

GOAL

Verify experimentally

$$\vec{E} + \underbrace{\vec{F}_1 + \vec{F}_2}_{\vec{R}} \stackrel{?}{=} \vec{0}$$



$$\vec{E} \stackrel{?}{=} -\vec{R}$$

experimentally

$$|\vec{E}| \stackrel{?}{=} |\vec{R}|$$

$$180^\circ - \theta_3 \stackrel{?}{=} \theta_{\text{angle}}$$

Administration

Jay Howard, Ph.D., dean; Stuart Glennan, Ph.D., associate dean; Jennifer L. Poor, Ph.D., associate dean for student affairs

The power, importance, and centrality of the liberal arts are affirmed daily in the College of Liberal Arts and Sciences. The college offers 27 majors and 31 minors across 12 departments and seven programs in the humanities, the social sciences, and the natural sciences. Students in the college are encouraged and expected to explore different ways of understanding the world, to experience cultures diverse from their own, to practice critical thinking, to appreciate the value of and joy associated with learning, and to recognize the power their education provides them for personal gain and social change. A liberal arts degree from Butler positions students to do almost anything with their lives beyond Butler and to make a difference in their lives and in the lives of those with whom they interact.

We work on a daily basis to strengthen ties between students and faculty members. Students and their faculty mentors work closely together both in and out of the classroom. They conduct collaborative research projects, make joint presentations at professional meetings, and publish the results of their work in the literature of their disciplines. They talk about ideas, the future, and the world. And they very frequently remain in touch long after graduation.

We also believe that learning takes place in many settings in addition to the classroom. Students in the College of Liberal Arts and Sciences participate in internships in Indianapolis and around the world, and they regularly study abroad and in various field locations.

Core Values of the College of Liberal Arts and Sciences

The liberal arts' basic and historic purpose is at once to teach us to think for ourselves, to act wisely and well in the world, and to undertake occupations useful to ourselves and others. Liberal arts education seeks ultimately to open us to the human condition in its pains and joys, thereby to nurture our personal integrity, and to foster in us compassion and respect for those whose lives we share in our own communities and around the world.

Liberal arts education rests on a paradox: thinking soundly oneself means first listening carefully to the thoughts of others. The liberal arts urge us to cultivate ourselves through the consciousness of others; careful attention to their ideas and actions help us refine our own.

Liberal arts education is pluralistic. It is composed of many voices, each appropriate to time and place, some discordant, none absolute. It seeks to develop in us wit to judge which skills are appropriate at which times. Liberal arts education is restless. It takes nothing for granted. Its characteristic activity is not uncritical assent but critical judgment. It scrutinizes sacred truths of every sort.

The liberal arts develop not only critical but also creative skills, not only rational analysis but also creative expression. They seek to develop and realize the fullness of the human personality. Their exercise aims as well at preparing students to educate themselves long after they have left formal school. Liberal arts education is meant to train its students for public responsibility, not just private good.

A liberal arts education is as much about the journey as the destination. It takes as much delight in the minute-by-minute quirks of learning as in the fulfillment of distant goals. It balances the will to know with empathy and wonderment.

The Latin word *ars* means at once skill, knowledge, and practice. A liberal arts education begins with the skills of language and thought.

It teaches us to read well; to listen well; to write clear, concise prose; to speak privately in conversation, publicly in discussion, and formally in speeches; to judge one's audience and regard

continued

one's own words through the eyes and ears of others; to learn proper ways of integrating and citing the words and thoughts of others into one's own work; to do these things reasonably well in languages and worldviews other than our own.

It teaches us to set out a case or hypothesis or argument; to evaluate the rigor of others' arguments; to find and judge information in libraries, on the Internet, and in other repositories. It teaches us modes of ascertaining truth and falsehood; resourcefulness appropriate to moral and aesthetic judgment; methods of logical, experimental, scientific, mathematical, and statistical reasoning.

