 hours.* 3 hours. An integrated introductory study of Mandarin Chinese. Listening, speaking, reading and writing are all integral to learning the language. Cultural aspects of China are also presented as essential components. At the end of MAND 102, students should have novice high proficiency as defined by the American Council of the Teaching of Foreign Languages (ACTFL). Three class hours per week.

# MATH

**MATH 095 Math Skills**
*1-3 hours.* Individually designed mathematical training to meet the needs and goals of any individual student. The extent of this training will be determined through a testing process. Topics covered include basic math, elementary algebra, and intermediate algebra. This course does not fulfill general education requirements. This course is pre-college level and carries no credit toward degree requirements.

**MATH 170 Why Math Matters**
*3 hours.* This course will expand students' appreciation for, and abilities in mathematics so that they understand it is present and useful beyond their previous considerations and experiences. As these boundaries are stretched, students will not only connect with the beauty and utility of mathematics but also the opportunity it will afford them to worship and serve God with greater impact. Problem solving, critical thinking and rigorous logical argumentation, implemented both formally and in relevant, faith based applications, will provide a rich soil for the cultivation of knowledge, faith and character.

**MATH 180 College Algebra**
*3 hours.* An algebra course designed for students who have a good background in high school algebra and are prepared to cover the major topics of algebra in more depth and breadth. Applications of algebra will be emphasized in this course. This course does not serve as a prerequisite for the calculus sequence. Prerequisite: high school algebra or equivalent.

**MATH 190 Pre-Calculus Mathematics**
*4 hours.* A course for students who are preparing to take calculus or other courses requiring a similar background. In addition to studying the topics found in a college algebra course, this course will focus on trigonometry and an introduction to exponential and logarithmic functions. Prerequisite: high school algebra or its equivalent. Students who have taken MATH 180 College Algebra may not take this course for credit.

**MATH 201 Calculus I**
*4 hours.* The class is a study of limits limits of functions, applications of derivatives, and an introduction to integration. Prerequisite: MATH 190 Precalculus Mathematics or equivalent.

**MATH 202 Calculus II**
*4 hours.* A study of differential and integral calculus for functions of one variable. Additional topics include polar coordinates, infinite series, and parametric equations. Prerequisite: MATH 201 Calculus I.

**MATH 211 Foundations of Elementary Mathematics I**
*4 hours.* This course is the first of two courses designed to engage elementary and middle school prospective teachers in the learning and development of the mathematical knowledge needed for teaching mathematics. It has a multi-dimensional focus on mathematical problem solving and reasoning with understanding of numbers and their properties through various representations, including algebraic and visual representations. Additional course fee required.

**MATH 212 Foundations of Elementary Mathematics II**
*4 hours.* This course is the second of two courses designed to engage elementary and middle school prospective teachers in the learning and development of the

mathematical knowledge needed for teaching mathematics. Emphasis will be placed on nuanced mathematics content knowledge needed for teaching within the domains of algebra,statistics, probability, geometry, and measurement. Prerequisite: Completion of MATH 211 Foundations of Elementary Mathematics I.

**MATH 240 Statistical Procedures**
*3 hours.* An introduction to probability and statistics with content and application directed toward the natural and physical sciences. Topics to be covered include methods of describing data, probability, random variables and their distributions, estimation, hypothesis testing, linearregression, and correlation. Prerequisite: MATH 180 College Algebra or equivalent.

**MATH 260 Discrete Mathematics**
*3 hours.* An introduction to discrete mathematics. Topics covered include sets, functions, math induction, combinatorics, recurrence, graph theory, trees, and networks.

**MATH 275 Field Experience**
*1 hour.* Supervised experience in the discipline including internships and practica required for professional programs. This introductory experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Prerequisite: instructor's permission.

**MATH 285 Selected Topics**
*1 hour.* A class with topics in mathematics chosen to fit special needs orinterests of students, faculty, or visiting professors. Prerequisite: instructor's permission.

**MATH 290 Introduction to Proofs**
*3 hours.* This course is intended to facilitate a smooth transition from lower-level, computation-oriented math courses to upper-level, more theoretical courses. Topics include symbolic logic, methods of proof, and set theory. Prerequisite: MATH 201 Calculus I.

**MATH 295 Individualized Study**
*1-4 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**MATH 301 Calculus III**
*3 hours.* This course is an extension of MATH 201 and 202 Calculus I and II to functions of more than one variable. Topics include vectors, vector-valued functions, partial derivatives, and multiple integration. Prerequisite: MATH 202 Calculus II.

**MATH 311 Differential Equations with Linear Algebra**
*4 hours.* A study of the theory, methods of solution, and applications of ordinary differential equations and the techniques of linear algebra necessary to accomplish that study. Prerequisite: MATH 202 Calculus II.

**MATH 312 Numerical Methods**
*3 hours.* A study of numerical solutions of mathematical problems, including nonlinear equations, systems of linear equations, polynomial approximations, root finding, integration, and differential equations. Computer programs are written to solve these problems. (Identical to CSIS 300.) Prerequisites: MATH 311 Differential Equations with Linear Algebra and either CSIS 201 Introduction to Computer Science I or ENGR 152 Engineering Principles II.

**MATH 330 Engineering Statistics**

*3 hours.* Serves as an introduction to probability and statistics with content and application directed toward the engineering and science disciplines. Topics to be covered include methods of describing data, probability, random variables and their distributions, estimation, hypothesis testing, linear regression and correlation. Does not meet math major requirements. Prerequisite: MATH 202 Calculus II or equivalent.

**MATH 331 Probability**

*3 hours.* A study of sample spaces, combinatorial methods, discrete and continuous distributions, moment-generating functions, and the central limit theorem. Prerequisites: MATH 290 Introduction to Proofs and MATH 301 Calculus III.

**MATH 332 Mathematical Statistics**

*3 hours.* A study of statistical methods - including estimators, confidence intervals, tests of statistical hypotheses, and correlation analyses - from a theoretical point of view, including applications. Prerequisite: MATH 331 Probability.

**MATH 340 Number Theory**

*3 hours.* An introduction to the basic properties of whole numbers, including such topics as prime numbers, Euclid's algorithm, Fermat's Theorem, congruences, and Diophantine equations. The course will emphasize historical development of the relevant topics. Prerequisites: MATH 202 Calculus II and MATH 290 Introduction to Proofs.

**MATH 399 Cross-Cultural Experience**

*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. (Students must meet eligibility requirements.) Additional course fee is required.

**MATH 411 Advanced Linear Algebra**

*3 hours.* A study of matrices and their properties and application, linear transformations, and vector spaces. Prerequisite: MATH 290 Introduction to Proofs.

**MATH 412 Algebraic Structures**

*3 hours.* A study of groups, rings, integral domains, fields,polynomial rings, and algebraic number systems. Prerequisites: MATH 411 Advanced Linear Algebra.

**MATH 421 Real Analysis I**

*3 hours.* An introduction to the fundamental concepts in real analysis including limits, continuity, sequences, series, differentiation, and integration. Prerequisites: MATH 290 Introduction to Proofs and MATH 301 Calculus III.

**MATH 422 Real Analysis II**

*3 hours.* Class serves as a continued study of the fundamental concepts in real analysis including limits, continuity, sequences, series, differentiation, and integration. Prerequisite: MATH 421 Real Analysis I.

**MATH 475 Field Experience**

*1-3 hours.* Supervised experience in the discipline including internships and practica required for professional programs. This advanced experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Pass/No Pass. Prerequisite: instructor's permission.

**MATH 485 Selected Topics**

*1-3 hours.* A class with topics in mathematics chosen to fit special needs orinterests of students, faculty, or visiting professors. Prerequisite: instructor's permission.

**MATH 490 Senior Seminar**

*2 hours.* A seminar for junior and senior math majors to explore current topics selected by the instructor. Emphasis will be placed on significant student involvement in the classroom. Prerequisite: junior or senior status.

**MATH 495 Individualized Study**

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**MATH 585 Graduate Mathematics Courses for High School Teachers**

*2 hours.* These courses focus on best-practice strategies and mathematics content related to teaching college credit mathematics courses in dual enrollment settings in high schools. Course offerings may only be offered once, or might be rotated on an every 2 to 3-year basis depending on interest. Prerequisite: On a per topic basis.

# MGMT

**MGMT 200 Leadership and Character**
*3 hours.* This course is focused on the character of leadership. Opportunities to understand the essence of character such as attitude, empathy, respect, courage, perseverance, honesty, appreciation, composure, gratitude, tolerance, sacrifice, and self-awareness are woven throughout the course. These topics and more will be explored by studying historic and current leaders, real-life case studies to understand their situations and their character in action.

**MGMT 260 Principles of Management**
*3 hours.* A study of the theory and practice of management. The course involves discussion and application of areas such as social responsibility, strategy, problem solving, communication, change, job performance, and financial/operational controls. Prerequisite or Co-requisite: BUSN 110 Introduction to Business.

**MGMT 285 Selected Topics in Management**
*1-4 hours.* Occasional special courses chosen to fit the interests and needs of students and faculty.

**MGMT 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**MGMT 300 Leading and Managing People**
*3 hours.* This course recognizes that managers are also called upon to be leaders. The differences between a leader and manager will be discussed with focus on effective leadership and management skills, philosophies and orientations. Prerequisite: MGMT 260 Principles of Management.

**MGMT 310 Project Management**
*3 hours.* This course will prepare students to skillfully use fundamental project management concepts and behavioral skills to effectively plan and lead project work. Specifically, through practical, hands-on work, case studies, and exercises, students will learn to manage project resources, schedules, tasks, time/cost tradeoffs, risks, and scope to produce desired organizational outcomes. Importantly, since most project teams are comprised of internal and external resources which are often distributed geographically, students will become knowledgeable and skillful at recognizing and overcoming the challenges of leading distributed teams. In short, this course will provide a sense of confidence with planning and oversight throughout all phases of a project's life cycle.

**MGMT 350 Human Resource Management**
*3 hours.* This course explores the role and function of HR Management in organizations. Focus for the course will surround human resource management, compliance, selection, compensation, etc. Prerequisites: MGMT 260 Principles of Management

**MGMT 400 Business Development and Sales**
*3 hours.* In this class, the emphasis is placed on the integration and relationships of sales in the various areas of business and our everyday relationships. Students learn how to recognize the influence of sales and engage in the sales process. The process, procedures, and best practices of business to business sales will be taught

in order to empower students to successfully sell throughout their career, regardless of their chosen career path. Particular emphasis will be placed upon the integration of Christian faith, practice, and ethics in sales. Focus will also be placed upon building and stewarding healthy relationships in regard to sales. This course will explore where and why sales permeate business, how to engage and practice the sales cycle, and how to have a successful career in business to business sales through the utilization of best practices and Christian faith.

**MGMT 450 Operations Management**
*3 hours.* This course examines the basic principles of managing the production and distribution of goods and services. The course provides frameworks and tools to target and implement improvements in business processes. Prerequisites: MGMT 260 Principles of Management and college level statistics course 200 level or higher. Students who've taken PSYC 240 or SOCI 340 must also complete MATH 150 or higher, or have a SAT math score of 620 or higher or have an ACT score of 28 or higher.

**MGMT 475 Field Experience**
*1-6 hours.* Supervised experiences in businesses, nonprofit organizations, and public agencies.

**MGMT 480 Organizational Behavior**
*3 hours.* This course examines the complex and dynamic interactions of people and organizations in society. Particular focus will be on organizational theory, human perception, motivation, group dynamics, power, conflict, culture, leadership, organizational development, and managing change. Prerequisite: MGMT 260 Principles of Management.

**MGMT 485 Selected Topics in Management**
*1-4 hours.* Occasional special courses chosen to fit the interests and needs of students and faculty.

**MGMT 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# MKTG

**MKTG 260 Principles of Marketing**
*3 hours.* Study of the marketing concept, consumer demand and behavior, and marketing functions of the firm. The objective is to understand the development of marketing channels, products, prices, and promotion strategies. Prerequisite or Co-requisite of BUSN 110 Introduction to Business

**MKTG 275 Field Experience**
*1-3 hours.* Supervised experiences in marketing, businesses, nonprofit organizations and public agencies. Pass/No Pass.

**MKTG 285 Selected Topics**
*1 hour.* Occasional special courses chosen to fit the interests and needs of students and faculty.

**MKTG 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**MKTG 300 Consumer Behavior: Know Your Customer**
*3 hours.* We will take a look at how customers shop, buy and use products and services to satisfy their needs and wants. This class highlights physiological and psychological content that promotes consumer behavior understanding, such as perception, learning, language, internal and external motivations, emotions. Creating personas is an outcome of consumer behavior knowledge, allowing you to instinctively know your customer and create personalized marketing campaigns that hit the target each time. Prerequisite: MKTG 260 Principles of Marketing.

**MKTG 340 Global Marketing**
*3 hours.* This course will expose the student to marketing strategies and activities that enable organizations to be competitive in the global economy and market. This course will enable the student to understand how to target global markets and how to manage and lead in the global marketing effort. Students in this course will have the option of participating in a Juniors Abroad trip that will examine marketing in three different global markets. Prerequisite: MKTG 260 Principles of Marketing.

**MKTG 350 Marketing Research**
*3 hours.* Research is behind any sound marketing decision and activity. This course addresses the process in which marketing research is conducted, including defining research needs, formulating research questions, designing the appropriate methodologies, collecting and analyzing qualitative and quantitative data, and reporting the findings. Prerequisites: MKTG 260 Principles of Marketing and college level statistics course 200 level or higher. Students who've taken PSYC 240 or SOCI 340 must also complete MATH 150 or higher, or have a SAT math score of 620 or higher or have an ACT score of 28 or higher.

**MKTG 360 Digital Marketing**
*3 hours.* This course focuses on creating digital marketing strategies across disciplines including branding, design, usability, technology, IT development, search engine optimization, pay-per-click, link development, online reputation management, and social media marketing integration to drive commerce via viral adoption and engagement.

Students will learn to understand how to conduct technical, business, and creative relationships with social media platform providers such as LinkedIn, You Tube, Facebook, Twitter, Pinterest and Foursquare.Prerequisite: MKTG 260 Principles of Marketing.

**MKTG 420 Marketing Communications: The Role of Integrated Marketing in a Digital World**
*3 hours.* We will incorporate traditional and non-traditional B2B and B2C techniques to effectively communicate with our target audience. You will learn how to create a unified, cohesive Integrated Marketing plan, essential to a successful marketing career. In today's market, it is critical to know how to leverage digital strategies across a variety of deliverables including branding, design, usability, IT development, SEO, and social media integration to drive active commerce and audience engagement. You will learn how to solve business problems with a persuasive marketing strategy. Prerequisites: MKTG 260 Principles of Marketing and MKTG 300 Consumer Behavior: Know Your Customer.

**MKTG 430 Radical Marketing**
*3 hours.* A variety of contemporary topics and issues in marketing will be covered each semester, providing essential content to better prepare you for your career. Topics will vary each semester with a focus on timely issues in the marketplace. This course will provide insights into new areas of marketing and will go deep enough into topics to walk away with a firm and effective understanding of a new specialty. Prerequisites: MKTG 260 Principles of Marketing, MKTG 420 Marketing Communications and junior or senior standing.

**MKTG 475 Field Experience**
*1-6 hours.* Supervised experiences in businesses, nonprofit organizations, and public agencies. Pass/No Pass.

**MKTG 485 Selected Topics**
*1-3 hours.* Occasional special courses chosen to fit the interests and needs of students and faculty.

**MKTG 490 Strategic Marketing: Formulating Concrete Results**
*3 hours.* We will bring together all of what has been learned in earlier marketing courses and introduce marketing decision making and planning frameworks. With a global perspective and supporting case studies, we use practical application to create innovative market-needed strategies, analyze situations, identify differentiation and positioning, evaluate the competition, and learn how to take a broad view of every function involved in building a strong business that will succeed in the market. The goal for this course is to help you become a strategic marketer, giving you the tools you need to create, build support for and execute marketing plans that will build strong and sustainable businesses. Prerequisites: MKTG 300 Consumer Behavior, MKTG 420 Marketing Communications and senior standing.

**MKTG 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# MUSA

**MUSA 105BR Applied Brass**
*.5-1 hours.* Instruction on trumpet, French horn, trombone, baritone, and tuba. Technical studies include tone production, scales, and arpeggios with various articulation. Works from the standard solo and orchestral repertoire are studied. Additional course fee is required.

**MUSA 105GT Applied Guitar**
*.5-1 hours.* Study of playing techniques, with emphasis on chordal knowledge and basic strums. Solos and ensemble pieces will be included for each student at his or her performance level. Additional course fee is required.

**MUSA 105I Elective or Secondary Instrumental Lesson**
*.5-1 hours.* Private study on any instrument, including piano, brass, strings, woodwinds, percussion, and guitar. Classical, jazz, pop, and other genres can be studied, at the discretion of the teacher and student. May count towards degree requirements for some music majors and minor, if taken on a secondary instrument. Additional fee applies.

**MUSA 105JZ Applied Jazz**
*.5-1 hours.* A study of improvisational methods through task-oriented performance of selected jazz repertoire. The goal of this class is to introduce concepts and practice methods used by jazz artists to gain provisation skills and to apply them to your own practice and performance over selected jazz repertoire. Additional course fee is required.

**MUSA 105OR Applied Organ**
*.5-1 hours.* Basic study of pedal and manual techniques. Standard works from the Baroque, Classic, Romantic, and Modern periods. Additional course fee is required.

**MUSA 105PN Applied Piano**
*.5-1 hours.* Technical exercises, scales, and arpeggios in various rhythms; études of varying difficulty, such as those by Duvernoy, Burgmuller, Heller, Czerny, and Clementi. Repertoire from the historical periods are studied, including selected contemporary composers. A select group of concerti are also studied. Additional course fee is required.

**MUSA 105PR Applied Percussion**
*.5-1 hours.* Instruction on snare drum, tympani, the mallet instruments, and drum set. An in-depth study of all the percussion instruments used in the wind ensemble and orchestra. Additional course fee is required.

**MUSA 105ST Applied Strings**
*.5-1 hours.* Instruction on violin, viola, cello, and string bass. Basic fundamentals, posture, bow, and arm techniques, shifting, and vibrato. Included are scale and arpeggio studies and works from the standard solo and orchestral repertoire. Additional course fee is required.

**MUSA 105V Elective or Secondary Vocal Lesson**
*.5-1 hours.* Applied study of voice in a one-on-one private lesson format. Classical, jazz, pop, and other genres can be studied, at the discretion of the teacher and student. May count towards degree requirements for some music majors and minor, if taken as a secondary area. Additional fee applies.

**MUSA 105WW Applied Woodwinds**

*.5-1 hours.* Instruction on flute, clarinet, oboe, saxophone, and bassoon. Tone production, scales, and arpeggios in various articulations. Includes technical studies and works from the standard solo and orchestral repertoire. Additional course fee is required.

**MUSA 115 Master Chorus**

*0-1 hours.* Master chorus is composed of members of the community and open to all university students, faculty, staff, and alumni singers. This chorus performs a choral masterwork each spring in collaboration with the Symphony Orchestra.

**MUSA 125C Concert Choir**

*0-2 hours.* Concert Choir performs music from the Baroque to the Contemporary that is both sacred and secular. Classical music, folk songs, and music of living composers is included in the ensemble's diverse repertoire. Additional course fee required. Prerequisite: audition.

**MUSA 125O Opera Workshop**

*1 hour.* The purpose of this course is to provide intensive training in the musical, linguistic and theatrical aspects of opera production. A workshop-based ensemble in which students prepare and present scenes from complete works of traditional and contemporary operatic literature culminates in a semi-staged public performance.

**MUSA 125T Music Theater**

*.5-1 hours.* Membership is open to all students interested in the production aspects of theatre. This organization offers one major presentation each spring. Works performed include Broadway musicals, light opera, music reviews, and an occasional opera. Orchestra accompaniment generally is used, and productions are completely staged, choreographed, costumed, and lighted. Prerequisite: chorus members and leading roles are selected by audition.

**MUSA 135A Chamber Singers**

*0-1 hours.* This small ensemble sings flexible repertoire ranging from Renaissance madrigals and motets through contemporary a cappella and vocal jazz settings. Prerequisite: audition and concurrent enrollment in Concert Choir or Chorale.

**MUSA 135B Chorale**

*0-2 hours.* A chorus of men's and/or women's voices using a variety of sacred and secular literature that is appropriate to members' skill level. Students learn proper tone production and sight-reading skills and experience rehearsal techniques that will prepare them for Concert Choir and/or singing beyond graduation. Prerequisite: instructor's permission at the beginning of each semester.