These skills allow us to tackle and solve increasingly difficult and challenging problems, appreciate sources of bias and means of overcoming them, and entertain arguments from dissonant points of view. They develop in us a sense of subtlety, depth, and complexity.

A liberal arts education sees the cultivation of these skills not only as an end in itself but also as a preparation for the pursuit of knowledge and the other purposes of human life. The Chinese Book of Changes well captures a fundamental quality of liberal arts education when it intimates that knowledge and practice cannot be mastered until they have been regarded from different perspectives.

As students of the liberal arts, we cultivate as fully as possible the legacy of human thought, imagination, creativity and research; observe nature; confront and evaluate important theories that shape our understanding of the world and how to care for it; figure out how societies, our own and those of others, work and can be improved; weigh

the costs and benefits of modern human life to the individual and the planet; seek to grasp and reduce the sources of human hatred and conflict; aim to understand and strengthen what inspires human cooperation; explore the workings of the human mind and body; unknit claims of teachers, politicians, advertisers, scientists, preachers, columnists and your roommate; ponder history from the earliest epochs to the unfolding present; investigate the mechanisms of the cosmos, from the atom to the stars; delve into the past experiences of our own and other societies, as well as the current news; make ourselves at home in other cultures; make those from other cultures at home among ourselves; see the interplay between our beliefs about the natural world and our beliefs about religion, politics and culture; search out purpose, ponder the meaning of life, scrutinize the human heart, weigh conscience; discover the sweep of living systems, from microbes to biomes; learn to account for ourselves in a moral world that is neither black nor white; engage in a careful search for truth; know the ways of money and the nature of work; wrestle with ideas about God; fathom the relations between technology and human life; raise children, our own and those of others; consider the well-being of future generations; appreciate the beauty and uses of mathematics; forge agreements with loved ones, friends and enemies; engage ourselves in the principles, purposes, and practice of public life.

As students of the liberal arts, we do these things as part of a community with venerable roots; a community still evolving in space and time; a community of thought, imagination, value, labor, and action.

General Information

College Graduation Requirements

Students may be graduated upon completion of 120 semester hours, including the core curriculum, 40 hours of upper-division work, the foreign language requirement, and a major in the college.

Bachelor of arts degree

Students may be graduated upon completion of 120 semester hours, including the core curriculum, 40 hours of upper-division work,

the foreign language requirement, and a major in the college.

Bachelor of science degree

In addition to the college and university requirements for the bachelor of arts degree, a student seeking a bachelor of science degree must meet certain requirements determined by the nature of the field of specialization.

For the bachelor of science in natural science, a student must take a minimum of 60 hours in natural science. This includes a major of at least 30 hours in one department.

For the bachelor of science in natural science and mathematics, a student must take a minimum of 60 hours in natural science and mathematics. This includes a major of at least 30 hours in one department.

Foreign Language Requirements

Students in the College of Liberal Arts and Sciences seeking the degree of bachelor of arts or bachelor of science must demonstrate competence in a foreign language by earning at least six hours of credit in one foreign language at the 200- or 300-level. Foreign language courses are offered at the 100-level for students in need of preparation for more advanced study. Although 100-level courses do not satisfy the foreign language requirement, they do count as credit hours toward the degree. All first-year students must take a placement examination. Further information is available in the Department of Modern Languages, Literatures, and Cultures. American Sign Language also fulfills the language study requirement in LAS. Students should contact the Communication Sciences and Disorders Program for more information.

Majors

Students in the College of Liberal Arts and Sciences must declare their majors in the Office of the Dean. They then will be assigned an advisor in the department of their major. Programs are planned in consultation with this advisor and bear his or her approval. Students who change majors must declare this change in the Office of the Dean of the college. Students may choose majors from any of the following fields in the college:

- Actuarial science
- Anthropology
- Biology
- Chemistry
- Classical studies
- Computer science
- Criminology
- Economics
- English
 - Concentration in literature
 - Concentration in creative writing
 - Concentration in theory, culture, and criticism
- French
- Gender, women, and sexuality studies
- German
- History

- Individualized major
- International studies
- Mathematics
- Peace and conflict studies
- Philosophy
- Physics
- Political science
- Psychology
- Religion
- Science, technology, and society
- Sociology
- Sociology with specialization in social work and social policy
- Software engineering
- Spanish

All majors consist of at least 30 hours in the subject with a minimum of 20 hours in courses numbered above 299. Ten hours of each major must be completed at Butler University. Grades below C- and courses taken pass/fail do not count toward the major.