**MUSA 135H Handbell Ringers**

*0-1 hours.* This musical ensemble shares its music with community agencies, churches, and university audiences. Limited to 11 ringers. Prerequisite: audition/interview.

**MUSA 135J Vocal Jazz Ensemble**

*0-1 hours.* A vocal ensemble and rhythm section specializing in the preparation, study, and performance of vocal jazz. Performances are usually for university events and some off-campus concerts. Vocalists will learn to improvise and sing with style and tone appropriate to the idiom. Rhythm section players will learn how to effectively accompany, improvise, and play as a trio. Prerequisite: audition, instructor's permission, and concurrently enrolled in major ensembles.

**MUSA 145B Symphonic Band**

*0-2 hours.* The Symphonic Band is open to students of all majors, and presents multiple concerts a semester. Traditional band pieces, chamber wind music, modern wind ensemble music, and pops are all included in the ensemble's diverse repertoire.

**MUSA 145D Drumline & Percussion Ensemble**

*0-1 hours.* This ensemble will rehearse in a variety of formats, including drumline, mallet ensemble, and percussion ensemble, depending on the interest and needs of students. Student leaders will assist in running the Drumline and supporting Football games and other campus events. Open to students of all majors.

**MUSA 145J Jazz Ensemble**

*0-1 hours.* The Jazz Ensemble is open to students of all majors and performs a variety of jazz and contemporary styles. Performances are usually for school events and some off-campus concerts. Corequisite: members who are music majors must also be enrolled in the Symphonic Band.

**MUSA 145K Keyboard Ensemble**

*0-1 hours.* Open to any piano student, regardless of major. The repertoire includes all styles, with emphasis on pieces composed for multiple keyboards. Participants share in performance opportunities. For music majors who are not vocal students or do not play band or orchestral instruments, the course will satisfy the "major ensemble" requirement. Prerequisite: audition or instructor's permission.

**MUSA 155 Symphony Orchestra**

*0-2 hours.* The symphony orchestra performs music by the master composers of the Baroque, Classical, Romantic, and Modern eras. Concertos featuring student soloists are part of the annual repertoire. Community and faculty musicians combine with university students to form this ensemble. Performances include fall and spring concerts, and include collaborative concerts with university choirs. Strings have an additional rehearsal, indicated as the "orchestra lab".

**MUSA 165 Chamber Music**

*0-1 hours.* A variety of small chamber groups organized to meet the interests of instrumental and vocal music students who desire to perform literature for the chamber ensemble. Small chamber groups will be organized by experience and performance ability. Combinations can include, but are not limited to: string quartet, brass quartet, woodwind quintet, percussion ensemble, and piano trio.

**MUSA 165W Worship Ensemble**

*0-2 hours.* An ensemble to give students practical experience in how to prepare and lead worship in various settings. Students will practice different styles of worship music and other components used in Christian worship services, and will actively lead worship in Chapel and other services. A diverse approach to worship music will be presented.

**MUSA 205I Applied Instrumental Lesson & Studio**

*.5-1 hours.* Applied lessons for music majors and minors. Private study on any instruments, including piano, brass, woodwinds, percussion and guitar. Classical, jazz, pop, and other genres are studied, at the discretion of the teacher and student. Studio Class participation, individual lessons, Students in Recital performances and attendance, juries, and concert attendance are all required as a part of this course. Additional fee applies.

**MUSA 205V Applied Vocal Lesson & Studio**

*.5-1 hours.* Applied lessons for music majors and minors. Study of proper voice production, with emphasis on posture, breathing, and resonance. Repertoires of

classical, contemporary, and musical theater traditions are encountered, at the discretion of the teacher and student. Studio Class participation, individual lessons, Students in Recital performances and attendance, juries, and concert attendance are all required as a part of this course. Additional fee applies.

**MUSA 285 Selected Topics**
*1-3 hours.* A variety of topics may be offered that reflect the interests of faculty, visiting professors, and students.

**MUSA 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**MUSA 305BR Applied Brass**
*.5-1 hours.* Instruction on trumpet, French horn, trombone, baritone, and tuba. Technical studies include tone production, scales, and arpeggios with various articulation. Works from the standard solo and orchestral repertoire are studied. Additional course fee is required.

**MUSA 305C Applied Composition Lesson**
*.5-1 hours.* Private study in composition, as part of any degree program or elective study. By permission of the instructor. Additional fee applies.

**MUSA 305D Applied Conducting Lesson**
*.5-1 hours.* Private study in conducting, as part of any degree program or elective study. By permission of the instructor. Additional fee applies.

**MUSA 305GT Applied Guitar**
*.5-1 hours.* Study of playing techniques, with emphasis on chordal knowledge and basic strums. Solos and ensemble pieces will be included for each student at his or her performance level. Additional course fee is required.

**MUSA 305I Elective or Secondary Instrumental Lesson**
*.5-1 hours.* Private study on any instrument, including piano, brass, strings, woodwinds, percussion, and guitar. Classical, jazz, pop, and other genres can be studied, at the discretion of the teacher and student. May count towards degree requirements for some music majors and minor, if taken on a secondary instrument. Additional fee applies.

**MUSA 305JZ Applied Jazz**
*.5-1 hours.* A study of improvisational methods through task-oriented performance of selected jazz repertoire. The goal of this class is to introduce concepts and practice methods used by jazz artists to gain provisation skills and to apply them to your own practice and performance over selected jazz repertoire. Additional course fee is required.

**MUSA 305OR Applied Organ**
*.5-1 hours.* Basic study of pedal and manual techniques. Standard works from the Baroque, Classic, Romantic, and Modern periods. Additional course fee is required.

**MUSA 305PN Applied Piano**
*.5-1 hours.* Technical exercises, scales, and arpeggios in various rhythms; Ã©tudes of varying difficulty, such as those by Duvernoy, Burgmuller, Heller, Czerny, and Clementi. Repertoire from the historical periods are studied, including selected contemporary composers. A select group of concerti are also studied. Additional course fee is required.

**MUSA 305PR Applied Percussion**
*.5-1 hours.* Instruction on snare drum, tympani, the mallet instruments, and drum set. An in-depth study of all the percussion instruments used in the wind ensemble and orchestra. Additional course fee is required.

**MUSA 305ST Applied Strings**
*.5-1 hours.* Instruction on violin, viola, cello, and string bass. Basic fundamentals, posture, bow, and arm techniques, shifting, and vibrato. Included are scale and arpeggio studies and works from the standard solo and orchestral repertoire. Additional course fee is required.

**MUSA 305V Elective or Secondary Vocal Lesson**
*.5-1 hours.* Applied study of voice in a one-on-one private lesson format. Classical, jazz, pop, and other genres can be studied, at the discretion of the teacher and student. May count towards degree requirements for some music majors and minor, if taken as a secondary area. Additional fee applies.

**MUSA 305WW Applied Woodwinds**
*.5-1 hours.* Instruction on flute, clarinet, oboe, saxophone, and bassoon. Tone production, scales, and arpeggios in various articulations. Includes technical studies and works from the standard solo and orchestral repertoire. Additional course fee is required.

**MUSA 315 Master Chorus**
*0-1 hours.* Master chorus is composed of members of the community and open to all university students, faculty, staff, and alumni singers. This chorus performs a choral masterwork each spring in collaboration with the Symphony Orchestra.

**MUSA 325C Concert Choir**
*0-2 hours.* Concert Choir performs music from the Baroque to the Contemporary that is both sacred and secular. Classical music, folk songs, and music of living composers is included in the ensemble’s diverse repertoire. Additional course fee required. Prerequisite: audition.

**MUSA 325O Opera Workshop**
*1 hour.* The purpose of this course is to provide intensive training in the musical, linguistic and theatrical aspects of opera production. A workshop-based ensemble in which students prepare and present scenes from complete works of traditional and contemporary operatic literature culminates in a semi-staged public performance.

**MUSA 325T Music Theatre**
*.5-1 hours.* Membership is open to all students interested in the production aspects of theatre. This organization offers one major presentation each spring. Works performed include Broadway musicals, light opera, music reviews, and an occasional opera. Orchestra accompaniment generally is used, and productions are completely staged, choreographed, costumed, and lighted. Prerequisite: chorus members and leading roles are selected by audition.

**MUSA 335A Chamber Singers**
*0-1 hours.* This small ensemble sings flexible repertoire ranging from Renaissance madrigals and motets through contemporary a cappella and vocal jazz settings. Prerequisite: audition and concurrent enrollment in Concert Choir or Chorale.

**MUSA 335B Chorale**
*0-2 hours.* A chorus of men's and/or women's voices using a variety of sacred and secular literature that is appropriate to members' skill level. Students learn proper

tone production and sight-reading skills and experience rehearsal techniques that will prepare them for Concert Choir and/or singing beyond graduation. This class meets twice a week. Additional course fee required. Prerequisite: instructor's permission at the beginning of each semester.

**MUSA 335H Handbell Ringers**
*0-1 hours.* This musical ensemble shares its music with community agencies, churches, and university audiences. Limited to 11 ringers. Prerequisite: audition/interview.

**MUSA 335J Vocal Jazz Ensemble**
*0-1 hours.* A vocal ensemble and rhythm section specializing in the preparation, study, and performance of vocal jazz. Performances are usually for university events and some off-campus concerts. Vocalists will learn to improvise and sing with style and tone appropriate to the idiom. Rhythm section players will learn how to effectively accompany, improvise, and play as a trio. Prerequisite: audition, instructor's permission, and concurrently enrolled in major ensembles.

**MUSA 345B Symphonic Band**
*0-2 hours.* The Symphonic Band is open to students of all majors, and presents multiple concerts a semester. Traditional band pieces, chamber wind music, modern wind ensemble music, and pops are all included in the ensemble’s diverse repertoire.

**MUSA 345D Drumline & Percussion Ensemble**
*0-1 hours.* This ensemble will rehearse in a variety of formats, including drumline, mallet ensemble, and percussion ensemble, depending on the interest and needs of students. Student leaders will assist in running the Drumline and supporting Football games and other campus events. Open to students of all majors.

**MUSA 345J Jazz Ensemble**
*0-1 hours.* The Jazz Ensemble is open to students of all majors and performs a variety of jazz and contemporary styles. Performances are usually for school events and some off-campus concerts. Corequisite: members who are music majors must also be enrolled in the Symphonic Band.

**MUSA 345K Keyboard Ensemble**
*0-1 hours.* Open to any piano student, regardless of major. The repertoire includes all styles, with emphasis on pieces composed for multiple keyboards. Participants share in performance opportunities. For music majors who are not vocal students or do not play band or orchestral instruments, the course will satisfy the "major ensemble" requirement. Prerequisite: audition or instructor's permission.

**MUSA 355 Symphony Orchestra**
*0-2 hours.* The symphony orchestra performs music by the master composers of the Baroque, Classical, Romantic, and Modern eras. Concertos featuring student soloists are part of the annual repertoire. Community and faculty musicians combine with university students to form this ensemble. Performances include fall and spring concerts, and include collaborative concerts with university choirs. Strings have an additional rehearsal, indicated as the “orchestra lab”.

**MUSA 365 Chamber Music**
*0-1 hours.* A variety of small chamber groups organized to meet the interests of instrumental and vocal music students who desire to perform literature for the chamber ensemble. Small chamber groups will be organized by experience and performance ability. Combinations can include, but are not limited to: string quartet, brass quartet, woodwind quintet, percussion ensemble, and piano trio.

**MUSA 365W Worship Ensemble**
*0-2 hours.* An ensemble to give students practical experience in how to prepare and lead worship in various settings. Students will practice different styles of worship music and other components used in Christian worship services, and will actively lead worship in Chapel and other services. A diverse approach to worship music will be presented.

**MUSA 405I Applied Instrumental Lesson & Studio**
*.5-1 hours.* Applied lessons for music majors and minors. Private study on any instruments, including piano, brass, woodwinds, percussion and guitar. Classical, jazz, pop, and other genres are studied, at the discretion of the teacher and student. Studio Class participation, individual lessons, Students in Recital performances and attendance, juries, and concert attendance are all required as a part of this course. Additional fee applies.

**MUSA 405V Applied Vocal Lesson & Studio**
*.5-1 hours.* Applied lessons for music majors and minors. Study of proper voice production, with emphasis on posture, breathing, and resonance. Repertoires of classical, contemporary, and musical theater traditions are encountered, at the discretion of the teacher and student. Studio Class participation, individual lessons, Students in Recital performances and attendance, juries, and concert attendance are all required as a part of this course. Additional fee applies.

**MUSA 485 Selected Topics**
*1-3 hours.* A variety of topics may be offered that reflect the interests of faculty, visiting professors, and students.

**MUSA 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# MUSI

**MUSI 100 Music Fundamentals**
*2 hours.* This course provides a fundamental understanding of music by considering the basics of musical construction, with examples drawn from the history of music. A study of musical notation, interval recognition, elements of pitch and rhythm, scale and chord construction, essential concepts in harmony, and basic musical forms. The student will be able to experience these fundamental concepts at the piano. No musical or keyboard experience is necessary. This is a general education course for non-music majors.

**MUSI 121 Theory I**
*3 hours.* A course designed to help the student systematically acquire basic information and interrelated skills that will be of value in future musical endeavors as performer, teacher, or composer, in all genres of music. Students will study music notation, interval recognition, elements of pitch and rhythm, scale and chord construction and beginning concepts in harmony. Corequisite: MUSI 131 Sight Singing and Ear Training I.

**MUSI 122 Theory II**
*3 hours.* This course is a continuation of Theory 1. Students will use the skills acquired in Theory I to begin writing and analyzing original music alongside existing music in all styles. Four-part writing and original compositions, alongside theoretical and formal analysis, will become part of the student's skill set throughout this course. Corequisite: MUSI 132 Sight Singing and Ear Training II. Prerequisite: MUSI 121 Theory I.

**MUSI 125 Voice Class**
*1 hour.* May be repeated for credit. This course is intended to improve and strengthen the voice as a solo instrument. The ability to read music is helpful although not necessary. Attendance and class participation coupled with a minimum of four 15- to 30-minute individual practice sessions each week will enable consistent growth and increased strength. Students will sing individually to the group using exercises and songs worked on in class. The group format and class size provide an excellent built-in performance opportunity.

**MUSI 130 Music in World Cultures**
*2 hours.* An introductory thematic study of the roles of music in a variety of world cultures, with emphasis on listening to, viewing, and understanding a broad selection of musical styles mostly outside the Western classical tradition.

**MUSI 131 Sight Singing and Ear Training I**
*1 hour.* A lab experience designed to develop proficiency in singing prepared melodies, melodies at sight, rhythmic patterns, and in taking basic melodic dictation. Corequisite: MUSI 121 Theory I.

**MUSI 132 Sight Singing and Ear Training II**
*1 hour.* A lab experience designed to develop proficiency in singing prepared melodies, melodies at sight, rhythmic patterns, and in taking basic melodic dictation. Corequisite: MUSI 122 Theory II.

**MUSI 135 Class Piano**
*1 hour.* May be repeated for credit. Open to majors and non-majors. This class will include Elementary- to intermediate-level class instruction in piano. This class is open to any student regardless of previous experience and does not require an additional

course fee. Students working to complete the required piano proficiency skills may choose to study applied piano.

**MUSI 150 Keyboard Accompaniment**
*1 hour.* This course provides "on-the-job training" and special insights and skills in the art of accompanying. A wide range of repertoire is studied, from accompanying classical solo artists to accompanying choirs (both classical and gospel), small ensembles, and congregational singing.

**MUSI 180 Introduction to Music Technology**
*3 hours.* Introductory work with technological resources basic to work in the music field. Includes hands-on experience with MIDI and sequencing, music notation programs and desktop publishing, digital sound formats, audio recording, and basic Web authoring. Students will also explore basic self-promotion skills such as marketing and portfolio development.

**MUSI 190 Foundations of Music Education**
*1 hour.* Required for Music Education Majors. This course will lay the foundation for all music education courses that will be taken after. In this course students will explore what it means to be a music educator and as the course continues they will delve into the teaching process. Course content will include preparing and executing short teaching episodes, guided observation of master teachers in the field and keeping a journal of all activities done in the class. All students will join George Fox's Collegiate Music Educators National Conference chapter and will participate in the Oregon Music Educators Conference.

**MUSI 200 Basic Conducting**
*1.5 hours.* Introduction to the basic fundamentals of conducting for the music major, the music education major, and the future church musician. Emphasis is placed upon the mastery of simple conducting patterns, cues, and expressive gestures, and on common problems in leading group singing and in directing musical ensembles.

**MUSI 210 Keyboard Lit**
*2 hours.* Through a variety of keyboard music (harpsichord, piano, organ, and synthesizer), students will acquire an understanding of diverse keyboard approaches from the Baroque through contemporary styles. Recommended for those especially interested in keyboard music.

**MUSI 221 Theory III**
*4 hours.* A continuation of Theory II. Includes chromatic harmonies, remote modulations, 20th-century compositional developments, and a detailed study of the structural and formal components of music. Creative work is required. Prerequisite: MUSI 122 Theory II.

**MUSI 222 Theory IV**
*4 hours.* A continuation of Theory III. Includes chromatic harmonies and remote modulations. Introduction to 20th-century harmonic usage. Creative work is required. Prerequisite: MUSI 221 Theory III.

**MUSI 225 Composition**
*1 hour.* Individual lessons in composition. Initial inquiry into organization of sound resources, developing techniques for working with musical materials, and composition in small forms. May be repeated for credit. Prerequisites: MUSI 122 Theory II and MUSI 132 Sight Singing and Ear Training II, or instructor's permission.

**MUSI 240 Body Mapping and Movement for Musicians**

*1 hour.* Students will learn how to apply Alexander Technique and Andover Body Mapping principles to musical performance. The course strives to guide students to freedom and ease in body use to avoid injury and pain in music making.

**MUSI 250 Class Guitar**

*1 hour.* Open to students of all majors. This course offers vital foundational instruction in the techniques of playing guitar. Proper hand position, fingering, and strumming styles, and a broad range of chords are presented. Learn to read music, tab, and understand basic concepts of theory. Have fun playing cool riffs, chord progressions, and songs. Ideal for learning techniques applicable to leading worship.

**MUSI 270 Music Techniques Instrumental I**

*1 hour.* Fundamental instruction in the technique required to play music instruments at an intermediate level. Attention will be given to the technical aspects of music performance with an emphasis on the various demands related to teaching instrumentalists. Prerequisites: MUSI 121 Theory I and MUSI 122 Theory II.

**MUSI 271 Music Techniques Instrumental II**

*1 hour.* Fundamental instruction in the technique required to play music instruments at an intermediate level. Attention will be given to the technical aspects of music performance with an emphasis on the various demands related to teaching instrumentalists. Prerequisites: MUSI 121 Theory I and MUSI 122 Theory II. (MUSI 270 is not a prerequisite for MUSI 271.)

**MUSI 272 Music Techniques Vocal**

*1 hour.* This course is designed to present a practical program to explain the physical, technical, and artistic aspects of singing combining historical pedagogy with current research in acoustics and the physiology of the human voice. We will explore how to coordinate the activities of resonation, articulation, vibration, and energization of the system to produce a freely functioning voice. Students will increase their aural awareness and understand the distinction between speaking and singing. They will learn to problem-solve and diagnose vocal stress in the role of teacher, observer, and student. Prerequisite: MUSA 105 VC Applied Voice or MUSA 305 VC Applied Voice or MUSI 125 Voice Class. (MUSI 270 and MUSI 271 are not prerequisites for MUSI 272.)

**MUSI 275 Field Experience**

*1-5 hours.* Supervised experience in music apprenticeship as conductor, performer, or composer. Prerequisite: permission of music faculty.

**MUSI 280 Vocal Diction**

*1 hour.* The purpose of this course it to prepare students to sing accurately, idiomatically and expressively in English, Latin, Italian, French and German. Elements of lyric diction will be presented in ways that stress their connection to the meaning, color, and expressive power of the text. We will use the International Phonetic Alphabet as a means of presenting and reinforcing the ¿sonic vocabulary¿ as well as rudiments of grammar and vocabulary that will enable the student to present the text clearly and with poetic intent. Music studied will be performed in class.

**MUSI 285 Selected Topics**

*1-3 hours.* Selected topics are offered as music electives when special needs arise or when sufficient enrollment permits. Course content includes specific interests of students and faculty.

**MUSI 295 Individualized Study**

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**MUSI 300 Music in Western Culture**

*3 hours.* A study of the development of Western Classical music from antiquity through the 21st century. A concentrated study of musical style and literature, with an emphasis on the cultural context for musical performance and composition.

**MUSI 310 Jazz & Popular Music**

*3 hours.* A study of various aspects and types of popular music in America, including jazz, blues, rock & roll, and hip hop. Emphasis will be placed on musical elements that define the genres and the artists who pioneered them. Includes creative work in these musical genres.

**MUSI 311 Music History I**

*3 hours.* A study of the development of music from antiquity through the 20th century. Comparisons are made to the development of the other arts. Concentrated study of music literature emphasizing the change in musical styles during the different historical periods. Prerequisites: MUSI 121 Theory I and MUSI 122 Theory II.

**MUSI 312 Music History II**

*3 hours.* A study of the development of music from antiquity through the 20th century. Comparisons are made to the development of the other arts. Concentrated study of music literature emphasizing the change in musical styles during the different historical periods. Prerequisite: MUSI 311 Music History I.

**MUSI 320 Form And Analysis**

*2 hours.* Detailed study of the structural components of music, including the motive, phrase, and period. Application to principal contrapuntal and homophonic forms of the Classic, Romantic, and Modern periods. Prerequisites: MUSI 221 Theory III and MUSI 222 Theory IV.

**MUSI 330 Music In World Cultures**

*3 hours.* An introductory study of the music of a variety of world cultures, with emphasis on listening to, viewing, and understanding a broad selection of classical and folk musical styles from outside the Western classical tradition. In addition, concepts related to ethnodoxology, the study of music within the global Church, will be explored.

**MUSI 340 Creating, Planning, and Leading Worship**

*3 hours.* The purpose of this course is to teach students how to plan, prepare and execute worship in various settings. Students will be exposed to different styles of worship services and different components and ordinances used in Christian worship services. We will also explore different technologies used in planning and leading worship. An internship or service project is included as a requirement of this course.

**MUSI 350 Music Theatre Performance**

*3 hours.* An introduction to the acting, dance, and vocal techniques required for music theatre performance. Through in-depth scene study, vocal training, dance, and in-class performances, the student will be introduced to the various artistic challenges inherent in music theatre since its inception. This course requires additional outside-of-class time for rehearsals and performance of selected material. Additional course fee is required. (Identical to MUSI 350.) Prerequisites: THEA 100 Acting I - Fundamentals and MUSA 105 VC Applied Voice or MUSI 125T Music Theatre or MUSI 325T Music Theatre.

**MUSI 380 Keyboard Improvisation and Service Playing**

*2 hours.* A practical course for pianists and organists seeking to discover creative approaches in programming and leading the congregation in inspirational worship and celebration.

**MUSI 399 Cross-Cultural Experience**

*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. Additional course fee is required.

**MUSI 400 Music and Christian Faith**

*3 hours.* A Capstone music course designed to explore the integration of music and the Christian faith, including a study of worship & historical approaches to musical worship. In this class students will also research and define their vocational and/or ministry goals as it relates to professional and amateur music making. Prerequisite: Junior or senior standing.

**MUSI 410 Elementary Music Methods**

*3 hours.* Students will be introduced to the foundations of elementary music education including the National Standards and current teaching methodologies. Student observation and participation will provide the basis of an understanding of teaching music at the elementary level. Prerequisites: MUSI 121 Theory I and MUSI 122 Theory II.

**MUSI 411 Middle Level and High School Music Methods**

*3 hours.* Students will investigate the many special teaching demands of music education at the secondary level. Vocal and instrumental music ensembles will be studied to determine the special requirements of these performance groups. Music courses at the secondary level will be examined to determine their individual teaching methodologies. Prerequisites: MUSI 121 Theory I and MUSI 122 Theory II.

**MUSI 425 Composition**

*1.5 hours.* Individual lessons in composition. Continuing work in composition including (but not limited to) composition in larger forms, digital media, multi-movement forms, exploration of style resources. Prerequisites: MUSI 225 Composition I and admission to upper-division study, or instructor's permission.

**MUSI 430 Instrumentation and Orchestration**

*2 hours.* A study of the instruments of the orchestra and band, including their ranges, characteristics, and capabilities. Practical application of the principles of arranging and scoring for orchestral/band instrumental combinations. Prerequisites: MUSI 221 Theory III and MUSI 222 Theory IV.

**MUSI 440 Music Pedagogy for the Classroom and Individual Lessons**

*3 hours.* A study of music curriculum design and delivery, including general music, band, orchestra, choir, and jazz, with a special focus on teaching private applied lessons. Student observations are required, as is participation in Oregon state music education activities.

**MUSI 460 Conducting and Ensemble Leadership**

*3 hours.* A study of ensemble leadership through conducting, administrative skills, repertoire planning, and rehearsal skills, applicable to all genres of music, including choir, band, orchestra, and worship teams.

**MUSI 475 Field Experience**

*1-5 hours.* Supervised experience in music apprenticeship as conductor, performer, or composer. Prerequisite: permission of music faculty. Pass/No Pass.

**MUSI 481 Degree Recital/Project**

*1 hour.* Students prepare a project in cooperation with a faculty advisor. The project is presented before an audience and filed permanently in the music department.

**MUSI 485 Selected Topics**

*1-3 hours.* Selected topics are offered as music electives when special needs arise or when sufficient enrollment permits. Course content includes specific interests of students and faculty.

**MUSI 495 Individualized Study**

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# NURS

### NURS 201 Nursing Fundamentals
*5 hours.* Introduction and application of theories concerning clients in need of primary, acute, and restorative nursing care. Students will be introduced to basic nursing concepts, skills, and techniques of professional nursing practice. Application of health assessment and basic nursing skills in the care of individuals experiencing alterations in biopsychosocial, cultural, and spiritual health status. Additional course fee is required. Prerequisites: Admission to the Nursing Program, BIOL 367 Essentials of Microbiology and NURS 311 Pathophysiology.

### NURS 220 Nutrition Essentials
*3 hours.* This introductory course provides an overview of the fundamental concepts of human nutrition. Subject matter includes descriptions, functions, and sources of nutrients, digestion and absorption, and effects of deficiencies and toxicities. Wellness-based concepts such as dietary guidelines, energy balance and weight control, and the role of nutrition in health and disease are also explored. Prerequisites: BIOL 221 Human Anatomy and Physiology I.

### NURS 275 Field Experience
*1-3 hours.* Supervised experience in the discipline including internships and practica required for professional programs. This introductory experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Prerequisite: instructor's permission.

### NURS 285 Selected Topics
*1-3 hours.* An introductory seminar offered on an occasional basis addressing a current topic in the field that is of special interest to students and current faculty.

### NURS 295 Individualized Study
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

### NURS 301 Nursing Care of Adults with Acute Conditions
*7 hours.* This course introduces the student to the use of nursing process in the care of adults with life threatening conditions and exacerbation of chronic conditions. The clinical practicum provides an opportunity to integrate learning with clients in the acute care setting. Prerequisites: NURS 201 Nursing Fundamentals, NURS 210 Health Assessment, NURS 311 Pathophysiology, and NURS 312 Pharmacology.

### NURS 302 Nursing Care of Adults with Complex Conditions
*7 hours.* This course presents clinical decision-making and clinical judgment strategies for the care of adults with acute and complex conditions. Building on NURS 301: Nursing Care of Adults with Acute Conditions, the nursing process is used to analyze and intervene in alterations to the health of the individual and family. The clinical practicum provides an opportunity to work with clients in the acute care and complex settings such as the emergency department, intermediate care, and critical care settings. Prerequisite: NURS 301 Nursing Care of Adults with Acute Conditions.

### NURS 311 Pathophysiology
*3 hours.* This course focuses on conceptual understanding of pathophysiology and associated clinical manifestations of disease, with an emphasis on effective and

ineffective adaptation to internal and external environments. This course will explore alterations to the human body at cellular, organ, and systemic levels within the framework of concepts of health and illness. Discussions and applied materials will be directed primarily toward nursing students but may also be useful to others wishing to explore healthcare-related fields. Prerequisites: Junior I standing in the Nursing Program or instructor permission for non-nursing students.

**NURS 312 Pharmacology**
*3 hours.* This course provides an overview of the therapeutic use of drugs on humans. Principles of pharmacokinetics, pharmacodynamics, and pharmacotherapeutics are examined from a conceptual perspective. The molecular and cellular mechanisms of drug action will be explored, as well as specific drug adverse reactions along with appropriate nursing interventions related to medication administration and relevant patient education. Application of nursing pharmacology knowledge is made to clients with selected health and illness problems. Prerequisite: Junior I standing in the Nursing Program or instructor permission for non-nursing students.

**NURS 313 Nutrition Essentials for Nursing Practice**
*3 hours.* This course will cover the science and fundamentals of human nutrition. In this course, topics covered will include nutritional requirements related to changing individual and family needs, food choices, health behaviors, prevention of chronic disease and nutrition-related public health in the United States and globally. Prerequisites: NURS 204 Introduction to Nursing Professional Practice and NURS 311 Pathophysiology.

**NURS 320 Introduction to Professional Nursing Practice**
*3 hours.* This course presents concepts of professional nursing practice emphasizing the role of the nurse as a provider of Christ-centered patient care, member of the health care team, patient safety advocate, coordinator of quality patient care, and critical thinker. Ethical and legal standards of nursing practice across complex and emerging health care settings are explored. Prerequisite: Junior I standing in the Nursing Program.

**NURS 324 Evidence-based Nursing for Clinical Practice**
*2 hours.* The emphasis for this course is on the elements of evidence-based practice (EBP). Focus is placed on the cyclical process of identifying clinical questions, searching and appraising the evidence for potential solutions/innovations, planning and implementing practice changes, evaluating the outcomes, and identifying additional gaps in the nursing knowledge. Integration of the existing evidence with clinical judgment, patient preferences, inter-professional perspectives, and other resources forms the basis for the clinical decision-making process that is inherent in improving patient, population, and organizational outcomes. Prerequisites: Statistics (MATH 240, PSYC 240, or SOCI 340), NURS 201 Nursing Fundamentals, NURS 210 Health Assessment, and junior standing in the Nursing Program, or instructor permission.

**NURS 330 Essentials for Nursing Practice**
*6 hours.* This course provides the beginning concepts and principles for the professional nurse across the healthcare continuum. Students will apply health assessment and fundamental skills utilizing the nursing process and clinical judgment model. Students learn foundational nursing knowledge, skills, attitudes and values to promote physical, biopsychosocial, cultural and spiritual health and wellness across the lifespan. Students integrate and apply clinical judgment principles in delivering basic nursing care Prerequisites: Junior I standing in the Nursing Program.

**NURS 340 Medical-Surgical Nursing I**
*6 hours.* This course focuses on nursing care of people experiencing health alterations across the health care continuum. Students will integrate knowledge of clinical data, pharmacologic concepts, and assessment findings to plan, prioritize, implement, and evaluate nursing care. Students will advance their professional role; incorporating clinical judgment with evidence-based practice to ensure quality and safety in patient-centered care. Prerequisites: Junior II standing in the Nursing Program.

**NURS 350 Mental Health Nursing**
*5 hours.* Focuses on the nursing care of clients with acute and chronic mental illnesses. Promotion, maintenance and restoration of mental health are addressed. Professional, legal and ethical issues in mental health nursing are examined. Prerequisites: Junior II standing in the Nursing Program.

**NURS 360 Evidence-based Nursing Practice**
*3 hours.* This course is designed to teach evidence-based practice (EBP) skills facilitating continuous quality improvement in nursing practice. Focus is placed on the cyclical process of identifying clinical questions, critically analyzing and synthesizing evidence for potential solutions/innovations, planning and implementing practice changes, evaluating the outcomes, and identifying additional gaps in nursing knowledge. Integration of existing evidence with clinical judgment, patient preferences, interprofessional perspectives, and other resources forms the basis for the clinical decision-making process that is inherent in improving patient, population, and organizational outcomes. Prerequisites: Junior II standing in the Nursing Program.

**NURS 370 Nursing Care of Children and Families**
*3 hours.* This course provides acquisition and integration of knowledge vital to the holistic nursing care of children and families experiencing acute and chronic threats to health. Prerequisite: NURS 301 Nursing Care of Adults with Acute Conditions and junior standing or instructor permission.

**NURS 390 NCLEX Test-Taking Strategies**
*1 hour.* The purpose of this course is to assist the nursing student explore strategies for the integration of nursing clinical practice knowledge with improved standardized test performance. Course content is individualized based on each students' specific nursing content weaknesses based on standardized test score reports. Effective test-taking strategies will be emphasized. Prerequisite: NURS 302 Nursing Care of Adults with Complex Conditions.

**NURS 399 Cross-Cultural Experience**
*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. Additional course fee is required.

**NURS 400 Nursing Care of the Childbearing Family**
*5 hours.* Previous knowledge, skills and professional values are integrated into specialized maternal-child nursing practice. Normal physiological as well as disease processes affecting childbearing women and child-rearing families are examined with an emphasis on health promotion, health maintenance, and whole-person care. Prerequisites: Senior I standing in the Nursing Program

**NURS 410 Trends & Issues in Health Care**

*2 hours.* This course explores contemporary trends and issues influencing current nursing practice. Major foci include the evolution of nursing within changing health care environments, cultural humility with an emphasis on nursing care among diverse and vulnerable populations, and the nurse's role in responding to and creating healthy workplace environments. Prerequisites: Senior I standing in the Nursing Program.

**NURS 411 Mental Health Nursing**

*5 hours.* Exploration of psychiatric nursing principles of mental health promotion and illness prevention; of evidence-based treatment modalities; of hospital and community treatment options; and of nursing principles applied to specific psychiatric clinical disorders. Prerequisites: Senior status and NURS 302 Nursing Care of Adults with Complex Conditions.

**NURS 421 Nursing Care of the Childbearing Family**

*5 hours.* This course builds on the concepts of previous nursing courses with emphasis on utilizing the Nursing Process in dealing with women's health focusing on the childbearing years, antepartum, intrapartum, postpartum, and the health of newborns. Students will explore the concepts of health promotion, disease prevention, and alterations in health related to women in these phases and the newborn infant. Emphasis is on the whole person care of the client and the family. Management and planning of the Nursing Process will include concepts from a variety of culturally diverse settings to include nursing in the community. Prerequisite: NURS 302 Nursing Care of Adults with Complex Conditions or by permission of instructor.

**NURS 430 Population Health Nursing**

*6 hours.* This course prepares students to apply concepts and processes of population health nursing, with an emphasis on vulnerable populations. In the clinical component of this course, students will work with community partners to assess and meet population needs. Prerequisite: Senior II standing in the Nursing Program

**NURS 440 Medical-Surgical Nursing II**

*7 hours.* This course continues with the focus on nursing care of people experiencing health alterations across the health care continuum. Students will integrate knowledge of clinical data, pharmacologic concepts, and assessment findings to plan, prioritize, implement, and evaluate increasingly complex nursing care. Students will expand their professional role and leadership capabilities, incorporating clinical judgment with evidence-based practice to ensure quality and safety in patient-centered care. Prerequisites: Senior I standing in the Nursing Program

**NURS 442 Leadership Principles in Nursing**

*3 hours.* This course focuses on nursing leadership in the delivery of healthcare and development of the nursing profession within complex healthcare environments. Theoretical principles are applied to effectively manage patient care through coordinating, delegating communicating, utilizing resources, and promoting quality and safety. The influence of legal, ethical, economic, sociologic, cultural, and regulatory factors on nursing practice will be examined. Prerequisites: Senior II standing in the Nursing Program.

**NURS 452 Gerontological Nursing**

*2 hours.* Exploration of the field of nursing that focuses on care of the older adult with chronic conditions. Includes unique healthcare needs of seniors, nursing approaches to managing these needs, ethical and legal issues that impact senior care, and exploration of the richness and wisdom of life experience shared by these members of society and families. Prerequisites: Senior standing in nursing program or by instructor permission.

**NURS 475 Field Experience**
*1-6 hours.* Supervised experience in the discipline including internships and practica required for professional programs. This advanced experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Pass/No Pass. Prerequisite: instructor's permission.

**NURS 481 ECG Interpretation**
*1 hour.* This course will review cardiovascular anatomy and physiology and basic electrophysiology. Students will understand wave-forms, intervals, segments, and complexes. Through cardiac rhythm strip analysis, recognition of sinus, atrial, ventricular arrhythmias, and AV heart blocks will be emphasized. Prerequisites: BIOL 221 Human Anatomy & Physiology I, BIOL 222 Human Anatomy & Physiology II, NURS 311 Pathophysiology, NURS 312 Pharmacology, NURS 301 Nursing Care of Adults with Acute Conditions, or instructor permission.

**NURS 482 Breastfeeding**
*1 hour.* This course will cover the science and fundamentals of human lactation and breastfeeding. In this course, topics covered will include the bio-specificity of human milk, maternal anatomy and physiology of lactation, common breastfeeding problems, and maternal-related issues to breastfeeding. Prerequisite: Senior standing in the nursing program or instructor permission.

**NURS 483 Healthcare of the Developing World**
*1 hour.* This hybrid course will be learning about various aspects of healthcare in third world countries. This will include studying tropical diseases not commonly seen in the United States as well as discussing general aspects of medical missions, both short-term and long-term. We will examine health issues of impoverished and underserved areas and evaluate interventions, resources, and programs for disease prevention and health promotion there. Cultural awareness and cultural humility will be an important concept throughout our discussions. This course would be beneficial for any student interested in medical missions or serving in a third world country in the future. Prerequisites: BIOL 221 Anatomy and Physiology I, BIOL 222 Anatomy and Physiology II, NURS 210 Health Assessment, NURS 311 Pathophysiology and NURS 312 Pharmacology or instructor permission.

**NURS 484 Advanced Pharmacology**
*1 hour.* This nursing elective course is designed for senior students to review the pharmacology topics throughout the program and discuss additional medication. This will include discussions of the most common NCLEX drugs as well as overviews of medication recently approved by the FDA.

**NURS 485 Selected Topics**
*1-3 hours.* An advanced seminar offered on an occasional basis addressing a current topic in the field that is of special interest to students and current faculty.

**NURS 490 Nursing Capstone**
*5 hours.* Students in this course will demonstrate successful completion of all College of Nursing program outcomes while working with multiple clients or populations. Students synthesize didactic and clinical learning, fully integrating the clinical judgment model, Baccalaureate Essentials, Scope and Standards of Practice, Nursing Code of Ethics, and Quality and Safety in Nursing Education Competencies into nursing practice across the healthcare continuum. This course prepares the student for successful transition into the professional nurse role. Prerequisites: Senior II standing in the Nursing Program.

**NURS 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# PHYS

**PHYS 150 Physics of Everyday Life**
*4 hours.* A relevant and practical introduction to everyday physical phenomena through a conceptual survey of various physics topics, including motion, energy, sound, light, electricity, and relativity. No mathematical background is required. This course meets the general education requirement and is designed for non science majors. Two lectures and one laboratory period per week. Additional course fee is required.

**PHYS 190 Astronomy**
*4 hours.* An introduction to astronomy covering the solar system, stars, galaxies, and cosmology. The historical context of astronomy will be addressed along with its complex and dynamic relation to faith. The laboratory experience will allow a firsthand experience with some of the pivotal observations and experiments of astronomy. Two lectures and one two-hour laboratory per week. Additional course fee is required.

**PHYS 201 General Physics**
*4 hours.* Mechanics, thermodynamics, electricity and magnetism, wave motion and optics, and modern physics, using algebraic methods for analysis. Three lectures and one lab per week. Additional course fee is required. Prerequisite: MATH 190 Precalculus Mathematics.

**PHYS 202 General Physics**
*4 hours.* Mechanics, thermodynamics, electricity and magnetism, wave motion and optics, and modern physics, using algebraic methods for analysis. Three lectures and one lab per week. Additional course fee is required. Prerequisite: PHYS 201 General Physics I.

**PHYS 211 General Physics with Calculus**
*4 hours.* Mechanics, thermodynamics, electricity and magnetism, wave motion and optics, and modern physics, using calculus methods for analysis. Three lectures and one lab per week. Additional course fee is required. Prerequisite: MATH 201 Calculus I.

**PHYS 212 General Physics with Calculus**
*4 hours.* Mechanics, thermodynamics, electricity and magnetism, wave motion and optics, and modern physics, using calculus methods for analysis. Three lectures and one lab per week. Additional course fee is required. Prerequisite: PHYS 211 General Physics with Calculus I.