Students may earn double majors (two majors within the college) or add a secondary major (a major in another college) to their major in the College of Liberal Arts and Sciences.

Combined Majors

Combined majors consist of at least 40 hours in closely related fields, with 20 hours of upper-division courses, and must have the approval of the chair of each department or program concerned.

To assist students considering combined majors, LAS departments have developed standard lists of requirements for certain combined majors:

- Criminology and psychology
- History and anthropology
- History and political science
- Philosophy and psychology
- Philosophy and religion
- Political science and psychology
- Psychology and anthropology
- Sociology and criminology
- Sociology (with a specialization in social work/social policy) and Criminology
- Sociology (with a specialization in social work/social policy) and psychology

Students may consult departments or the College of Liberal Arts and Sciences website for further information on these combined majors. They may also petition departments to consider

other combined majors, or they may elect to propose an individualized major.

Minors

Students who choose to add minors to their programs indicate their choice on a form available in the Office of the Dean. They confer with the chair of the department for advising.

The college offers minors in the following areas:

- Actuarial science
- African studies
- Anthropology
- Astronomy
- Biology
- Classical studies
- Chemistry
- Chinese
- Computer science
- Criminology
- Economics
- English literature
- English writing
- Ethics
- French
- Gender, women, and sexuality studies
- Geography
- German
- History
- International studies
- Mathematics
- Neuroscience
- Peace and conflict studies
- Philosophy
- Physics
- Political science
- Psychology
- Religion
- Science, technology, and society
- Sociology
- Spanish

A minor must consist of at least 18 hours of coursework in the subject. Ten hours of each minor must be completed at Butler University. Grades below C- and courses taken pass/fail do not count toward a minor.

Degree After Completing One Year of Professional Study

Candidates for the degree of bachelor of arts or bachelor of science may be permitted to spend their senior year in an approved school of medicine, dentistry, law, religion, or forestry and may receive a degree from Butler University provided they complete the following:

- All core curriculum requirements of Butler University for the bachelor's degree.
- Foreign language and computer competency requirements of the college.
- Ninety-eight hours (including two hours of physical education) with a minimum grade point average of 2.0. (Transfer students in pre-professional programs of the College of Liberal Arts and Sciences who have successfully completed at least 64 semester hours at Butler University, of which at least 10 hours are upper division, and who have a total of at least 98 hours also may spend the senior year in professional school and complete the requirements for the B.A. or B.S. degree at Butler.)
- All requirements for the major.
- At the professional school, a number of credits equivalent in hours and grade points to the omitted work of the senior year at Butler University.

Preparation for Teacher Licensure

Students in the College of Liberal Arts and Sciences may seek a teaching license, but preparation for licensure is handled by the College of Education. Students may choose a primary major in the College of Education and a secondary major in the College of Liberal Arts and Sciences. Alternatively, students may choose a primary major in the College of Liberal Arts and Sciences, while taking courses required for licensure in the College of Education. In either case, advising concerning requirements for licensure is handled by the College of Education.

Associate Degree

To earn an associate degree, students are required to complete a minimum of 60 semester hours, including the University core, but excluding the Writing Across the Curriculum and Speaking Across the Curriculum requirements, and with a reduced number of Butler Cultural Requirement events. A cumulative grade point average of at least 2.00 is needed to graduate. The elective hours taken as part of an associate degree program may be taken in a particular field or major. Students may consult the Office of the Dean of Liberal Arts and Sciences for further information concerning the degree.