**PHYS 285 Selected Topics**
*1-4 hours.* An introductory seminar offered on an occasional basis addressing a current topic in the field that is of special interest to students and current faculty.

**PHYS 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**PHYS 485 Selected Topics**
*1-4 hours.* An advanced seminar offered on an occasional basis addressing a current topic in the field that is of special interest to students and current faculty.

### PHYS 495 Individualized Study

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# PSCI

**PSCI 150 Introduction to Political Science**
*3 hours.* An introduction to the study of the use of political processes to decide public policy and the distribution of resources within and among communities and nations. Systems of government, and individual behaviors and informal political processes within those systems, will be examined using examples from various parts of the world throughout history. In the process, students will begin to explore the major questions of political philosophy, civic leadership, and Christian public ethics.

**PSCI 190 American Government**
*3 hours.* The theory and practice of the federal government and the study of key issues in government in general.

**PSCI 230 Introduction to International Affairs**
*3 hours.* An introduction to the core issues and problems that affect the entire world, including threats to security such as war and terrorism, the rise of globalization, the persistence of inequality between rich and poor countries, and the degradation of the environment. (INTL 230 and PSCI 230 are identical courses.)

**PSCI 240 State and Local Government**
*3 hours.* The origins, evolution, structure, and present functions of state, county, and city government, with particular reference to Oregon. Special attention is given to the rising problems of urban government and regional planning.

**PSCI 253 Introduction to Comparative Politics**
*3 hours.* Whoever knows only one country knows none. This course introduces students to the field of comparative government and politics by examining the variety of political systems in the world. Particular attention will be paid to contrasting democratic and non-democratic governance, exploring the nature of democracy and the processes of democratization, and evaluating how American institutions and processes compare to other countries.

**PSCI 260 Introduction to Law**
*3 hours.* A general study of the role of law and the legal profession in American life, and a survey of the major topics addressed by the law. Attention also is given to the values promoted by our legal system and the Christian's interaction with it.

**PSCI 275 Field Experience**
*1-3 hours.* Supervised experiences in varied political agencies. A maximum of three hours of credit can be gained through one internship. No more than six hours of internship credit will be counted toward major requirements, and of these no more than three hours may be upper-level credit. Pass/No Pass.

**PSCI 280 Introduction to Political Philosophy**
*3 hours.* A study of great political thinkers and issues from Socrates to the present. Students are encouraged to understand and evaluate these thinkers in their historical contexts, and to consider them as philosophers whose insights are relevant for contemporary debates.

**PSCI 285 Selected Topics**
*1-3 hours.* A seminar dealing with various topics as announced that represent current faculty interests and competencies.

**PSCI 290 Political Science Research and Writing**

*3 hours.* Explores the methods and resources for undertaking research in political science and writing persuasive and sound analytical papers. A required course for all political science majors and minors. Students are strongly encouraged to take this course during their sophomore year whenever possible. Prerequisite: PSCI 150 Introduction to Political Science.

**PSCI 295 Individualized Study**

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**PSCI 300 American Political Theory**

*3 hours.* A survey of the major developments in U.S. political theory from the Puritans to the present. The relationship between Christianity and American political theory is given special attention.

**PSCI 303 International Conflict and Peace**

*3 hours.* Why do wars and conflicts occur and how do we prevent these? This course considers the causes of global insecurity (from wars between countries to transnational terrorism to genocide) and examines the various approaches to their resolution, including the creation of international institutions and military alliances. Special emphasis will be placed on the role of religion in global political conflict.

**PSCI 310 Conflict Resolution**

*3 hours.* A study of communication principles found useful in managing conflict productively. Focus is given to conflict occurring in institutional and organizational settings between individuals and groups. Attention also is given to conflict in social, national, and international settings.

**PSCI 320 Constitutional Law: Issues of National Power**

*3 hours.* Considers the powers of the federal judiciary, Congress, and president; the distribution of authority between the national and state governments; and how the Constitution has reflected our evolving theories of politics.

**PSCI 330 Politics of the Developing World**

*3 hours.* This course covers the main issues faced by developing countries in Africa, the Middle East, Latin America, and Asia. Special attention is given to economic development and the impact of globalization on these nations. (PSCI 330 and INTL 330 are identical courses)

**PSCI 353 Constitutional Law: Civil Rights and Liberties**

*3 hours.* This course focuses on the Supreme Court's interpretation of the Bill of Rights and the Fourteenth Amendment. Special emphasis is placed upon the religion clauses of the First Amendment.

**PSCI 380 American Foreign Policy**

*3 hours.* An inquiry into relationships between the social structure and ideological tradition of the United States and its conduct in world affairs. Attention is given to the substance of American foreign and military policy; to the roles of the White House, State Department, CIA, the military, Congress, private elites, and mass opinion; and to foreign policy impacts on domestic life.

**PSCI 383 International Organizations and International Law**

*3 hours.* This course provides students with a solid theoretical and practical understanding of the nature of international organizations (i.e. their origins, structure, and function in world politics) and relation to emerging international law. The practical

component of this course examines the historical development, activities, and performance of specific institutions and agencies on a diverse set of policy issues including: security, economics (trade and development), humanitarian assistance, and human rights.

**PSCI 399 Cross-Cultural Experience**
*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. Additional course fee is required.

**PSCI 450 Campaigns and Elections**
*3 hours.* Considers issues surrounding American campaigns and elections. Special emphasis is placed on the role of political parties and the voting behavior of individuals and groups.

**PSCI 460 Peace Theory**
*3 hours.* An advanced study of the main theories of peace and nonviolence: what peace is; how it emerges in human, civil, and international relationships; what sustains it; what causes it to break down; and the potential and practice of active nonviolence. Emphasis is given to theories articulated by both scholars and prominent activists (such as Woolman, Gandhi, King, and Dix), and to ideas embodied in such practices as South Africa's Truth and Reconciliation Commissions and Christian Peacemaker Teams.

**PSCI 475 Field Experience**
*1-3 hours.* Supervised experiences in varied political agencies. A maximum of three hours of credit can be gained through one internship. No more than six hours of internship credit will be counted toward major requirements, and of these no more than three hours may be upper-level credit. Pass/No Pass.

**PSCI 485 Selected Topics**
*1-3 hours.* A seminar dealing with various topics as announced that represent current faculty interests and competencies.

**PSCI 490 Senior Seminar**
*3 hours.* This capstone course requires majors to think in a sophisticated manner about the relationship between their Christian faith and politics. In addition, students will complete a major project that requires them to draw together skills and information they have learned in lower-level courses.

**PSCI 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# PSYC

**PSYC 100 Personhood**
*3 hours.* This course explores a variety of influences which shape many of the characteristics of personhood, focusing on critical consideration of the interplay of factors and the complexity of being human. Students will be encouraged to apply the biological, psychological, social, and spiritual lenses of psychology to understand themselves and others, including how and why self-regulation is a key factor in successful healthy living.

**PSYC 150 General Psychology**
*3 hours.* An introduction to the scientific study of human behavior. Major topics include the biological bases of behavior, sensation, perception, thinking, learning, memory, development, emotion, motivation, personality, social interaction, and abnormal behavior. Prerequisite to most other psychology courses.

**PSYC 220 Biological Psychology**
*3 hours.* By focusing on the structures and functions of the nervous system, this course provides a biological framework for understanding normal and abnormal complex human behaviors and mental processes such as perception, motor control, learning, memory, and emotions. Prerequisite: PSYC 150 General Psychology

**PSYC 240 Statistical Procedures**
*3 hours.* Applied statistics for the social and behavioral sciences. Emphasis is placed on statistical logic and decision making. Prerequisite: high school algebra or equivalent.

**PSYC 275 Exploratory Field Experience**
*2-3 hours.* An opportunity to observe professionals in the helping environment. Pass/No Pass.

**PSYC 285 Selected Topics**
*1-3 hours.* A course dealing with various topics, as announced, that represent current faculty interests and competencies and student interest. This course option can also be selected to develop an individualized professional development experience. Prerequisite: PSYC 150 General Psychology.

**PSYC 290 Professional Seminar**
*1 hour.* This course examines psychology as a career. Career options are examined. Goal setting, professional development, and networking are emphasized. Required for all psychology majors.

**PSYC 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**PSYC 310 Lifespan Human Development**
*3 hours.* A study of physical, intellectual, personality, social, and moral development from infancy to old age. Will not count as part of the psychology major. Prerequisite: PSYC 150 General Psychology.

**PSYC 311 Child Development**
*3 hours.* study of physical, intellectual, personality, social, and moral development from the prenatal period through late childhood. (Identical to FCSC 311.) Prerequisite: PSYC 150 General Psychology.

**PSYC 312 Adult Development**
*3 hours.* A study of physical, intellectual, personality, social, and moral development from young adulthood to old age. Prerequisite: PSYC 150 General Psychology.

**PSYC 314 Adolescent Development**
*3 hours.* A study of the unique physical, intellectual, personality, social, and moral developmental changes during the period of adolescence. Prerequisite: PSYC 150 General Psychology.

**PSYC 320 Neuroscience**
*3 hours.* This course provides an overview of the neuropsychological, neuroanatomical, and biochemical basis for mental functions including motor control, object recognition, spatial reasoning, attention, language, memory, and emotion. Methods of neuropsychological research are explored. Recommended: PSYC 220 Biological Psychology.

**PSYC 330 Personality Theory**
*3 hours.* A survey of the major theorists of personality and their theories. Included are psychoanalytic, dispositional, phenomenological, and behavioral theories. An integrative approach will involve synthesis of important elements of theory and Scripture. Prerequisite: PSYC 150 General Psychology.

**PSYC 331 Positive Psychology**
*3 hours.* This course examines mental illness, mental processing, and behavior from a strengths-based approach which emphasizes the strengths and resources individuals bring to a particular situation. The course is designed to explore the concepts, research, techniques, and exercises to enhance optimism, decrease stressors, and increase well-being. Prerequisite: PSYC 150 General Psychology.

**PSYC 350 Social Psychology**
*3 hours.* A study of the social and psychological processes of human interaction. Major topics to be covered include conformity, aggression, self-justification, persuasion, prejudice, attraction, and interpersonal communication. Prerequisite: PSYC 150 General Psychology.

**PSYC 353 Culture and Psychology**
*3 hours.* This course will cover the nature of culture and its applications to understanding human functioning. Students will examine their own and other cultures, as well as cultural influence on their thought, behavior, and relationships. Prerequisite: PSYC 150 General Psychology.

**PSYC 360 Learning**
*3 hours.* A survey of learning theories and the basic research questions being asked in this important field. Special emphasis will be placed on translating experimental theory into practical methods. Prerequisite: PSYC 150 General Psychology.

**PSYC 370 Cognition**
*3 hours.* Traditional areas of study in cognitive psychology will be discussed. These areas include perception, attention, memory, reasoning, problem solving, and language. Traditional views as well as current trends will be discussed. Prerequisite: PSYC 150 General Psychology.

**PSYC 381 Counseling**
*3 hours.* A study of theory and technique of person-centered counseling. The course is designed to teach basic theoretical postulates and to focus on effective intervention skills for those anticipating future work in Christian ministries, teaching, or mental

health settings. Recommended as a prerequisite for field experience work (PSYC 475). Prerequisites: PSYC 150 General Psychology and sophomore status or above. Recommended: PSYC 330 Personality Theories.

**PSYC 382 Advanced Counseling**
*3 hours.* This course builds on the knowledge and skills learned in PSYC 381 Counseling. The course is designed to enhance the clinical skills necessary to form a therapeutic relationship and to connect these skills to a theoretical orientation. A focus of the course is on utilizing counseling skills in various settings including schools and clinics, and with various populations. Prerequisite: PSYC 381 Counseling. Recommended: PSYC 330 Personality Theories.

**PSYC 391 Research Methods**
*3 hours.* An introduction to methods of psychological research. Explores essential topics for experimental research including research design, reliability, validity, and research ethics. Students also learn how to critically assess research literature, assimilate information from a variety of sources, and interpret data. In addition, students learn how to prepare manuscripts in APA format and to prepare professional research presentations. Prerequisites: PSYC 150 General Psychology and PSYC 240 Statistical Procedures.

**PSYC 392 Advanced Research Methods**
*3 hours.* Students will explore research design, analyses, and computer applications in the areas of cognition, learning, sensation and perception, and development using a variety of hands-on methods. Prerequisites: PSYC 240 Statistical Procedures and PSYC 391 Research Methods.

**PSYC 399 Cross-Cultural Experience**
*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. Additional course fee is required.

**PSYC 400 Psychological Testing**
*3 hours.* Students will develop skills in understanding and critically evaluating educational and psychological tests (measures of ability, achievement, personality, and vocational interest). Also, modern principles of "psychometrics" - data-based analysis of test items, scores, and interpretations - will be emphasized, particularly the reliability and validity of items and scales. Students will have hands-on experience with various tests and will computer-analyze sample data from test development projects. Prerequisites: PSYC 150 General Psychology and PSYC 240 Statistical Procedures. Recommended: PSYC 391 Research Methods

**PSYC 410 Sensation and Perception**
*3 hours.* Using psychophysical techniques, students will study sensory systems, including vision, audition, olfaction, taste, touch, and kinesthesis. Classic and current theories of perception and sensation will be discussed. Prerequisite: PSYC 150 General Psychology.

**PSYC 420 Abnormal Psychology**
*3 hours.* A study of the nature, causation, and treatment of the major psychiatric and behavioral disorders. Prerequisite: PSYC 150 General Psychology. Recommended: PSYC 220 Biological Psychology.

**PSYC 422 Child Psychopathology**
*3 hours.* A study of the nature, causation and treatment of the major psychiatric and behavioral disorders among children and adolescents. Prerequisite: PSYC 150 General Psychology. Recommended: PSYC 220 Biological Psychology.

**PSYC 430 Addictions**
*3 hours.* Examines the complex interaction of psychological and sociological forces involved in substance abuse and addictions. Etiology, treatment options, and efficacy of treatments are reviewed. Prerequisite: PSYC 381 Counseling. Recommended: PSYC 220 Biological Psychology.

**PSYC 433 Health Psychology**
*3 hours.* This course is designed to provide an overview of the field of Health Psychology from a biopsychosocial perspective which assumes that health and illness are determined by the interaction of biological, psychological, and social factors of an individual's life. Prerequisite: PSYC 381 Counseling. Recommended: PSYC 220 Biological Psychology.

**PSYC 450 History and Systems of Psychology**
*3 hours.* The history of the various schools of psychology, their origins, distinguishing characteristics, major contributions, theoretical positions, and contemporary issues are investigated. Required for psychology majors. Prerequisite: PSYC 150 General Psychology and a minimum of two upper-division psychology courses; senior standing is recommended.

**PSYC 460 Human Sexuality**
*3 hours.* This course explores human sexuality from psychological, cultural, biological and spiritual perspectives. Topics include the physiological, psychological, and cultural variables associated with the development and manifestation of sexual identity and sexual behavior. Special attention is given to the Christian perspective and response to a highly sexualized culture. Prerequisite: PSYC 150 General Psychology and junior status.

**PSYC 465 Seminar Series**
*1 hour.* Graduate-style series designed to prepare students for graduate school courses and provide an in-depth examination of a particular content area within psychology. Prerequisite: upper-division psychology majors only and by permission.

**PSYC 475 Field Experience**
*1-10 hours.* Supervised experiences in helping activities in mental health agencies and institutions. A maximum of 3 hours may be applied toward a psychology major. Pass/ No Pass. Prerequisite: upper-division majors only and by permission. Recommended: PSYC 381 Counseling or other 300-level psychology course.

**PSYC 485 Selected Topics**
*1-3 hours.* A course dealing with various topics, as announced, that represent current faculty interests and competencies and student interest. Prerequisite: PSYC 150 General Psychology.

**PSYC 490 Senior Seminar**
*1 hour.* This is a capstone course for the major focusing on the integration of Christianity and psychology and the application of psychological principles and findings in every day settings. Required for all psychology majors. Additional course fee required. Prerequisite: senior status.

### PSYC 495 Individualized Study

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# SOCI

**SOCI 150 Principles of Sociology**
*3 hours.* An introduction to the study of society, including the study of the shared relationships that create social organization and social processes of society. Required for sociology minors and for admission into the social work major.

**SOCI 220 Men and Women in Society**
*3 hours.* A study of how societies construct gender similarities and differences. The impact of gender upon individuals and social institutions, and the implications of a sociological understanding of gender for the Christian faith will be explored.

**SOCI 223 Sociology of Families**
*3 hours.* A study of marriage and the family from a sociological perspective, including historical, cross-cultural, and economic backgrounds. A Christian faith perspective will emphasize the worth of people, the importance of the family as a place of nurture, and the gift of marriage. (SOCI 223 and HLTH 223 are identical)

**SOCI 230 Sociology of Religion**
*3 hours.* A sociological examination of the meaning and function of religion in human society. Gives attention to the development of religious organization, the relationship of religion to class and politics, the nature of the sacred, dimensions of religiosity, and denominational diversity in the United States.

**SOCI 275 Exploratory Agency Experience**
*3 hours.* Supervised experience in the discipline including internships and practica required for professional programs. This introductory experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Pass/No Pass. Prerequisite: instructor's permission.

**SOCI 285 Selected Topics**
*1-3 hours.* A seminar dealing with topics of special interest to students and current faculty.

**SOCI 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the minor. Additional course fee (per credit) is required.

**SOCI 303 International Conflict and Peace**
*3 hours.* Why do wars and conflicts occur and how do we prevent these? This course considers the causes of global insecurity (from wars between countries to transnational terrorism to genocide) and examines the various approaches to their resolution, including the creation of international institutions and military alliances. Special emphasis will be placed on the role of religion in global political conflict.

**SOCI 310 Cultural Anthropology**
*3 hours.* A comparative study of world societies and their ways of life.

**SOCI 331 Crime and Deviance**
*3 hours.* An introduction to the study of deviance and criminology, including theoretical and paradigms and research.

**SOCI 333 Juvenile Delinquency**

*3 hours.* A study of the causes and nature of juvenile delinquency, the development of the juvenile court, probation, and other rehabilitative programs. Prerequisite: SOCI 150 Principles of Sociology or instructor's permission.

**SOCI 339 Restorative Justice**

*3 hours.* This course will cover the theological and historical backgrounds of alternative systems of justice, and the criminological principles undergirding a variety of restorative justice programs, particularly community policing, problem-solving courts and community corrections, and will apply an international comparative component as well as a study the programs' effectiveness. Prerequisite: SOCI 150 Principles of Sociology or instructor permission.

**SOCI 340 Statistical Procedures**

*3 hours.* Applied statistics for the social and behavioral sciences. Emphasis is placed on statistical logic and decision making. Recommended for the sophomore or junior year. Required for social work majors. (Identical to SWRK 340) Prerequisites: SOCI 150 Principles of Sociology and high school algebra.

**SOCI 363 Social Inequality**

*3 hours.* Examines the nature, causes, and consequences of inequality in society. An understanding of how social resources are distributed, and the resulting distribution of life chances, is central to understanding the fundamental bases of social order and social organization. This course takes a sociological approach to the study of inequality in which we argue that inequality is a characteristic of societies, not individuals.

**SOCI 366 Social Change**

*3 hours.* Explores socio-historic contexts, sources, and patterns related to social change, such as globalization, social movements, technological innovation, economic and political forces. Gives attention to understanding the role of individuals and groups in social change; moving toward a reflective, informed way of thinking and living as thoughtful Christians committed to justice.

**SOCI 370 International Economic Development**

*3 hours.* This course introduces students to causes and consequences of 'the wealth of nations.' Students will learn theories of economic growth and poverty alleviation. Topics to be covered include: globalization, education, international trade, holistic conceptions of development, and the role of institutions. (Identical to INTL 370 and SOCI 370.) Prerequisites: ECON 211 Principles of Macroeconomics or ECON 212 Principles of Microeconomics

**SOCI 373 Social Theory**

*3 hours.* A critical study of major social philosophers from Comte to the present. Required for sociology minors. Prerequisite: SOCI 150 Principles of Sociology or THEO 250 Introduction to Philosophy.

**SOCI 380 Race and Ethnicity**

*3 hours.* A study of the historical and socioeconomic factors experienced and lived by people of differing racial and ethnic backgrounds in the United States. Specific attention is placed on the social construction of race, social attitudes and past and present racial issues. Prerequisite: SOCI 150 Principles of Sociology or instructor's permission.

**SOCI 390 Research Methods**

*3 hours.* An overview of quantitative and qualitative research methods in the social sciences. Students will design a research project. Prerequisites: SOCI 150 Principles of Sociology and SOCI 340 Statistical Procedures or PSYC 240 Statistical Procedures.

**SOCI 399 Cross-Cultural Experience**
*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. Additional course fee is required.

**SOCI 430 Sociology of Religion**
*3 hours.* A sociological examination of the meaning and function of religion in human society. Gives attention to the development of religious organization, the relationship of religion to class and politics, the nature of the sacred, dimensions of religiosity, and denominational diversity in the United States.

**SOCI 475 Field Experience**
*3-6 hours.* Supervised experiences in private and public social agencies. Students may opt for 3 hours of SOCI 475 Field Experience as part of their minor. Pass/No Pass. Prerequisites: upper-division minors and by permission.

**SOCI 480 Senior Research Project**
*3 hours.* For sociology majors only, this course requires students to complete a research project. With an expectation of a literature review, data collection and analysis, students will produce a piece of original research that is worthy of publication and/or presentation. Prerequisite: SOCI 390 Research Methods.

**SOCI 485 Selected Topics**
*1-3 hours.* A special-interest course that addresses current topics in the field of sociology. Course offerings depend on current faculty competencies and student interest. Previous offerings have included a Christian response to the contemporary family, criminal justice, cross-cultural education, death and dying, Native American cultures, sociology of religion, sociology of adolescence, and sociology of literature. Prerequisites: SOCI 150 Principles of Sociology and upper-division majors.

**SOCI 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# SPAN

**SPAN 101 Introductory Spanish**
*4 hours.* An integrated introductory study of Spanish. Listening, speaking, reading, and writing are all integral to learning the language. Cultural aspects of Spain and Latin America are also presented as essential components. Three class sessions and one laboratory per week. Prerequisite: placement exam required.

**SPAN 200 Introduction to Latinx Studies**
*3 hours.* This course will provide an introduction to Latina/o literature's and cultures in the United States from the 1820s to the present, paying close attention to the historical and social events that have influenced the construction of U.S. Latino/a identities. Through the examination of canonical texts produced by Chicanos, Mexican-Americans, and Hispanic Caribbean authors we will analyze questions of racial, ethnic, religious, and cultural identities in conversation with current theoretical concepts such as Diaspora, border identities, strategic essentialism, imagined communities, code-switching, oppositional consciousness, and double-consciousness.

**SPAN 201 Intermediate Spanish**
*4 hours.* A proficiency-centered approach to the study of Spanish, with extensive practice in listening, speaking, reading, and writing. Three class sessions and one laboratory per week. Prerequisite: SPAN 102 Introductory Spanish II or placement by exam.

**SPAN 202 Intermediate Spanish**
*4 hours.* A proficiency-centered approach to the study of Spanish, with extensive practice in listening, speaking, reading, and writing. At the end of SPAN 202, students should have intermediate mid proficiency as defined by ACTFL. Three class sessions and one laboratory per week. Prerequisite: SPAN 201 Intermediate Spanish I or placement by exam.

**SPAN 210 Spanish for Medical Personnel**
*3 hours.* An intensive introduction to Spanish medical vocabulary, focusing on listening and speaking skills likely to be used in a clinical setting, and on the cultural practices of Hispanic populations in the United States. Prerequisite: One year of Spanish study prior to college, minimum score of 100 on Spanish placement exam, or SPAN 101.

**SPAN 275 Field Experience**
*1-10 hours.* Supervised experience in a situation demanding extensive use of Spanish. Admission and credit hours determined by instructor. Pass/No Pass.

**SPAN 285 Selected Topics**
*2-4 hours.* Occasional special courses chosen to fit the needs and interests of students and faculty.

**SPAN 295 Individualized Study**
*1-4 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**SPAN 301 Intermediate/Advanced Spanish**
*4 hours.* A thorough review of Spanish to develop intermediate high proficiency, as defined by ACTFL. Activities include reading authentic texts, writing in a variety of styles, and developing strategies for communication. Three class sessions and one

laboratory per week. Prerequisite: SPAN 202 Intermediate Spanish II or placement by exam.

**SPAN 302 Advanced Spanish**
*4 hours.* A thorough review of Spanish to develop intermediate high proficiency, as defined by ACTFL. Activities include reading authentic texts, writing in a variety of styles, and developing strategies for communication. Three class sessions and one laboratory per week. Prerequisite: SPAN 301 Intermediate/Advanced Spanish I or placement by exam.

**SPAN 303 Spanish for Heritage Speakers**
*4 hours.* This course examines the Latino populations of the U.S. and develops academic Spanish for those who learned Spanish outside of a formal school setting. Taught in Spanish. Prerequisite: Placement by testing or instructor permission.

**SPAN 340 Spanish Culture and Civilization**
*3 hours.* A one-semester introduction to the cultures and civilizations of the Iberian Peninsula. Students continue to develop skills toward advanced proficiency as defined by ACTFL. Activities to include reading authentic texts and listening to and interacting with native speakers of Spanish. Areas of study may include history, art, music, the role of religion, governmental systems and gender differences. Taught in Spanish. Prerequisite SPAN 302 or instructor’s permission.

**SPAN 350 Latin American Culture and Civilization**
*3 hours.* n introduction to the cultures and civilizations of Latin America. Students continue to develop skills toward advanced proficiency, as defined by ACTFL. Activities include reading authentic texts, field trips, and listening to native speakers. Areas of study may include history, art, music, the role of religion, governmental systems, and gender differences. Taught in Spanish. Corequisite/Prerequisite: SPAN 302 Intermediate/Advanced Spanish II or concurrent enrollment in SPAN 302 Intermediate/ Advanced Spanish II or instructor's permission.

**SPAN 375 Cultural Field Experience**
*2 hours.* Supervised experience in a cultural setting that contributes to the educational goals of the student. Pass/No Pass. Prerequisites: permission of advisor and the academic dean.

**SPAN 399 Cross-Cultural Experience**
*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. Additional course fee is required.

**SPAN 400 Introduction to Hispanic Literature**
*3 hours.* A one-semester introduction to Latin American and Peninsular (Spain) literature. This course introduces students to selected masters and periods of Latin American and Spanish literature and reflects on matters of faith as revealed in the pieces studied. Students continue to develop skills toward advanced proficiency as defined by ACTFL. Taught in Spanish. Prerequisite: SPAN 302 Advanced Spanish or equivalent.

**SPAN 410 Introduction to Spanish Literature**
*3 hours.* A one-semester introduction to Spanish peninsular literature. This course introduces students to selected masters and periods of Spanish literature and

reflects on matters of faith ads revealed in the pieces studied. Students continue to develop skills toward advanced proficiency as defined by ACTFL. Taught in Spanish. Prerequisite: SPAN 302 Advanced Spanish or equivalent.

**SPAN 420 Introduction to Latin American Literature**
*3 hours.* This course introduces students to selected masters and periods of Latin American literature and reflects on matters of faith as revealed in the pieces studied. Students continue to develop skills toward advanced proficiency, as defined by ACTFL. Taught in Spanish. Prerequisite: SPAN 302 Advanced Spanish or equivalent.

**SPAN 475 Field Experience**
*2 hours.* Supervised experience in a situation demanding extensive use of Spanish and/or work with Latinx population. Admission and credit hours determined by instructor. Pass/No Pass.

**SPAN 480 Spanish Capstone**
*1 hour.* This course synthesizes all the student's skills in Spanish. It includes a portfolio of written work, journal kept while abroad and reflection paper completed upon return to U.S., an oral proficiency interview, and a service-learning project. Meetings with professor focus on integration of faith and learning. Preferably taken after semester abroad.

**SPAN 485 Selected Topics**
*2-4 hours.* Occasional special courses chosen to fit the needs and interests of students and faculty.

**SPAN 495 Individualized Study**
*1-4 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# SSCI

**SSCI 100 Justice**
*3 hours.* In this course, we wrestle with a question that the prophet Micah asks and answers in Micah 6:8, "O man, what is good; and what does the Lord require of you but to do justice, and to love mercy, and to walk humbly with your God?" This question is as relevant in America today as it was in Israel in the 8th century BC. How do we live such a life in a time of injustice, hate, and violence? This course addresses this question by exploring the ways in which justice-or injustice-manifests itself in society, both domestically and globally.

# SWRK

**SWRK 180 Introduction to Social Work**
*3 hours.* This course serves as an introduction to the philosophy, historical development and current practices of the social work profession. Specifically, the knowledge base, values, skills, practices, settings, educational and career opportunities of the profession will be examined. Emphasis is placed on developing awareness of the scope of the profession using a scientific, analytic approach to service delivery and evaluation; relating generalist social work practice to social welfare systems; economic and social justice; and work with diverse, oppressed and at-risk populations. This course includes community service opportunities and/or social service agency tours. This course is required for those majoring in social work and must be taken prior to entrance into the major.

**SWRK 210 Intro to Criminal Justice**
*3 hours.* This course will provide students with an introduction and synopsis of the system of criminal justice operated in the United States today. The course will provide an overview of the philosophy of criminal law, theories of deviance and of the nature and extent of crime in America. The theory, structure, and operation of each of the principle components of the Criminal Justice System (i.e., law enforcement, courts, and corrections) will be examined in detail.

**SWRK 275 Field Experience**
*1-3 hours.* Supervised experience in the discipline including internships and practica required for professional programs. This introductory experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Prerequisite: instructor's permission.

**SWRK 285 Selected Topics**
*1-3 hours.* A special-interest class offered on a onetime basis addressing a subject in the field that is of general interest to the university community. Prerequisite: by permission.

**SWRK 290 Diversity Issues in Social Work**
*3 hours.* This course introduces students to issues of diversity and difference in preparation for culturally competent social work practice. Students will learn about vulnerable and marginalized groups and the environmental systems which impact them. Special attention is given to issues of intersectionality, bias, discrimination, power and privilege, and oppression. Students will explore their own personal identity and how their views, beliefs, values and behaviors may support or hinder future social work practice with diverse populations. Prerequisites: Declared social work major, social welfare minor, or permission of the instructor.

**SWRK 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**SWRK 321 Family Violence**
*3 hours.* This course will provide an overview of the different types of violence that occur within family systems. Attention will be given to the intersection of diverse identities and violence, factors with society that contribute to violence, and societal responses to

violence within society. Prerequisites: PSYC 150, SOCI 150 or SWRK 210 and at least sophomore level status or instructor permission.

**SWRK 322 Death, Loss, and Grief**
*3 hours.* This course will introduce students to multidisciplinary approaches to death, loss, and grief in the context of the biopsychosocialspiritual model. Topics will include the human response to loss throughout the lifespan, societal responses to dying and death, ethical issues related to dying and death, suicide, and advanced planning for death and dying. Prerequisites: PSYC 150 or SOCI 150 and at least sophomore level status or instructor permission.

**SWRK 331 Human Behavior in the Social Environment**
*3 hours.* This course provides and seeks to apply a basic framework for creating and organizing knowledge of human behavior during the lifespan. Social systems, human development theories, and strengths approaches are critically examined to foster understanding of individual, family, group, organizational, and community behaviors and the impact of the larger environment on these systems. Special attention is given to the impact of human diversity, discrimination, and oppression on the ability of individuals, families, groups, organizations, and communities to reach or maintain optimal health and well-being. Required for majors. Prerequisites: PSYC 150 General Psychology and SOCI 150 Principles of Sociology or permission of instructor.

**SWRK 333 Human Rights and Social Justice**
*3 hours.* This course introduces human rights and social justice concepts in the context of social work history, values, ethics, and practice. Related concepts of oppression, power, privilege, and inequity will also be covered. Prerequisites: Formal admission to the social work program or a declared minor in social welfare.

**SWRK 340 Statistical Procedures**
*3 hours.* Applied statistics for the social and behavioral sciences. Emphasis is placed on statistical logic and decision making. Recommended for the sophomore or junior year. Required for sociology and social work majors. (Identical to SOCI 340.) Prerequisites: SOCI 150 Principles of Sociology and high school algebra.

**SWRK 391 Social Work Practice I**
*3 hours.* A study of generalist social work practice with individuals. Microlevel theory, skills, and interviewing techniques are applied to generalist social work. The course will cover theory and techniques of person-centered case management that are specifically applicable to work with individuals. A prerequisite for Field Experience/ Practicum I (SWRK 475). Required for majors. Additional course fee is required. Prerequisites: PSYC 150 General Psychology, SOCI 150 Principles of Sociology, SWRK 180 Introduction to Social Welfare, declared social work majors only, and formal admission into the social work program.

**SWRK 392 Social Work Practice II**
*3 hours.* A study of mezzo-level generalist social work practice with families and groups. Attention is given to a systems framework of generalist social work practice, with a particular focus upon assessment and development of appropriate intervention strategies. A prerequisite for SWRK 476 Field Experience/Practicum II. Required for majors. Prerequisite: SWRK 391 Social Work Practice I and declared social work majors only.

**SWRK 393 Social Work Practice III**

*3 hours.* An overview of generalist social work methods practiced with organizations and communities. Attention is given to assessment, planning, implementation, and evaluation of macro-level systems. Additional course fee required. A prerequisite for SWRK 477 Field Experience/Practicum III. Required for majors. This class is open to declared social work majors only. Prerequisite: SWRK 392 Social Work Practice II.

**SWRK 399 Cross-Cultural Experience**

*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings in the spring followed by travel to various locations throughout the world in May. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. Offered at the discretion of the department. Upper division students, by permission. Additional course fee is required.

**SWRK 400 Child Welfare**

*3 hours.* Basic principles of child welfare, with emphasis upon the services for families and children needing various types of support. Focus is on developing a knowledge and understanding of child welfare and supportive services. Prerequisites: PSYC 150 General Psychology or SOCI 150 Principles of Sociology and at least sophomore level status or instructor permission.

**SWRK 410 Helping Professions and Older Adults**

*3 hours.* This course provides a general introduction to the study of aging, older people and their adaptation to a rapidly changing world from a social work perspective. It examines a wide variety of physical, cognitive and psycho-social changes that occur as one ages, how these factors influence interaction with social/physical environments, and how the older person is, in turn, affected by these interactions. Social work perspectives, values and interventions with this population will be emphasized. Prerequisites: PSYC 150 General Psychology or SOCI 150 Principles of Sociology and at least sophomore level status or instructor permission.

**SWRK 420 Mental Health and Substance Abuse**

*3 hours.* This course focuses on substance abuse and mental health within American society, with a special emphasis on the connection to the criminal justice system. Students will learn about the major DSM-V mental disorders and treatment for mental illness. Substance addiction, treatment, and the social impact drugs on society will be examined. An overview of current issues involving mentally impaired persons in the U.S. criminal justice system will also be explored. Prerequisites: SWRK 180 Introduction to Social Work, SWRK 331 Human Behavior in the Social Environment, and SWRK 391 Social Work Practice I or declared minor in criminal justice.

**SWRK 440 Social Work Research Methods**

*3 hours.* This course provides basic knowledge about research methods as it applies to social work practice. This course is designed to survey the basic processes of research methodology as practiced in the social sciences. Topics include research design, problem formulation, measurement, sampling, data analysis, and ethics in research. This course introduces the theory and application of basic social scientific research techniques, including qualitative and quantitative methods, data collection and statistical thinking. Topics specific to social work research such as agency-based research, program evaluation, outcomes evaluation and single-subject design will be emphasized. The use of research as one tool in the professional repertoire of skills available to the social work generalist and evaluation of practice are emphasized. This course is designed to increase students' ability to read for understanding, critically evaluate,

and better utilize the social work research literature. At the same time it is designed to prepare students to begin work on the senior research paper/project. Finally, this course demonstrates the need for and encourages the use of research in social work practice.

**SWRK 460 Social Policy**
*3 hours.* This course proves an in-depth analysis of how human needs and values are translated into social policy on community, national and international levels. Special attention is given to the ways in which values and power interests influence the creation of social policy. Emphasis is placed on the history of social welfare and related policies, the process of policy formation and analysis, and impact of policy on at-risk populations. Implications for generalist social work practice and services will be explored through a variety of class activities. Required for social work majors. Additional course fee is required. Prerequisites: SWRK 180 Introduction to Social Welfare and SWRK 475 Field Experience/Practicum I, or the instructor's permission.

**SWRK 475 Field Experience**
*1-10 hours.* Supervised experience in the discipline including internships and practica required for professional programs. This introductory experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Prerequisite: instructor's permission.

**SWRK 476 Field Education I**
*6 hours.* The first course in the field instruction provides a beginning level of supervised field experience in a social service agency where students begin applying generalist practice skills of working with individuals, families, groups, organizations, and communities. Students integrate and apply concepts from social work practice courses focused on professionalism, ethics, policy, research, diversity, human rights and justice, and the generalist social work perspective. Additionally, students attend a one-hour seminar each week that addresses the integration of classroom concepts and experiences at the agency. (225 practicum hours in the agency) Prerequisites: SWRK 391 Social Work Practice I, SWRK 392 Social Work Practice II; declared social work majors only.

**SWRK 477 Field Education II**
*6 hours.* The second course in the field instruction continues professionally supervised generalist social work practice in approved community agencies. Students integrate and apply concepts from social work practice courses focused on professionalism, ethics, policy, research, diversity, human rights and justice, and the generalist social work perspective. Additionally, students attend a one-hour seminar each week that addresses the integration of classroom concepts and experiences at the agency. (225 practicum hours in the agency) Prerequisites: SWRK 476 Field Internship I; declared social work majors only.

**SWRK 485 Selected Topics**
*1-3 hours.* A special-interest class that addresses a relevant subject in the helping professions. Previous and projected subjects include, but are not limited to, administration and community planning; cognitive and behavioral theories; crisis and trauma recovery; current issues in social work; medical and mental health services; systemic and ecological theories; social policy; and treating addictive behaviors. Prerequisites: PSYC 150 General Psychology or SOCI 150 Principles of Sociology and at least sophomore level status or instructor permission.

**SWRK 490 Senior Seminar**

*3 hours.* This course focuses on consolidating substantive knowledge regarding (1) social welfare policy and services, (2) human behavior in the social environment, (3) the structure and function of communities and human service organizations, (4) methods of inducing change across the micro-, mezzo, and macro-levels of human experience, (5) methods of scientific inquiry necessary to assess human potential, problems, and the effectiveness or outcomes of professional interventions, (6) the professional presentation of “self” as a social worker, (7) the integration or interaction of various psycho-social theories with faith and learning, and (8) professional applications of the NASW Code of Ethics. Prerequisite: SWRK 392 Social Work Practice II.

**SWRK 495 Individualized Study**

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# THEA

**THEA 105 Mainstage Theatre Practicum**
*0-6 hours.* The practical application of theatrical disciplines (acting, directing, design, technical & management) in connection with university theatre main stage productions. Open to any student taking part in a university theatre production. May be repeated for credit. Prerequisite: instructor permission.

**THEA 110 First Year Theatre Seminar**
*1 hour.* This First Year Theatre Seminar is a one-hour credit course for students who are new to the GFU theatre community. The course will help students make the transition to GFU theatre, develop a strong community, and challenge students to think seriously about the integration of their faith and/or values into their work as theatre artists and servant storytellers.

**THEA 115 Acting Practicum**
*1-3 hours.* The practical application of acting techniques in connection with university theatre main stage productions. Open to any student taking part in a university theatre production. May be repeated for credit. ¿Prerequisite: instructor's permission.

**THEA 120 Art and Global Culture**
*3 hours.* The world is full of dissonance and beauty—a fact which artists from cultures throughout the world have pointed to time and time again through their creative craftsmanship. This course explores a selection of global perspectives on beauty and dissonance through the lens of art, music and theater, explores the theories that run behind them, allows you to practice creative work, and research underrepresented areas of creative practice. Whether or not you enter this course with the belief that you are a creative person, this course invites you to cultivate an appreciation for artistry by trying on creative practice in addition to traditional academic approaches of reading, writing and discussion. This may mean creating small theatrical moments, practicing the principles of design in creating a print, or learning to write a musical composition. It is our firm belief that all people are born with creative instincts that reflect and respond to God’s original creative action, and we hope to see that creative spark reawaken in you. By the end of this course, you should have a stronger understanding of the multiple perspectives artists might take towards beauty and dissonance and how those perspective reflect the culture surrounding the artist, an ability to appreciate and move beyond a mere “I like it or not attitude” towards creative work, exposure to what it feels like to create and perform original work, and will also have done original research into works of art that are too often left out of history courses and academic study. Ultimately, regardless of your major, this course will help you cultivate and appreciate the discipline that surrounds creativity which remains an essential part of living a fulfilled life and a critical skill that is sought after in most professions.