In addition, the last 20 hours must be taken in residence at Butler unless permission for an exception is granted. Students who hold

associate degrees may later earn bachelor's degrees. To do so, they must complete a minimum of 15 additional hours at Butler University and all requirements for the second degree. A minimum of 20 hours of the associate degree must be taken at Butler University. An associate of science degree is awarded if the majority of the elective hours are in a department that awards a bachelor of science degree to four-year degree recipients. Others receive the A.A. degree.

Graduate Programs

Graduate programs in the college require a 30-hour major, plus a thesis, or a 36-hour major (non-thesis option), depending upon departmental requirements. The College of Liberal Arts and Sciences offers the following graduate degrees:

- Master of Arts in English Literature
- Master of Arts in History
- Master of Fine Arts in Creative Writing

Information about these degrees is listed under the entries for the History and English Language and Literature Departments.

Areas of Instruction African Studies Minor

Administration:

Terri Jett, Ph.D., program coordinator
Jordan Hall, Room 347B, (317) 940-8451

The minor in African studies at Butler University is designed for students with any major who wish to enrich their program with study of one of the most interesting areas of the world. The program is interdisciplinary, drawing upon areas of the humanities, social sciences, and occasionally, the fine arts. Students are encouraged to individualize their programs with study-abroad experiences in Africa, if possible, or internships focusing on museums, performing arts organizations, communication and media agencies, or nongovernmental agencies. Note that faculty in the program may also offer special topics courses with African content that may be substituted or added to the list of classes below.

Requirements: 18–19 semester hours*

Courses selected from the following (each 3 semester-hours):

- AN360, People and Cultures of Africa
- FR334, Topics in Francophone Culture
- FR485, Topics in Francophone Studies

- HST305, Topic: Old and New South Africa
- HST381, History of Africa
- HST382, Modern Africa
- PO350, African Politics
- PO386, Black Political Thought
- RL354, Islam: Religion, Culture, Society

Courses that are listed with special African content or focus in the areas of African literature, international communication, African film courses; topics courses in these departments with African content or focus.

Study abroad: Students who complete a study abroad program in Africa may count the credit from that experience toward the minor. For details, consult the coordinator of the African Studies Program (Terri Jett, Ph.D., Jordan Hall, Room 347B).

Foreign language: Students complete the liberal arts and sciences requirement in foreign language, with the recommendation that the language selected be one widely spoken on the African continent (such as French).

Biological Sciences Department Administration

Travis J. Ryan, Ph.D., department chair

Professors

Thomas E. Dolan, Ph.D.; Carmen M. Salsbury, Ph.D.; James L. Shellhaas, Ph.D.

Associate Professors

Shelley Etnier, Ph.D.; Travis J. Ryan, Ph.D.; Katherine M. Schmid, Ph.D.; Philip J. Villani, Ph.D.

Assistant Professors

Nathanael R. Hauck, Ph.D.; Jennifer R. Kowalski, Ph.D.; Lindsay K. Lewellyn, Ph.D.; Andrew M. Stoehr, Ph.D.

Instructors

Tim Carter, Ph.D., director, Center for Urban Ecology; Rebecca Dolan, Ph.D., director, Friesner Herbarium; Erin Gerecke, Ph.D.; Marva Meadows, M.S.; Charissa Osborne, Ph.D.; Paula A. Trillo, Ph.D.

Why Study Biology?

Biology is the study of living things, including plants, animals, and microbes. A major in biology will provide you with a broad education in the biological sciences, exposing you to many different facets of this diverse science. Biological sciences is a liberal arts major, and therefore it is largely about teaching students how to learn and think about the world. Students will develop

an understanding of the scientific method, a process that develops analysis and reasoning skills. Students will learn to think logically, for example, by designing and following an experiment through to its conclusion and analyzing the results. Many students do not realize the amount of creative thinking and problem-solving skills that also go into biology; these will be developed as well. Biology majors also have the opportunity to hone their communication skills, both oral and written, as they present the results of their experiments. While many of these skills are emphasized in the classroom, independent research projects with faculty members and external internships afford many students the opportunity to apply these skills to real questions and problems.