**THEA 130 Stagecraft**
*3 hours.* Do you ever wonder what happens backstage during a theatre production or concert? Come learn the magic of how scenery is built, colors are mixed, and lights move. Through a series of hands-on projects, this course is designed to introduce students to the diverse skills, equipment, and professional practices used in staging theatre productions. Learn to set up a sound system and light a stage. Explore scenic materials, hardware, rigging, and construction techniques. Learn how to correctly coil cables and ropes, tie knots, fold drapes, and safely use all the tools in a typical scene

shop. The course culminates with teams participating in Tech Olympics. Additional course fee required. Additional course fee is required.

**THEA 135 Design Practicum**
*1-3 hours.* The practical application of design techniques in connection with university theatre main stage productions. Open to any student taking part in a university theatre production. May be repeated for credit.¿ Prerequisite: instructor's permission.

**THEA 145 Management Practicum**
*1-3 hours.* The practical application of theatre and stage management techniques in connection with university theatre main stage productions. Open to any student taking part in a university theatre production. May be repeated for credit. ¿Prerequisite: instructor's permission.

**THEA 155 Directing Practicum**
*1-3 hours.* The practical application of directing techniques in connection with university theatre productions. Open to any student taking part in a university theatre production. May be repeated for credit. ¿Prerequisite: instructor's permission.

**THEA 160 Improvisational Theatre Workshop**
*2 hours.* Focus on development of improvisational skills through structured and directed psychological, physical, and social exercises. May be repeated once for credit.

**THEA 165 George Fox University Players: Drama Touring Troupe**
*1 hour.* Participation in theatre's traveling drama ministry ensemble. Students must remain with the troupe the entire year. May be repeated to a maximum of four hours credit. Pass/No Pass. Prerequisite: audition and invitation.

**THEA 200 Acting II: Stage Voice and Movement**
*3 hours.* A study of the basic principles and techniques of increasing vocal and physical awareness and production on the stage, including life study projects and an introduction to basic theoretical approaches to voice and movement. This course requires additional outside-of-class time for rehearsal and performance of selected material. Prerequisites: THEA 100 Acting I - Fundamentals and instructor's permission.

**THEA 205 Acting Studio**
*3 hours.* Whether you are interested in learning the fundamentals of acting or sharpening your current acting skill-set, this class is designed to take your work as an actor to the next level of excellence. Students will engage in fun acting games, rigorous training, performance of scenes, the study of acting theories, and critical analysis of performance throughout the semester. There are a number of variations of this course including Fundamentals of Acting, Contemporary Performance, Shakespeare & Music Theatre Performance. This course requires additional outside-of-class time for rehearsal and performance of selected material. Repeatable for credit

**THEA 240 Understanding Drama**
*3 hours.* A study of significant plays from the classical period to the present, both as literary works and staged productions, the goal being a deeper understanding and appreciation of drama as a symbolic form. Primary focus is on literary values, with attention also given to the constraints and interpretations embodied in the staging, acting, and directing of a play. (Identical to THEA 240.)

**THEA 265 Directing/Literature Studio**
*3 hours.* This dynamic studio explores the cultural intersections between dramatic literature and performance through the eyes of the director. Each iteration of this course examines how cultural forces throughout history have created unique dramatic

structures that impact the way stories are performed and received in their particular contexts. Students will analyze a wide variety of plays, do historical research, participate in directing exercises, and direct scenes throughout the semester. In doing so, students will examine how text impacts the audience's reception of a play, and thus informs moment to moment directing choices, artistic interpretation and performance concepts. Specific topics rotate, and the course can be taken more than once with different topics. Prerequisite: THEA 205: Acting Studio or instructor's permission. Repeatable for credit

**THEA 275 Field Experience**
*1-10 hours.* Offered summers only. Supervised experience with off-campus professional, community, church, or camp theatre productions or drama programs. The experience may include acting, directing, technical production, design, publicity, management, therapy, or any combination thereof. Pass/No Pass. Prerequisite: instructor's permission.

**THEA 285 Selected Topics in Theatre**
*3 hours.* Characteristically offered as part of May Term. Special courses offered occasionally to meet the needs and interests of students, professors, and visiting professors, specifically including technical theatre.

**THEA 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**THEA 300 Acting III: Contemporary Scene Study**
*3 hours.* A study of the acting and philosophical challenges that face contemporary actors in the professional world of theatre. Through in-depth scene study, structural analysis, in-class presentations, and outside research the student is exposed to the theatre community's various artistic responses to recent political and social movements. This course requires additional outside-of-class time for rehearsal and performance of selected material. Prerequisite: instructor's permission.

**THEA 305 Mainstage Theatre Practicum**
*0-6 hours.* The practical application of theatrical disciplines (acting, directing, design, technical & management) in connection with university theatre main stage productions. Open to any student taking part in a university theatre production. May be repeated for credit. Prerequisite: instructor permission.

**THEA 315 Acting Practicum**
*1-3 hours.* The practical application of acting techniques in connection with university theatre main stage productions. Open to any student taking part in a university theatre production. May be repeated for credit. ¿Prerequisite: instructor's permission.

**THEA 325 Production Design Studio**
*3 hours.* This course introduces students to the design process for theatrical productions. There are a number of different variations of this course. Each variation picks a different topic through which to examine how the design process can be a tool for analyzing and understanding a script. Through a series of hands-on projects, students will explore the skills needed to work through the design process from conceptualization to implementation. While focused primarily on live theatre, the course will also explore how the topic applies to music, cinema, art installations and related industries. Examples of different variations of this course include: Scenic Design, Lighting Design, Sound Design, Costume Design, and Projection Design. Repeatable

for course credit. Prerequisite: THEA 130 Stagecraft or instructor permission. Additional course fee required.

**THEA 330 Stage Lighting and Sound**
*3 hours.* An introductory study of the principles of stage lighting and sound design for theatrical production. The emphasis will be on both design and operation of sound and lighting equipment. Students will apply theory through a number of projects. Additional course fee is required. Prerequisite: THEA 130 Stagecraft or instructor' permission.

**THEA 335 Design Practicum**
*1-3 hours.* The practical application of design techniques in connection with university theatre main stage productions. Open to any student taking part in a university theatre production. May be repeated for credit.¿ Prerequisite: instructor's permission.

**THEA 340 Theatre as Ministry**
*3 hours.* A consideration of theatre skills as tools for meeting human needs in essentially nontheatrical environments. Focus on drama as a service medium rather than as strictly an entertainment vehicle.

**THEA 345 Management Practicum**
*1-3 hours.* The practical application of theatre and stage management techniques in connection with university theatre main stage productions. Open to any student taking part in a university theatre production. May be repeated for credit. ¿Prerequisite: instructor's permission.

**THEA 350 Music Theatre Performance**
*3 hours.* An introduction to the acting, dance, and vocal techniques required for music theatre performance. Through in-depth scene study, vocal training, dance, and in-class performances, the student will be introduced to the various artistic challenges inherent in music theatre since its inception. This course requires additional outside-of-class time for rehearsals and performance of selected material. Additional course fee is required. (Identical to MUSI 350.) Prerequisites: THEA 100 Acting I - Fundamentals and MUSA 105 VC Applied Voice or MUSI 125T Music Theatre or MUSI 325T Music Theatre.

**THEA 355 Directing Practicum**
*1-3 hours.* The practical application of directing techniques in connection with university theatre productions. Open to any student taking part in a university theatre production. May be repeated for credit. Prerequisite: instructor's permission.

**THEA 360 Improvisational Theatre Workshop**
*2 hours.* Focus on development of improvisational skills through structured and directed psychological, physical, and social exercises. May be repeated once for credit.

**THEA 365 George Fox University Players: Drama Touring Troupe**
*1 hour.* Participation in theatre's traveling drama ministry ensemble. Students must remain with the troupe the entire year. May be repeated to a maximum of four hours credit. Pass/No Pass. Prerequisite: audition and invitation.

**THEA 370 Directing for Theatre**
*3 hours.* An introduction to the director's role in theatre through historical and artistic research, comprehensive structural analysis, scene work, the creation of composition, stage pictures, blocking, rhythm, tempo, and an exploration of the working relationships with actors and design teams. This course requires additional outside-of-class time for rehearsal and performance of selected material. Prerequisite: THEA 100 Acting I - Fundamentals.

**THEA 380 Costume Design**
*3 hours.* A study of the elements and principles of costume design for the theatre. Students will develop skills in play analysis for costuming, basic rendering skills, and period research. The class will include an introduction to the various media used in communicating a costume design concept. Additional course fee is required. Prerequisite: THEA 130 Stagecraft or instructor's permission.

**THEA 390 Playwriting**
*3 hours.* This course is designed to introduce basic playwriting, in particular elements of the playwright's craft: dramatic action, plot, characterization and theatricality. The course functions as a playwriting workshop with students presenting exercises in class to be discussed by their peers. Utilizing techniques learned, students will complete a draft of a one-act play.

**THEA 399 Cross-Cultural Experience**
*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. Additional course fee is required.

**THEA 400 Acting IV: Acting Shakespeare**
*3 hours.* An in-depth study of the world and words of Shakespeare. Through classroom exercises, scene study, and outside research the student is exposed to how word choice, syntax, and grammar informs the actor, influences action, exposes character, and creates the world of play. This course requires additional outside-of-class time for rehearsal and performance of selected material. Prerequisite: instructor's permission.

**THEA 420 Theatre Management**
*3 hours.* This course introduces students to the diverse issues involved in managing a theatre company. It includes an examination of marketing and promotions, financial management, and organizational structures of various types of theatres, with special emphasis given to stage management. Students will be able to apply learned principles to hands-on projects and presentations. Prerequisite: THEA 130 Stagecraft or instructor's permission.

**THEA 430 Scenic Design**
*3 hours.* An introductory study of the theories and skills of stage design with an emphasis on script analysis and good visual research. Assignments will guide the student to learning the practices of drafting, perspective drawing, watercolor rendering, and model building. Students will apply these learned techniques and research skills to several projects. Additional course fee is required. Prerequisite: THEA 130 Stagecraft or instructor's permission.

**THEA 440 Theatre History**
*3 hours.* A broad survey of the history of theatre dedicated to the research, study, and analysis of the innovators and revolutionaries in playwriting theory, acting, directing, design, and production.

**THEA 475 Field Experience**
*1-10 hours.* Offered summers only. Supervised experience with off-campus professional, community, church, or camp theatre productions or drama programs. The experience may include acting, directing, technical production, design, publicity,

management, therapy, or any combination thereof. Pass/No Pass. Prerequisite: instructor's permission.

**THEA 485 Selected Topics**
*3 hours.* Characteristically offered as part of May Term. Special courses offered occasionally to meet the needs and interests of students, professors, and visiting professors, specifically including technical theatre.

**THEA 490 Senior Theatre Seminar**
*1 hour.* The Senior Theatre Seminar is a one credit fall course that is designed to help our students develop key entrepreneurial skills as individual theatre artists to help them transition from their undergraduate careers to the professional world of theatre. The class culminates in a GFU Senior Theatre Showcase in which senior theatre majors showcase their talent for Portland artistic directors and casting directors. (permission number required)

**THEA 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# THEO

**THEO 100 Bible Survey**
*3 hours.* This course provides an overview of the history, literature, and themes of the Christian Bible. The 6-credit-hour sequence of THEO 101-102 is a requirement of all undergraduate students at George Fox University, including transfer students, and serves as a prerequisite to further coursework. However, if students are unable to take THEO 101-102, they may substitute THEO 100 in addition to THEO 300 (3 credit hours) to fulfill the same requirement.

**THEO 101 The Bible**
*3 hours.* When reading the Bible, you may wonder how an ancient book connects to our lives today. This course will take the time to explore the various types of writings found in the Bible and explain how those old writings have a lot to say about contemporary society. This course will provide students with the opportunity to engage Scripture and see how it impacts their lives today.

**THEO 102 Christianity**
*3 hours.* This course utilizes the flow of Christian history to explore both the development of Christian doctrine and the context of the spiritual journeys of Christians from around the world. By tracing the history and theological development of Christianity, it reveals the foundations of the Christian faith. In doing so, it gives students both a broader perspective of the whole Christian movement over two thousand years, and helps them understand their own personal faith tradition.

**THEO 130 Christian Discipling**
*3 hours.* A study of biblical principles of evangelism, nurturing, and teaching. This study encompasses the Christian educational responsibilities of the local church and parachurch agencies.

**THEO 201 Old Testament**
*3 hours.* Using selected books and portions, the Old Testament will be studied with attention given to historic contexts, major religious themes, and literary forms of the Bible.

**THEO 202 Theology I**
*3 hours.* In this first part of a two-part sequence, students begin their journey into the breadth and depth of Christian theology, studying what Christians have believed and practiced. Emphasis is placed on major themes, figures, texts, and on students connecting their Christian practice with the intellectual traditions of the Church.

**THEO 215 Bible and Theology**
*3 hours.* In this course students will be introduced to basic tools and scholarly attitudes for studying the Bible and theology, using a particular biblical book, theme, or theological topic as a focus. Material will be studied not only for academic knowledge but also spiritual and personal growth. Specific topics rotate, and the course can be taken more than once with different topics. Prerequisites include any one of the following: THEO 101 The Bible; THEO 100 Bible Survey; THEO 201 Old Testament or THEO 301 New Testament.

**THEO 250 Introduction to Philosophy**
*3 hours.* This course is designed to introduce students to what it means to think and live philosophically. There are a number of different variations of this course. Each

variation picks a different topic through which to explore how philosophy be a tool for interpreting, understanding and interacting with the world. Not only that, we will also examine how philosophy can shape the way in which we live out our lives. Each course includes some reading of Plato and at least one other major philosophy in the tradition. Examples of different variations of this course include: "God, Freedom and Evil", "Simplicity", "Socrates and Plato", "Land and Humans", and "Virtue and Faith".

**THEO 275 Field Experience**
*1-4 hours.* Supervised internship or other experience in the areas of Christian ministry, biblical studies, philosophy, teaching, or other related fields as appropriate to the student's discipline. Administered by application or instructor permission as required by a student's academic program.

**THEO 285 Selected Topics**
*1-3 hours.* Occasional special courses chosen to fit the interests and needs of students and faculty.

**THEO 295 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

**THEO 300 History and Theology of Christianity**
*3 hours.* This course introduces students to the Christian faith and to the diverse experiences of Christians within the world context. The course will proceed along the levels of history (where and when did Christianity flourish) and theology (what have Christians believed), as well as society and culture (what has Christian practice looked like). Prerequisite include any one of the following: THEO 100 Bible Survey; THEO 101 I Believe; THEO 201 Old Testament; THEO 301 New Testament.

**THEO 301 New Testament**
*3 hours.* Using selected books and portions, the New Testament will be studied with attention given to historic contexts, major religious themes, and literary forms of the Bible.

**THEO 302 Theology II**
*3 hours.* In this second part of a two-part sequence, students continue their journey into the breadth and depth of Christian theology, studying what Christians have believed and practiced. Emphasis is placed on major themes, figures, texts, and on students connecting their Christian practice with the intellectual traditions of the Church. Prerequisite: THEO 202 Theology I

**THEO 310 Introduction to the World Christian Movement**
*3 hours.* The biblical basis and history of missions are considered, with a special focus upon the modern missionary movement of the last 200 years.

**THEO 315 Advanced Bible & Theology**
*3 hours.* Theology and Biblical Studies are vibrant and dynamic fields of study, with profound implications not only for communities of faith but also for the study of politics, literary studies, philosophy, history, and popular culture. This course will focus on contemporary issues relevant to the research interests and specialties of George Fox University faculty in theology and Bible and will offer an opportunity for students and faculty to collaborate in the dual process of research and personal transformation. Specific topics rotate, and the course can be taken more than once with different topics. Prerequisite: THEO 101 I Believe and THEO 102 I Believe, or by permission.

**THEO 325 Theological Languages I**
*4 hours.* In this course students will study languages relevant to their biblical and theological study (options include ancient languages such as Hebrew, Greek, Latin, or inscriptions, as well as modern languages such as German, French, Spanish, etc.). Basics of vocabulary and grammar and special aspects of the language will be covered in the first semester, while the second semester moves more heavily into reading primary sources.

**THEO 340 World Christianity**
*3 hours.* This course examines the diversity of the global Christian Church through an exploration of key theological texts written by the foremost theologians from the continents of Africa, Asia, Latin America, and Europe.

**THEO 341 Cross-Cultural Christian Outreach**
*3 hours.* Cross-cultural communication in Christian ministry, focusing on the concepts of identification, mutuality, the process of cultural change from a biblical perspective, and strategies for cross-cultural outreach.

**THEO 350 Logic**
*3 hours.* Logic involves a study of Aristotelian forms of deductive reasoning, including the syllogism, inductive reasoning, fallacies, and some aspect of symbolic logic, including Venn diagrams and truth tables. Its goal is to facilitate sound thinking that is both creative and critical.

**THEO 360 Perspectives in Christian Education**
*3 hours.* A study of the historical background and philosophical development in Christian education, with an examination of the influence of these antecedents upon theory and practice. Contemporary trends in current and emerging ministries will be assessed against such perspectives.

**THEO 363 Youth Ministry: Theology and Philosophy of Ministry**
*3 hours.* A study of motivation, guidance, and method in reference to youth and youth ministries, aimed at developing leadership skills.

**THEO 364 Youth Ministry: Culture and Practice**
*3 hours.* A study of some of the major trends and issues confronting and shaping young people in American culture today. A premium is placed upon developing the tools to interact with these realities as Christians in ministry and to recognize ways in which youth culture both hinders and fosters opportunities for ministry to young people.

**THEO 370 Spiritual Formation**
*3 hours.* An exploration of how people grow and change spiritually. The study integrates biblical insights, classic Christian spirituality, developmental theory, and contemporary individual and corporate practice in spiritual formation. It will critically explore how spirituality relates to vocation, relationships, and the demands of daily living.

**THEO 380 Ethics**
*3 hours.* What are we here for? How should we live? What does a good life look like today? Answering those questions begins with the commandments to love God and neighbor, and this class aims to help students properly order their loves in light of contemporary challenges and vocational goals. The class equips students to reason well about ethics and to think critically about a variety of ethical systems and positions.

**THEO 390 Biblical Interpretation**
*3 hours.* In this course students will study the history of Biblical interpretation as it has been practiced within the Bible itself and by Christians throughout the first 1500 or so

years of the Church. We then turn to examine interpretation in the modern, “critical” period after the Enlightenment, and explore the wide variety of interpretive methods that have blossomed in the 20th and 21st centuries. Students will also engage in a process toward considering what faithful and creative interpretation of the Bible might look like in their personal study and in their various communities. Prerequisites: THEO 201 Old Testament and THEO 202 Theology I; or instructor permission.

**THEO 391 Theological Praxis I: Foundation of Self**
*3 hours.* An exploration of an individual's call to ministry and a study of present praxis in Christian ministry, with emphasis on spiritual formation and community building. This is the first of four semesters. Additional course fee is required. Requires department approval. Prerequisite: sophomore standing or above.

**THEO 392 Theological Praxis II: Christian Community**
*3 hours.* A study of the faith life of the Christian community, expressed through Scripture, traditions, theology and church history, as it relates to Christian theological praxis. This is the second of four semesters. Additional course fee is required. Prerequisite: THEO 391 Theological Praxis I: Foundations of Self.

**THEO 400 Speaking as Ministry**
*3 hours.* A practical course providing methods and introductory techniques for preparation and delivery of Christian speaking as ministry. A variety of message construction types will be studied, and students will have opportunity to speak and receive student and instructor evaluation. This course will cover sermon preparation and delivery, devotional and inspirational speaking, extemporaneous sharing, and broader aspects of communicating Christian truth.

**THEO 410 World Religions**
*3 hours.* A comparative study between Christianity and other prominent religions of the world, such as Buddhism, Islam, Hinduism, and contemporary kinds of alternative religion. [THEO 410 and INTL 440 are identical courses].

**THEO 415 Advanced Bible and Theology**
*1-3 hours.* Theology and Biblical Studies are vibrant and dynamic fields of study, with profound implications not only for communities of faith but also for the study of politics, literary studies, philosophy, history, and popular culture. This advanced course will focus on contemporary issues relevant to the research interests and specialties of George Fox University faculty in theology and Bible and will offer an opportunity for students and faculty to collaborate in the dual process of research and personal transformation. Specific topics rotate, and the course can be taken more than once with different topics. Prerequisite: THEO 301 New Testament and THEO 302 Theology II, or by instructor permission.