A biology degree is versatile. While many students major in biology as a precursor to medical or dental school, there are a number of other fields that students may pursue as well. Students may go on to work as lab technicians at hospitals, or at the state crime lab; others may go on to teach at the primary, secondary, or college level. Many choose to pursue environmental careers, such as working in forestry or parks, or even as an environmental lobbyist. Many biology majors choose to go on to graduate school, where they pursue research in genetics, ecology, cell biology, medical research, or any other of the wide variety of fields in biology. Many other career opportunities are available in biomedical research, agriculture, and environmental management among other fields.

Why Study Biology at *Butler*?

The Department of Biological Sciences offers a curriculum emphasizing broad training in biology as the key to success in graduate school, professional school, teacher education, and technical careers. The major is built upon a strong foundation of core courses in the liberal arts, general biology courses, and biology electives to meet student interests. Students studying science should be exposed early and often to the methods of discovery, inquiry, and problem solving used by scientists to explain the natural world. Our faculty is familiar with these methods as we apply them in our individual research programs, and we strive to develop such capabilities in our students. Therefore, we give our students opportunities to actively use the tools of scientific investigation in the lab and the field through

a variety of courses at the molecular, cellular, organismal, and population levels of biological organization.

Personalized attention is an important aspect of studying biology at Butler. Our biology class sizes are small relative to those at many institutions: even most of our introductory classes typically have fewer than 30 students, and many upper-level courses have fewer than 20 students. Classes are thus interactive learning environments that foster not only hands-on scientific inquiry skills, but also communication and critical thinking skills that serve students well no matter what professional path they may choose after graduation.

The low student-to-faculty ratio also provides opportunities for students to gain more intensive experiences through independent study with a faculty mentor. During the academic year, students are welcome to register for research credits. Another popular option, the Butler Summer Institute (BSI), is a nine-week program in which participants undertake independent projects they design with a faculty mentor. Student research is frequently showcased during the annual Butler Undergraduate Research Conference, which attracts college students throughout the Midwest each spring to present their research results to their peers. Students may also apply for funds to travel to other regional or national meetings via the Holcomb Undergraduate Grants program. And, finally, students often co-author papers with faculty members for publication in professional journals or presentation at conferences. For example, recent joint student-faculty articles have been published in *Biochemical Genetics*, *Evolution*, *Journal of Experimental Biology*, *Journal of Herpetology*, *American Naturalist*, and *Animal Behavior*.

Students studying biology at Butler also have opportunities for off-campus study, internships, and career exploration through special programs affiliated with Biological Sciences. For example, the Center for Urban Ecology educates and engages Butler students and citizens in the local community about the discipline of urban ecology and to create “citizen scientists” dedicated to continued stewardship of the natural world. Students can attend workshops, take classes, devise independent research projects, or participate in internship opportunities in ecology and environmental topics through our

affiliation with the center. Another option, the Smithsonian Tropical Research Institute (STRI) in Panama, is dedicated to understanding tropical biodiversity. The unique Butler–STRI partnership includes opportunities for students to serve as paid interns in Panama for existing research projects conducted by STRI scientists and for students to engage in new research initiatives with Butler faculty in Panama. Further, the partnership includes two field-based courses taught on-site in Panama by Butler biology faculty. Students may also want to apply for biology internships, which are available throughout Indianapolis, the state of Indiana and surrounding states.

Some students choose a major in biology as a gateway toward a career in health-related fields. Butler students who have qualified themselves with outstanding academic performance in the major have great success in entering professional schools in medicine, dentistry, optometry, physical therapy, and veterinary medicine. Students receive individual advising by faculty on the selection of courses that will both satisfy the minimum entrance requirements and prepare them well for the professional school of their choice. In addition, the Office of Pre-Graduate and Pre-Professional Advising plans co-curricular activities, maintains a reference library of useful publications, and coordinates the application process.

Biological Sciences Student Learning Outcomes

We expect that students will be able to show mastery of various types of learning during their progression through different types of courses in the major. By the time they complete the biology major, students should be able to:

- Demonstrate a broad knowledge of all general areas of biology.
- Analyze and interpret qualitative and quantitative data using graphic and statistical analyses.
- Recognize the unifying role of evolution to the field of biology.
- Read, critique, and properly use scientific literature.
- Design and perform research using the accepted scientific technique of hypothesis testing.
- Demonstrate proficiency in basic laboratory skills.
- Communicate scientific ideas/concepts through writing and speaking.

- Question and formulate new ideas through the synthesis of scientific information.
- Appreciate the importance of science in shaping our past, present, and future societies.

Degrees

- Major in Biology: B.S. (requires 60 hours of science), B.A.
- Minor in Biology

Requirements for the Major

A total of **38 hours of biology courses** are required^{1,2}. All first-year students must complete BI111—Contemporary Issues in Biology. Subsequently, all majors must complete three fundamentals courses—BI201, 202, and 203. A minimum of two fundamentals courses serve as the prerequisites for all other majors-level biology courses, and students must complete BI111 or have sophomore standing to enroll in the fundamentals courses. All fundamentals courses should be completed by the end of a student's second year in the major, and BI202 must be completed before BI203. All students must also complete BI299—Biology Seminar (pass/fail) in the spring semester of their second year in the major. To acquire the remaining credit hours for the major, students must take biology electives at the 300 level or above; at least four of these electives must be lab courses³. One of the electives taken must be an organism-based course chosen from the following: BI301, BI302, BI311, or BI 438. Students will be allowed to use a maximum of three hours of independent study credit, internship credit, research, or honors thesis credit toward the 38-hour minimum required for the biology major. All senior biology majors must complete BI480—Senior Biology Capstone.

Students must earn a C- or better in all prerequisite courses needed to advance in the major.

Required courses:

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| BI111 | Contemporary Issues in Biology (3 hours; first semester majors and exploratory students only; transfer students and those joining the major after their first semester at Butler are exempt from BI111 but they must complete three additional hours of biology elective credit at the 300 level) |
| BI201 | Ecology and Evolutionary Biology—fundamentals (5 hours) |

- BI202 Cellular and Molecular Biology—
fundamentals (4 hours)
- BI203 Genetics—fundamentals (4 hours)
- BI299 Biology Seminar (1 hour P/F)
- BI480 Senior Biology Capstone (3 hours)

Note that ALL BI courses numbered 300 and above require a minimum of TWO fundamentals courses as prerequisites. Specific fundamentals prerequisites are listed in parentheses.

- BI301* Principles of Zoology (BI201)
- BI302* Principles of Botany (BI201)
- BI306 Mammalogy (BI201)
- BI307 Vertebrate Biology (BI201)
- BI308 Tropical Field Biology (BI201)
- BI309 Local Flora (BI201)
- BI311* Biology of Algae and Fungi (BI201)
- BI320 Animal Behavior (BI201)
- BI323 Principles of Immunology (BI105 or BI202)
- BI339 Philosophy of Biology (two fundamentals courses or by permission of the instructor)
- BI401-403 Independent Study
- BI405-409 Topics in Biology (two fundamentals courses or by permission of the instructor)
- BI411 Principles of Physiology (BI202)
- BI413 Vertebrate Histology and Microtechnique (BI202)
- BI418 Population and Community Ecology (BI201)
- BI419 Conservation Biology (BI201)
- BI421 Landscape Ecology (BI201)
- BI430 Developmental Biology (BI203)
- BI431 Plant Development (BI203)
- BI432 Plant Physiology (BI202)
- BI435 Molecular Genetics (BI203)
- BI436 Genomics, Bioinformatics and Gene Evolution (BI203)
- BI438* Microbiology (BI202 and 203)
- BI440 Practical Molecular Biology (BI202 and 203)
- BI480 Biology Capstone (BI201, 202, and 203)
- BI490 Internship in Biological Sciences (two fundamentals courses or by permission of the instructor)
- BI499 Honors Thesis (BI201, 202, and 203)

* Designates course that satisfies the organism requirement

¹ In addition, all biology majors must take general chemistry. (CH105/106 or CH107).