**THEO 425 Theological Languages II**
*4 hours.* In this course students will study languages relevant to their biblical and theological study (options include ancient languages such as Hebrew, Greek, Latin, or inscriptions, as well as modern languages such as German, French, Spanish, etc.). Basics of vocabulary and grammar and special aspects of the language will be covered in the first semester, while the second semester moves more heavily into reading primary sources. Prerequisite: THEO 325 Theological Languages I.

**THEO 430 Spirituality and the Intellectual Life**
*3 hours.* This course seeks to overcome the opposition between spirituality and the intellectual life. We will examine ways in which spirituality can deepen and undergird

the intellectual life, as well as finding ways that a reflective, deep thinking life can nurture and strengthen one's spirituality. We will not only examine these relationships abstractly, but will attempt to put into practice patterns of integrating mind and spirit.

**THEO 435 Advanced Philosophy and Theology**
*3 hours.* Theology and Philosophy are vibrant and dynamic fields of study, with profound implications not only for communities of faith but also for the study of politics, literary studies, philosophy, history, and popular culture. This advanced course will focus on contemporary issues relevant to the research interests and specialties of George Fox University faculty in theology and philosophy and will offer an opportunity for students and faculty to collaborate in the dual process of research and personal transformation. Specific topics rotate, and the course can be taken more than once with different topics. Prerequisite: THEO 202 Theology I, THEO 250 Introduction to Philosophy or THEO 302 Theology II.

**THEO 445 Continuing Language Studies**
*1-4 hours.* In this course students will continue their language study from the THEO 325-425 sequence, reviewing grammar and vocabulary as necessary but moving into primary source readings, research papers requiring use of the language, and other skills as appropriate. Prerequisites: THEO 325 Theological Languages I and THEO 425 Theological Languages II.

**THEO 460 Issues in Contemporary Missions**
*3 hours.* Selected movements, trends, and leaders of contemporary Christian missions are studied. Lectures, readings, and learning activities are chosen to provide tools and methods for continuing education in missiology.

**THEO 475 Field Experience**
*1-4 hours.* Supervised internship or other experience in the areas of Christian ministry, biblical studies, philosophy, teaching, or other related fields as appropriate to the student’s discipline. Administered by application or instructor permission as required by a student’s academic program. Graded Pass/No Pass

**THEO 485 Selected Topics**
*1-3 hours.* Occasional special courses chosen to fit the interests and needs of students and faculty.

**THEO 490 Theology Seminar**
*3 hours.* Having gained reasonable command of biblical content and the Christian theological tradition, in this course students are invited into advanced academic study at the intersection of theology and biblical studies. Topics will vary, but will include readings, seminar discussion, and research on the relationship between the Bible and theology, contemporary problems in theology and biblical studies, and the relationship among these fields of study and the contemporary world. Prerequisites: THEO 301 New Testament, THEO 302 Theology II, and THEO 390 Biblical Interpretations.

**THEO 491 Theological Praxis III: Study of Theology**
*3 hours.* A study of various historical and multicultural theological approaches to God and ministry, with an emphasis on the role of context and community in applying theology in different vocational settings. This is the third of four semesters. Additional course fee is required. Prerequisite: THEO 392 Theological Praxis II: Christian Community.

**THEO 492 Theological Praxis IV: Critical Issues**

*3 hours.* A co-constructed approach to the application of practical theology to contemporary theological issues within the Christian community. Pulling together the themes in THEO 391, 392, and 491, students in the course will work with the instructor to select topics for exploration together. This is the fourth of four semesters. Additional course fee required. Prerequisite: THEO 491 Theological Praxis III: Study of Theology.

**THEO 495 Individualized Study**

*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# WRIT

**WRIT 100 English Skills**
*3 hours.* A course to develop collegiate-level learning and written communication skills, focusing on reading speed and comprehension, vocabulary development, and a review of the standards of sentence structure, punctuation, grammar, and usage. Prerequisite: by placement only.

**WRIT 103 Individualized English Skills**
*1-2 hours.* Individualized instruction in spelling, reading,composition, and research skills necessary for effective college learning. Pass/No Pass.

**WRIT 110 College Writing**
*3 hours.* A course concentrating on expository writing, with an introduction to basic research methods. Argumentative writing is also introduced.

**WRIT 111 Caring for Words**
*3 hours.* How can the way we write form us morally? How can we, by caring for words, steward the truth in a "post-truth" society? This course concentrates on the writing, arguing, and critical thinking skills necessary to succeed in an academic and professional environment. By practicing the habits and strategies of successful writing, students learn to listen humbly, draft patiently, and argue lovingly. Enrollment is capped at 20 students per section, and students must enroll in the course by their third semester at George Fox.

**WRIT 200 Studies in Writing**
*3 hours.* Introduces important concepts in the study of writing. Students will read and respond to writing and rhetorical theory, and will read, discuss, and produce written analyses of theories in the study of writing. Prerequisite: Prerequisite: WRIT 111 Caring for Words, enrollment in the Honors Program, or instructor permission.

**WRIT 210 Practical Grammar and Editing**
*3 hours.* This course helps those who want to understand and to be able to explain to others what can be done to make writing correct, clear, and precise. Focuses on constructing, editing, and correcting sentences and paragraphs. This is not a remedial course.

**WRIT 230 Introduction to Journalism**
*3 hours.* A course designed to provide fundamental knowledge and experience in reporting, writing, and editing news for the print media. Prerequisite: WRIT 111 Caring for Words, enrollment in the Honors Program, or instructor permission.

**WRIT 240 Technical Writing**
*3 hours.* Introduces students to the principles and procedure of technical writing; attention to analyzing audience and purpose, organizing information, designing graphic aids, and writing such specialized forms as abstracts, instructions, and proposals. Prerequisite: WRIT 111 Caring for Words, enrollment in the Honors Program, or instructor permission.

**WRIT 250 Creative Nonfiction**
*3 hours.* A workshop approach to writing creative nonfiction. Introduces students to the many voices, styles, and structures of the creative essay. Prerequisite: WRIT 111 Caring for Words, enrollment in the Honors Program, or instructor permission.

**WRIT 275 Field Experience**

*1 hour.* Supervised experience in the discipline including internships and practica required for professional programs. This introductory experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course. Prerequisite: instructor's permission.

**WRIT 285 Selected Topics**

*3 hours.* Occasional special courses created to fit the needs and interests of faculty, visiting professors, and students.

**WRIT 290 Professional Seminar**

*1 hour.* This course examines career options for English majors. Goal setting, professional development, and marketing skills are emphasized. Required of all English majors. Prerequisite: English major with sophomore standing.

**WRIT 310 Professional Writing**

*3 hours.* This course explores trends in media convergence, focusing as well on the ways reporters, editors, and designers create stories for the web. Particular emphasis will be on web-based story design, the coordination of text and art, and the creation of stories for a variety of new media outlets. Prerequisite: WRIT 111 Caring for Words, enrollment in the Honors Program, or instructor permission.

**WRIT 330 Magazine and Feature Writing**

*3 hours.* A workshop approach to writing feature articles and other shorter nonfiction forms for periodicals. Student-produced material is submitted to various publications as part of course expectations. Prerequisite: WRIT 111 Caring for Words, enrollment in the Honors Program, or instructor permission.

**WRIT 350 Composition Theory**

*3 hours.* This course provides an introduction to writing theory. Students will explore different approaches to writing theory, and will apply what they have learned about composition and rhetoric to their own written work. Prerequisite: WRIT 200.

**WRIT 360 Writing Fiction**

*3 hours.* A workshop approach to writing fiction. Students write and prepare for publication original works. Prerequisite: WRIT 111 Caring for Words, enrollment in the Honors Program, or instructor permission.

**WRIT 370 Writing Poetry**

*3 hours.* A workshop approach to writing poetry. Students write and prepare for publication original works. Prerequisite: WRIT 111 Caring for Words, enrollment in the Honors Program, or instructor permission.

**WRIT 390 Playwriting**

*3 hours.* This course is designed to introduce basic playwriting, in particular elements of the playwright's craft: dramatic action, plot, characterization and theatricality. The course functions as a playwriting workshop with students presenting exercises in class to be discussed by their peers. Utilizing techniques learned, students will complete a draft of a one-act play.

**WRIT 399 Cross-Cultural Experience**

*3 hours.* This course offers in-depth discipline specific cross-cultural study designed to enhance the intercultural emphasis of various academic majors. The course includes class meetings followed by travel to various locations throughout the world. Students will use core disciplinary knowledge to serve, learn and interact with other cultures. Additional course fee is required.

**WRIT 465 Advanced Studies in Creative Writing**
*3 hours.* This is an advanced study of creative writing, following a workshop approach. Students will have the option of exploring poetry, fiction, or creative nonfiction, which will be offered on a rotating basis. Students are free to repeat this course. Prerequisite: WRIT 250 Creative Nonfiction, WRIT 360 Writing Fiction or WRIT 370 Writing Poetry. 300 level course must be in the same genre as the advanced writing course.

**WRIT 470 Journalism II**
*3 hours.* Students hone journalistic skills in areas such as interviewing techniques, cultivating sources, investigative reporting, and editing and layout. Prerequisite: JOUR/ WRIT 230 Introduction to Journalism or instructor's permission.

**WRIT 475 Field Experience**
*1-3 hours.* Supervised experience in the discipline including internships and practica required for professional programs. This introductory experience must have an on-site supervisor and/or a departmental instructor overseeing, designing, and evaluating the content of the course.

**WRIT 485 Selected Topics**
*3 hours.* Occasional special courses created to fit the needs and interests of faculty, visiting professors, and students.

**WRIT 490 Senior Experience**
*2 hours.* Students will choose to research and write a senior thesis, working with a faculty member in their area of interest; or will complete a service project in a community organization, in a school classroom, or in another identified literacy program; or will complete a professional internship; or will create a portfolio of written work. Prerequisite: Senior Standing

**WRIT 495 Individualized Study**
*1-3 hours.* Individualized study or supervised research in an area of special interest to the student which is outside the regular offerings of the major. Additional course fee (per credit) is required.

# Undergraduate Admissions

**The Office of Undergraduate Admissions**, located on the second floor of the Stevens Center, serves students planning to enroll in traditional undergraduate programs on the Newberg campus. Degree completion admissions, located in the Portland Center, assists students seeking enrollment in the adult undergraduate degree-completion programs . Admissions counselors are available on both the Portland Center and Newberg campus to assist students.

# Basis of Undergraduate Admission

**The university admits applicants** who evidence academic interests and ability, moral character, social concern, and who would most likely profit from the curriculum and Christian philosophy of George Fox University. These qualities are evaluated by consideration of each applicant's academic record, test scores, recommendations, writing sample, and participation in extracurricular activities. Applicants with a criminal record may be required to submit additional official paperwork. Admission is possible for fall or spring semester.

George Fox University does not discriminate against students on the basis of race, color, national or ethnic origin, gender, age, disability, or any other status to the extent prohibited under applicable nondiscrimination law in the administration of its admission policies, scholarship and loan programs, educational programs, athletics programs, co-curricular activities, or other university-administered programs.

# Admission Procedures for Freshmen

**In order to provide a solid foundation** for college-level work, it is recommended that the applicant present the equivalent of 16 academic units from an approved high school. The following units are suggested: English, 4; social studies, 2; science, 2; and mathematics, 3.

Approximately 90 percent of the freshman class enroll with an A or B high-school grade average. The Admissions Committee may offer provisional admission to students with lower high school grades or low entrance examination scores.

**Procedures**

1. Apply online and visit our admissions page for information and application requirements.
2. Complete the Application for Admission. A $40 application fee will be due at the time of a submitted online application (if after the Early Action Deadline, Nov. 1). The postmark deadlines are: Nov. 1 for Early Action, Jan. 15 for Priority Deadline, and Nov. 1 for spring semester.
3. Request an official transcript of academic credit from the secondary school last attended.
4. Have one recommendation form completed and sent to the admissions office.
5. Submit entrance examination scores. The Scholastic Aptitude Test (SAT) [George Fox code is 4325] or American College Test (ACT) [George Fox code is 3462] will be accepted. The writing portion of the ACT is not required. Tests should be taken in your junior year or early in your senior year. Contact your high school principal or counselor for information concerning these tests. Soon after the admission file is completed, the applicant is notified of the Admissions Committee's decision. Updates to test scores will be considered until Feb. 1.
6. If applying for financial aid, a Free Application for Federal Student Aid (FAFSA) must be submitted online at fafsa.ed.gov as soon after Oct. 1 as possible. The George Fox code for FAFSA is 003194. Forms may be obtained from high school counseling offices or by writing to Student Financial Services at George Fox University. After students have been accepted for admission, they are considered for financial assistance. To permit maximum consideration for financial aid, it is recommended that the application process be completed by March 1.
7. An enrollment deposit of $300 must be submitted by each new student. This deposit reserves housing and a place in the registration sequence, so the deposit should be submitted as soon as possible following notification of acceptance. For fall semester, deposits are due by May 1 and are fully refundable until that date. After May 1, all deposits are nonrefundable. For spring semester, deposits are due by Dec. 1 and are nonrefundable.

# Admission Procedures and Policies for Transfer Students

1. Apply online and visit our admissions page for admissions and application requirements.
2. Complete the Application for Admission. A $40 application fee will be due at the time of a submitted online application (if after Nov. 1 Early Action Deadline). The priority due date is March 1 for fall semester and Nov. 1 for spring semester.
3. Request an official transcript from each college where previously registered. An applicant may also be asked to furnish a high school transcript.
4. Transfer students applying for admission during the first year out of high school should submit entrance examination scores. The Scholastic Aptitude Test (SAT) or American College Test (ACT) will be accepted. You will also need to submit your final high school transcript.
5. Have one recommendation form completed and sent to the admissions office. A student must be free from academic or behavioral probation or suspension at all colleges previously attended to be eligible for admission to George Fox University. Soon after the admission file is completed, the applicant is notified of the Admissions Committee's decision.
6. If applying for financial aid, a Free Application for Federal Student Aid (FAFSA) must be submitted online at fafsa.ed.gov as soon after Oct. 1 as possible. The George Fox code for FAFSA is 003194. Forms may be obtained from your current college financial aid office or by writing to Student Financial Services at George Fox University. After students have been accepted for admission, they are considered for financial assistance. To permit maximum consideration for financial aid, it is recommended that the application process be completed by March 1.
7. An enrollment deposit of $300 must be submitted by each new student. This deposit reserves housing and a place in the registration sequence, so the deposit should be submitted as soon as possible following notification of acceptance. Until May 1, it is refundable by written request. After May 1 a deposit is not refundable. The spring semester enrollment deposit deadline is Dec. 1 and is not refundable after that date.

Transfer credit policies can be found here .

# Readmission of Former Students

**To apply for readmission** after a withdrawal from the university, a student should submit an Application for Readmission to the Office of Undergraduate Admissions. By May 1, a $300 enrollment deposit must be submitted by each readmitted student. Until May 1, it is refundable. The spring semester enrollment deposit deadline is Dec. 1 and is not refundable after that date. Generally, readmitted students must meet any new or revised graduation requirements as listed in the catalog at the time of readmission.

Students who drop out to attend another program risk acceptance of that credit on return unless such has been approved by the registrar prior to leaving.

# Advanced Placement

**Past learning and present ability** may recommend that course work begin at an advanced level. This may involve granting of credit or waiving certain prerequisites or university requirements. See General Education Requirements and Course Challenge Programs for more information.

# International Students

**George Fox University is authorized** under federal law to enroll nonimmigrant alien students. Prospective students who are not U.S. citizens are encouraged to apply early. To be considered for admission, an international student must complete all general admission procedures required of domestic students and submit a Declaration of Finances form or demonstrate adequate funds by a certified bank statement. Immunizations must be up to date and documented.

International students (F-1 visa students or J-1 visa students) must show proficiency in the English language. The following table lists required levels of proficiency based on the language assessment and the corresponding placement in George Fox University coursework:

| Paper-Based TOEFL | Internet-Based TOEFL | IELTS | Placement at George Fox University |
|---|---|---|---|
| 550+ | 70+ | 5.5+ | Regular degree coursework |

Other conditions will be considered of students who have verified proof of studying in an English based program for 2 or more years. For undergraduate students, a video interview will be required to complete your admissions submission.

# High School Nongraduates

**A student who does not hold a high school diploma** may be admitted on the basis of the General Educational Development (GED) test as follows:

- A GED received after December 2013 requires a standard score of at least 145 on each of the four subject examinations, with a total score of 660 or higher
- A GED received between January 2002 and December 2013 requires a standard score of at least 480 on each of the five subject examinations, with an average battery score of 530 or higher.

A high-school or two-year-college counseling center can supply testing details.

# Special Students-Conventional

### Program Details

The special student program is for high school graduates who do not intend to enter a degree/certificate program **OR** those who plan to enter a degree/certificate program at a later time, but would like to take classes before being formally admitted to a degree/certificate program. Enrollment is at the discretion of George Fox University.

### Fees:

- Tuition is billed at current per credit rates for each program. See the Student Accounts page for the specific per credit rates.
- Additional fees may apply based on program. See the Student Accounts page for more information.
- Summer Online sessions for undergraduate courses: $499/credit
- All registered students must complete Vehicle Registration through MyGeorgeFox, even if a vehicle will not be used on campus. Parking permit fees may apply. Please contact Campus Public Safety for more information.

### What do I need to know?

1. The special student application is **due** in the registrar's office before 5pm on Friday of the first week of the semester. See specific semester dates on the academic calendar.
2. A special student registration form must be completed each semester you intend to enroll. List the class you would like to take, including the course section (example: ECON 201 C Principles of Microeconomics).
3. Enrollment is allowed on a ***space-available basis*** only. Any course pre-requisites must be met in order to be registered for the requested class. Your registration will be processed on the first day of the semester.
4. Undergraduate (100-499 level) and graduate (500-799) courses may be taken for credit or audit. Special student registration is not allowed for zero-level certificate courses.
5. All courses require professor and department chair permission to enroll. The registrar's office will contact the department for you once your application has been received.
6. Courses in the following programs do not allow special student registration: Undergraduate: Art and Design (ARTS, ARTD, INTD), and programs requiring admission to the major. Graduate: Master of Arts in Teaching (MAT), Full-time Master of Business Administration (MBA), Doctor of Physical Therapy (DPT) and Doctor of Ministry (DMin), and programs using the cohort model or requiring admission to the major.
7. Regular admission is required to enter a degree/certificate program. Please contact the Office of Admissions for more information. Special student enrollment does not guarantee subsequent admission to any degree/certificate program.
8. Up to 12 credit hours can be applied toward a degree program.
9. Employees of the university should refer to the Human Resources web page for information on tuition remission requirements, deadlines, and applications.

## Application Procedure

1. Search the Class Schedule to find a listing of available courses.
2. Browse the Catalog for course descriptions.
3. Complete the Online Application.
4. Some courses require permission from the department. The Registrar's Office will contact the department for you once your application has been received.
5. On the first day of class, the student should contact the registrar's office to determine if space is available for the course. If the space is available, the student will be admitted to the class and charged tuition, course and lab fees if applicable.

## Questions?

If you have questions, please contact the registrar's office at 503-554-2218 or by email at registrar@georgefox.edu.

# Special Students-High School

## High School Students

### Program Details

A High School Special Student program is available to qualified high school students. This permits study in undergraduate courses at George Fox University while a student completes a high school program. Enrollment is at the discretion of George Fox University.

### Eligibility Requirements

- An applicant must have completed the sophomore year of high school.
- An applicant who graduated from high school more than six months ago is not eligible.
- Students must receive grades of C or better in George Fox classes to continue taking classes as a High School Special Student.

### Fees

- Fall & Spring term traditional undergraduate courses: $50/credit
- Summer Online Sessions: $499/credit
- Additional fees may apply for students registered for 5 or more credits. See the Student Accounts page for more information.
- All registered students must complete Vehicle Registration through MyGeorgeFox, even if a vehicle will not be used on campus. Parking permit fees may apply. Please contact Campus Public Safety for more information.

### What do I need to know?

1. The special student application is **due** in the registrar's office before 5pm on Friday of the first week of the semester. See specific semester dates on the academic calendar.
2. Students are **limited to one class** per fall and spring semesters.
3. Students are limited to three classes in the Summer Online sessions during summer semester.
4. A maximum of 12 credits can be accrued as a High School Special Student.
5. A special student registration form must be completed each semester you intend to enroll. List the class you would like to take, including the course section (example: ECON 201 C Principles of Microeconomics).
6. Enrollment is allowed on a ***space-available basis*** only. Any course pre-requisites must be met in order to be registered for the requested class. Your registration will be processed on the first day of the semester.
7. All courses require professor and department chair permission to enroll. The registrar's office will contact the department for you once your application has been received.