² Students must earn a C- or better in each course to count it towards the major or as a prerequisite.

³ BI325 cannot be counted toward the 38-hour minimum required for the biology major.

Requirements for the minor

The minor consists of 21 credit hours.

Students must complete the three fundamentals courses (BI 201, 202, and 203) and two BI elective courses with lab at the 300 level or above (excluding BI325).

Core Courses offered by Biological Sciences

NW200-BI, Biology and Society: This course will examine current societal issues with biological connections, the role scientists and others play toward helping us understanding these issues, and the underlying biological concepts for each topic. Course includes lecture and laboratory components. A course for non-science majors only. Annually, term varies.

NW201-BI, Environmental Biology:

Application of scientific principles to understanding and managing the environment. Emphasizes the human relationship with the environment and possible solutions to environmental problems. Lecture and laboratory. A course for non-science majors. (U)(5). Occasionally.

NW202-BI, The World of Plants:

Introduction to plant biology. How the anatomy and physiology of diverse plants help them to survive, reproduce, and benefit humans and ecosystems. Lecture and laboratory. A course for non-science majors. (U)(5). Annually, term varies.

NW203-BI, Genetics and Evolution:

A study of the significant concepts in molecular, organismal, and population genetics and the theory of evolution. All topics will be taught within their historical and contemporary contexts. Lecture and laboratory. A course for non-science majors. (U)(5). Annually, term varies.

NW204-BI, Survey of Biology: A survey of the major concepts in the biological sciences. Lecture and laboratory. A course for non-science majors. (U)(5). Occasionally.

NW205-BI, Urban Ecology: Exploring and Enhancing the Urban Environment of Indianapolis: The majority of the world's population now lives in urban areas, but only recently have environmental scientists begun to explore the ecology in and of cities. This course uses the city of Indianapolis as a case study to understand the effect that cities have on the environment, the processes that take place in the urban ecosystem, and the opportunities cities hold for ecological restoration. Lecture and laboratory. A course for non-science majors. (U)(5). Annually, term varies.

NW206-BI, Life, Death and Immortality: How the HeLa Monster Did and Didn't Change the World: A patient on a 1951 "colored" ward unknowingly contributed to science, changing medicine forever. Exploring the underlying biology/genetics through lecture and laboratories, we'll also review the ethical, socio-economic, racial, and gender issues related to these HeLa cells, including a community outreach project which may be used to satisfy the ICR. (U)(5). Occasionally.

NW261-BI-I, Food: Pasture, Table, Body, and Mind: This course about food will encourage students to consider how food connects to both society and to science and how society and science connect to one another. By using a framework of pasture, table, body, and mind, we will explore the ecological relationship between a healthy environment and growing healthy food, the factors that influence our food choices, the constituents of food and how they contribute to our physical well-being, and the ways in which society and culture influence our eating habits. A course for non-science majors. (U)(5). Occasionally.

Biological Science Courses

BI105, Introductory Cell Biology: An introduction to the basic principles of cell biology for freshmen pharmacy students. The course will cover introductory chemistry, biochemistry, cell structure, metabolism, genetics, and embryology. Will not count for credit toward a major in biology. Open only to students of the College of Pharmacy and Health Sciences. (U)(3). Fall and spring.

BI111, Contemporary Issues in Biology: This topic-driven course is designed to illustrate the central connection between biology and current societal issues. Various broad biological issues

will be addressed such as: biodiversity, global climate change, infectious diseases, cancer, sustainability, human population growth, and invasive species. In addition to coverage of background information, a portion of the course will be dedicated to problem-based activities and class discussions. This course is open only to biology majors or exploratory natural science students in their first semester. (U)(3). Fall.