8. Courses in the following programs do not allow special student registration: Undergraduate: Art and Design (ARTS, ARTD, INTD), and programs requiring admission to the major.
9. Regular admission is required to enter a degree/certificate program. Please contact the Office of Admissions for more information. Special student enrollment does not guarantee subsequent admission to any degree/certificate program. At the point of admission to a degree program, students will be required to pay the regular tuition rate.
10. Employees of the university should refer to the Human Resources web page for information on tuition remission requirements, deadlines, and applications.

**Application Procedures for High School Special Student**

1. Search the Class Schedule to find a listing of available courses.
2. Browse the Catalog for course descriptions.
3. Complete the online application.
4. Parents sign required documents and return them to the registrar's office.
5. All courses require department permission to be registered. The registrar's office will contact the department for you once your application has been received.
6. On the first day of class, the student should contact the registrar's office to determine if space is available for the course. If the space is available, the student will be admitted to the class and charged course and lab fees if applicable.

**Questions?**

If you have questions, please contact the registrar's office at 503-554-2218 or by email at registrar@georgefox.edu.

# Adults 62 and older

### Program Details

Any person **62 years of age or older** may be eligible to enroll in traditional undergraduate courses at the discretion of the university.

### Fees

- Undergraduate Courses:
  - Fall & Spring term traditional undergraduate courses: $50/credit
  - Summer Online Sessions: $499/credit
- Degree Completion: $50/credit for Fall, Spring, or Summer
- Students must pay all applicable special course and lab fees.
- Additional fees may apply for students registered for 5 or more credits. See the Student Accounts page for more information.
- All registered students must complete Vehicle Registration through MyGeorgeFox, even if a vehicle will not be used on campus. Parking permit fees may apply. Please contact Campus Public Safety for more information.

### What do I need to know?

1. The Special Student application is **due** in the registrar's office before 5pm on Friday of the first week of the semester. See specific semester dates on the academic calendar.
2. Adults 62 Special Students are not eligible to participate in institutional financial aid programs.
3. Adults 62 Special Students are limited to 12 credits per fall or spring semester.
4. Adults 62 Special Students are limited to three classes in the Summer Online sessions during summer semester.
5. A special student registration application must be completed each semester you intend to enroll. List the class you would like to take, including the course section (example: ECON 201 C Principles of Microeconomics).
6. Enrollment is allowed on a ***space-available basis*** only. Any course prerequisites must be met in order to be registered for the requested class. Your registration will be processed on the first day of the semester.
7. Courses in the following programs do not allow special student registration: Undergraduate: Art and Design (ARTS, ARTD, INTD), and programs requiring admission to the major.
8. All courses require professor and department chair permission to enroll. The registrar's office will contact the department for you once your application has been received.
9. Regular admission is required to enter a degree/certificate program. Please contact the Office of Admissions for more information. Special student enrollment does not guarantee subsequent admission to any degree/certificate program. At the point of admission to a degree program, students will be required to pay the regular tuition rate.
10. A maximum of 12 hours taken as a special student through the Adults 62 Special Student Program may transfer to a degree program.

11. Employees of the university should refer to the Human Resources department for information on tuition remission requirements, deadlines and applications.

### Application Procedure

1. Search the Class Schedule to find a listing of available courses.
2. Browse the Catalog for course descriptions.
3. Complete the online application.
4. All courses require department permission to be registered. The registrar's office will contact the department for you once your application has been received.
5. On the first day of class, the student should contact the registrar's office to determine if space is available for the course. If the space is available, the student will be admitted to the class and charged course and lab fees if applicable.

### Questions?

If you have questions, please contact the registrar's office at 503-554-2218 or by email at registrar@georgefox.edu.

# Academic Opportunities

George Fox University offers the following opportunities that support the mission of the traditional undergraduate program at the university:

Academic Success Program
Consortium Visitor Program
Grand Challenge Scholars Program
Honors Program
Humanities Plus Program
Juniors Abroad
Semesters Off Campus

# Academic Success Program

## Academic Success Program

A limited number of carefully selected students who do not meet regular admission standards are welcomed to the George Fox University Academic Success Program (ASP) each fall. Admitted provisionally to the university, ASP students attend an afternoon orientation before other students arrive. Under the individualized guidance of the ASP director and faculty advisors, they register for fall courses. Tutorial assistance and other aids are available, as needed. Total hours are limited to 16 for fall semester. An academic standing of Provisional Admission will appear on ASP students' official and unofficial transcripts upon admission but will be removed from the transcript after the completion of one semester.

# Consortium Visitor Program

The Christian College Consortium Exchange sponsors a student visitors program intended as an enrichment to those disciplines where personnel and courses may be somewhat limited. Normally this one-semester experience should be part of the junior year or the first semester of the senior year. Application forms and a descriptive brochure are available from the registrar.

The other 12 members of the Christian College Consortium are:

- Asbury University (Wilmore, KY)
- Bethel University (St. Paul, MN)
- Gordon College (Wenham, MA)
- Greenville University (Greenville, IL)
- Houghton College (Houghton, NY)
- Malone University (Canton, OH)
- Messiah University (Grantham, PA)
- Seattle Pacific University (Seattle, WA)
- Taylor University (Upland, IN)
- Trinity International University (Deerfield, IL)
- Westmont College (Santa Barbara, CA)
- Wheaton College (Wheaton, IL)

Although spending a semester at another Christian institution can be very beneficial, there are budgetary limits on the number of students that can be approved for off-campus, semester-long programs. Students should not assume they will automatically be approved for the Consortium Visitor Program and may want to consider applying for one of the other programs as well.

The program permits a student in good standing to enroll for one semester at one of the other consortium colleges. Qualifying students must have at least a 3.0 grade point average, have completed prior to application one or more semesters free of academic or citizenship probation, and have been approved by the selection committee.

Selection to the above programs will be based on the academic purposes involved, grade point average, citizenship, classification, and the extent to which the student has or has not had diverse educational experiences.

# Grand Challenges Scholars Program

The National Academy of Engineering (NAE) Grand Challenges for Engineering program was created in 2008 as an aspirational vision of what engineering needs to deliver to all people on the planet in the 21st century. With 14 goals in total - ranging from providing clean water and energy to reverse engineering the brain and providing energy from fusion - the NAE Grand Challenges Scholars Program focuses student research and professional development towards accomplishing this vision over the next century.

The Grand Challenges Scholars Program at GFU (GFU-GCSP) has a curricular and extracurricular structure comprising six complementary components (*innovative research*, *interdisciplinarity*, *entrepreneurship*, *global focus*, *service learning*, *and faith integration*). A key feature of GFU-GCSP is an intentional deep-dive into the ethos for how and why engineers can and should have tremendous socio-economic and socio-technical impact in the communities they serve. The honor of becoming a GFU-GCSP scholar signifies a student has spent significant time and effort engaging in impactful research, coupled with deep reflection on the responsibility and implication of being an engineer and global citizen. To this end, GFU-GCSP desires to foster empathetic and globally-minded engineers - a powerful transformation that is sure to be worth the effort.

Students interested in becoming part of GFU-GCSP should contact the program director, Jeffrey Walters, for information on how to apply.

For more information on GFU-GCSP, please visit the official program website at: https://www.georgefox.edu/academics/undergrad/departments/engr/grand-challenges.html

# Humanities Plus Program

The Humanities Plus (H+) program is an intensive, interdisciplinary research track in the humanities that will give students a broad introduction to computer-aided research for the purpose of inculcating desirable skills in applied computing.

## Objectives

Students who successfully complete this program will be able to:

- Identify, access, and prepare for analysis within a focused, well-designed humanities research project.
- Create datasets from traditional sources in the humanities, combining source criticism with sophisticated data transformation.
- Understand, manipulate, and transform standard data objects programmatically.
- Choose and implement appropriate computational methods to analyze the data in order to answer questions.
- Integrate those results into traditional humanities research papers and/or capstone projects.
- Describe the data, methods, and results both discursively and through clear, thoughtful data visualization.
- Work collaboratively on a shared project.

## Policies

1. The Humanities Plus Program is not a standalone program that can be completed independent of another GFU major. It must be pursued in tandem with an accompanying major in the College of the Humanities or another major in the Cultural Enterprise, at the discretion of the Director of the H+ Program.
2. Undecided students can begin the program, which ought to provide an opportunity for intellectual exploration.
3. In general, students should plan for this program to take about six semesters. In other words, transfer students or others interested in beginning the program later in their time at GFU should consult with the Director about what additional coursework this would entail and what that might mean for an intended graduation date.
4. Students who change majors to or add a major in the humanities will be able to join the program, but should consult with the Director to determine whether existing coursework will apply and whether completing the H+ program will extend their time to degree.
5. Students who switch out of or drop their humanities major will have to consult with the Director about their continuation in the program on a case-by-case basis.
6. This is a challenging but malleable competency-based program designed to help students master discrete skills for use later in their coursework. As such, it must be completed with no grade below a C- and with a program GPA of 2.0 or above, including all elective coursework for the program. Students struggling academically —whether with one skill, one class, or a whole area—should consult with the Director not only about whether it makes sense to continue in the program, but to discuss how a change in focus might provide a better fit.

# Requirements

**Complete the following: (5 hours, minimum)**

- HPLS 265 Humanities Plus Lab (1-3 hours)
- HPLS 290 Introduction to Computational Methods in the Humanities (3 hours)
- HPLS 490 Portfolio Seminar (1 hour)

**Elective coursework:**

Students will work with the Director to pick courses in which to gain skills and methods appropriate to their interests, career goals, and humanities discipline. That might include completing the requirements for an existing certificate program or minor offered at GFU.

**Milestones:**

Students must complete two milestones by integrating those methods into a humanities project completed either in a humanities course, the Humanities Plus Lab, or another pre-approved opportunity like an internship. In conversation with the Director, students will plan in advance the completion of a milestone in a target project; the Director will document the successful completion of milestones with the Registrar.

# Juniors Abroad

In order to enrich the intercultural and international awareness of our campus community, George Fox University offers a transportation-subsidized overseas course of approximately three weeks to any junior student who has fulfilled the following requirements. These tours occur during the annual May Term. Detailed information about eligibility and specific study tours is available from the director of Juniors Abroad.

## Objectives

The student who successfully participates in Juniors Abroad will:

1. Experience cross-cultural learning opportunities in cultures distinctly different from their own;
2. Interact with the host culture through informal and formal contacts;
3. Experience what it means to be a cultural "minority";
4. Understand how to participate responsibly in a diverse global community;
5. Learn, through the study of disciplines such as the fine arts, language, science, architecture, or history, how various social institutions affect the host culture.

## Policies

1. Students must have maintained three consecutive years of full-time enrollment. Transfer students who have been at George Fox for less than three years are eligible to participate in Juniors Abroad, but their university subsidy (described in #4 below) will be reduced based on the number of semesters they have been enrolled.
2. Students must register for either GEED 355 Cross-Cultural Experience-Domestic or GEED 365 Cross Cultural Experience-International and either GEED 455 or GEED 465.
3. Tuition costs of this course can be included as part of block tuition for the spring semester preceding the May Study-tour. Students will be billed for whatever credits exceed the 18 credit-hour block tuition limit.
4. For the typical Juniors Abroad study-tour, the university will pay approximately one-half of the total cost for eligible students. All transportation and accommodations are arranged by the University. Cost will vary according to location of the study tour.
5. Students must have a minimum cumulative grade point average of 2.0 at the end of the fall semester preceding the May study-tour.
6. Lifestyle violations, as reported by the Office of Student Life, may affect a student’s eligibility to participate (see Standards of Conduct).
7. Students must obtain approval from the Health and Counseling Center before final approval will be given for a specific study-tour.
8. The University reserves the right to disallow a student from participation if it is deemed to be in the best interest of the student or the study-tour group.
9. Students must intend to return and graduate from George Fox University.
10. Student accounts must be current as of Feb. 15 the year of the tour.

11. The university reserves the right to withdraw from this program and commitment prior to fall registration in any year. Students already registered under the program are guaranteed the study-tour.
12. In the event of an international monetary, military, or other crisis, the university reserves the right to cancel or postpone a study-tour or to make substitute arrangements.
13. The university does not obligate itself to alternative remuneration to students who cannot go, who decide not to go, or who are ineligible to go on a Juniors Abroad study-tour.

# Semesters Off Campus

### Introduction

Students enrolled at George Fox University may enrich their learning experience and in some cases fulfill important requirements for their major or minor by participating in one of the approved programs listed below. For those approved to participate, the cost is similar to staying on campus. Complete information about the programs and the application processes is available in the Center for Study Abroad and on the George Fox University website.

### Eligibility

- Student must have sophomore standing, including 31 semester hours completed, at the time of application for a semester off campus. Exceptions may be made if necessary for completion of a student's major requirements.
- Student must be enrolled at George Fox for a full academic year prior to participation in a semester off campus. Exceptions may be made if necessary for completion of a student's major requirements.
- Student must be in good standing with Student Life.
- Student must be current with student financial accounts.
- Student must have a minimum cumulative GPA of 3.00 to apply for a semester off campus. Exceptions will be granted to students in good academic standing if a semester off campus is required for completion of the student's major or minor requirements. Students applying to the Scholars' Semester in Oxford must have a minimum cumulative GPA of 3.5.
- GPA will be one of the factors considered by the committee that selects George Fox students to participate in the Semesters Off Campus programs.

### Application Process

- Meet with your academic advisor to determine the impact on completing the major and other graduation requirements.
- Obtain the application form from the Center for Study Abroad or the George Fox website.
- Submit the form and its required attachments (faculty recommendation, transcript request, essay on your interest in the program) as well as the required signatures from various offices on campus to the registrar's office. The materials are due at the end of the first week of classes in the spring semester.

### Selection Process

After the deadline, the Off Campus Selection Committee meets to review the applications and accepts or rejects them, based on the requirements listed above. The director of global studies then notifies the applicants of their acceptance or rejection.

# Semesters Off Campus: Course Disciplines

The following course disciplines are used by George Fox University to record coursework completed by students at approved programs:

| Course Prefix | Semester Off-Campus Program |
|---|---|
| CONS | Christian College Consortium Exchange Program |
| XAMS | American Studies Program (Washington, D.C.) |
| XCMC | Contemporary Music Center (Nashville, TN) |
| XFSD | Semester in Dijon, France CIEF |
| XHGU | Handong Global University, South Korea |
| XJPN | East Asia Institute, Japan |
| XLAF | Los Angeles Film Studies Center |
| XLLE | Living and Learning in Quito, Ecuador Program |
| XLLI | Living and Learning in Rome, Italy Program |
| XLSP | Latin American Studies Program, Costa Rica |
| XLTH | LCC International University, Lithuania |
| XMES | Middle East Studies Program |
| XNIS | Northern Ireland Semester |
| XORV | Gordon in Orvieto Program, Italy |
| XORX | Oregon Extension (Houghton College) |
| XOXF | Scholars' Semester in Oxford, England |
| XRMS | Romania Studies Program |
| XSAL | University of Salamanca, Spain |
| XTRY | Semester in Spain Program |
| XUGS | Uganda Studies Program |
| XVCH | Veritas in Valparaiso, Chile |
| XVCR | Veritas in San Jose, Costa Rica |
| XVCZ | Veritas in Prague, Czech Republic |
| XVEN | Veritas in London, England |
| XVFR | Veritas in Paris, France |
| XVIT | Veritas in Rome, Italy |
| XVNZ | Veritas in Dunedin, New Zealand |
| XVPR | Veritas in Cusco, Peru |
| XVSA | Veritas in Cape Town, South Africa |
| XVSC | Veritas in Scotland |

| | |
|---|---|
| XVSK | Veritas in Seoul, South Korea |
| XVSP | Veritas in Sevilla, Spain |

# Academic Calendar 2022-2023

**Fall Semester**

| | |
|---|---|
| Fall Semester Begins | August 29, 2022 |
| Last Date for Special Student Class Registration | September 2, 2022 |
| Last Date for Adding Classes Online (without Instructor Approval) | September 4, 2022 |
| Labor Day Holiday (non-Newberg locations only) | September 5, 2022 |
| Last Day to Change Registration (Add/Drop) | September 11, 2022 |
| Last Day to Submit Application for Degree (Midyear Commencement Participation) | September 11, 2022 |
| Census Date | September 13, 2022 |
| Serve Day | September 14, 2022 |
| Last Day to Exercise Pass/No Pass or Audit Option | September 23, 2022 |
| Mid-Semester Holiday (Newberg only) | October 7, 2022 |
| Mid-Semester Grade Entry | October 15-19, 2022 |
| Registration for Spring Semester Opens for Graduate and ADP Students | October 26, 2022 |
| Last Day to Withdraw from Class without Grade Responsibility | November 6, 2022 |
| Transfer Credit Transcript Due Date (Midyear Commencement Participation) | 5:00 pm, November 18, 2022 |
| Last Day to Request Participation in Midyear Commencement with Incomplete Requirements | November 20, 2022 |
| Thanksgiving Holiday | November 24-25, 2022 |
| Dissertation Signed Approval Sheets Due (Midyear Commencement Participation) | 5:00 pm, December 2, 2022 |
| Study Day (Traditional Undergraduate) | December 12, 2022 |
| Final Exams (Traditional Undergraduate) | December 12-16, 2022 |
| Fall Semester Ends | December 16, 2022 |
| Midyear Commencement | December 17, 2022 |
| Christmas/New Year's Break | December 17, 2022 – January 8, 2023 |
| Final Grade Entry Deadline | December 25, 2022 |

**Spring Semester**

| | |
|---|---|
| Spring Semester Begins | January 9, 2023 |
| Last Date for Special Student Class Registration | January 13, 2023 |
| Last Date for Adding Classes Online (without Instructor Approval) | January 15, 2023 |
| Martin Luther King Jr. Holiday | January 16, 2023 |
| Last Day to Change Registration (Add/Drop) | January 22, 2023 |
| Last Day to Submit Application for Degree (Spring Commencement Participation) | January 22, 2023 |
| Census Date | January 24, 2023 |
| Last Day to Exercise Pass/No Pass or Audit Option | February 3, 2023 |
| Mid-Semester Holiday | February 10, 2023 |
| Registration for Summer Semester Opens | February 22, 2023 |
| Mid-Semester Grade Entry | February 25 – March 1, 2023 |
| Registration for Fall 2023 and Spring 2024 Opens for Traditional Undergraduates | TBD |
| Juniors Abroad Registration | March 10, 2023 |
| Last Day to Withdraw from Class without Grade Responsibility | March 19, 2023 |
| Spring Break | March 27-31, 2023 |
| Transfer Credit Transcript Due Date (Spring Commencement Participation) | 5:00 pm, March 31, 2023 |
| Last Day to Request Participation in Spring Commencement with Incomplete Requirements | April 2, 2023 |
| Registration for Fall Semester Opens for Graduate and ADP Students | April 12, 2023 |
| Dissertation Signed Approval Sheets Due (Spring Commencement Participation) | 5:00 pm, April 14, 2023 |
| Study Day (Traditional Undergraduate) | April 24, 2023 |
| Final Exams (Traditional Undergraduate) | April 24-28, 2023 |
| Spring Semester Ends | April 28, 2023 |
| Spring Commencement | April 29, 2023 |
| Final Grade Entry Deadline | May 7, 2023 |

Last Updated: 2022.07.06 Melissa Thomas, Registrar

# Academic Calendar 2022-2023

**Summer Semester**

Summer Semester Begins ..... May 1, 2023
Last Day to Change Summer Registration for Full Semester Classes (Add/Drop) ..... May 14, 2023
Memorial Day Holiday ..... May 29, 2023
Summer Online Session Begins ..... June 5, 2023
Last Day to Change Summer Online Registration (Add/Drop) ..... June 11, 2023
Juneteenth Holiday ..... June 19, 2023
Day of Prayer ..... June 21, 2023
Census Date for Summer ..... July 1, 2023
Independence Day Holiday ..... July 4, 2023
Last Day to Withdraw from Summer Online Session Class without Grade Responsibility ..... July 9, 2023
Last Day to Withdraw from Full Semester Summer Class without Grade Responsibility ..... July 9, 2023
Summer Online Session Ends ..... July 30, 2023
Summer Online Session Grade Entry Deadline ..... August 6, 2023
Summer Semester Ends ..... August 18, 2023
Final Grade Entry Deadline ..... August 27, 2023

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