BI201, Ecology and Evolutionary Biology—Fundamentals: This course introduces students to basic theory of ecology and evolutionary biology. Laboratories emphasize experimental design, statistical analysis, and scientific communication. Prerequisites: BI111 or second-year Butler status. (U)(5). Fall and spring.

BI202, Cellular and Molecular Biology—Fundamentals: This course introduces students to basic properties and functions of cells and the molecules they contain, including the relationship between the structure and function of diverse cell types. Prerequisites: BI111 or second-year Butler status. (U)(4). Fall and spring.

BI203, Genetics—Fundamentals: This course introduces students to basic principles of transmission and molecular genetics. Topics include meiosis, transmission genetics, gene expression, and mutations. Laboratories emphasize basic techniques along with experimental design and scientific communication. Prerequisite: BI 202. (U)(4). Fall and spring.

BI257, Human Anatomy and Physiology: A course for non-major students to relate structure and function in the human body. Prerequisite: Any NW-BI course, or two of the following: BI 201, 202, and 203. (U)(5). Fall.

BI301, Principles of Zoology: A survey of the basic principles of animal biology, covering the major animal groups, their evolutionary relationships and their structural and functional characteristics. Prerequisite: BI201 and either BI202 or 203. (U)(4). Annually, term varies.

BI302, Principles of Botany: A survey of the basic principles of plant biology, covering the major plant groups, their evolutionary relationships, and their structural and functional characteristics. Prerequisites: BI201

and either BI202 or 203. (U)(4). Annually, term varies.

BI306, Mammalogy: This course will address the taxonomy, ecology, evolution, behavior, and economic importance of mammals. The laboratory portion of the course will emphasize the taxonomy of mammals and the observation and trapping/handling of small mammals. Prerequisites: BI201 and either BI202 or 203. (U)(4). Occasionally.

BI307, Vertebrate Biology: Phylogeny, taxonomy, behavior, and life histories of the vertebrates. Prerequisite: BI201 and either BI202 or 203. (U)(4). Occasionally.

BI308, Tropical Field Biology: Introduction to the habitats, distribution, and ecology of tropical fauna. Includes a field trip to a tropical habitat during the semester. Prerequisite: permission of the instructor. (U/G)(3). Spring.

BI309, Local Flora: Collection, identification, classification, uses, and ecology of Indiana flowering plants. Learning the use of identification keys will be stressed. Prerequisite: BI201 and either BI202 or 203, or any NW-BI course. (U/G)(3). Occasionally.

BI310, Evolution: Analysis of organic evolution, the mechanisms of evolutionary changes, and the evolution of higher forms of life. Prerequisite: BI201 and either BI202 or BI203. (U)(3). Occasionally.

BI311, Biology of Algae and Fungi: The biology of algae and fungi including structure, life histories, classification, physiology, ecology, and experimental aspects of algae and fungi. Prerequisites: BI201 and either BI202 or 203. (U)(4). Occasionally.

BI314, Ornithology: (U)(3). Occasionally.

BI320, Animal Behavior: The adaptive behavior of animals is approached from physiological, developmental, ecological, and evolutionary perspectives. Prerequisite: BI201 and either BI202 or 203. (U)(4). Annually, term varies.

BI323, Principles of Immunology: Basic concepts and techniques of immunology. Prerequisite: BI105 or both BI202 and 203. (U)(2). Fall.

BI325, Principles of Pathogenic Microbiology: The course will address

microbiological concepts/principles regarding the mechanisms of infection and disease of major organ systems as well as their control. Open only to students of the College of Pharmacy and Health Sciences. Prerequisite: BI105 or both BI202 and 203. (U)(3). Spring.

BI339, Philosophy of Biology: A study of philosophical problems in biology. The course explores both theoretical problems within biology, like the evolution of altruism and problems of taxonomy, and philosophical problems that are influenced by biological theory, including the nature of morality and the status of religious belief. Prerequisite: Two of the following: BI 201, 202, or 203 or permission of instructor. (U)(3). Occasionally.

BI401, Independent Study: Open to juniors and seniors who wish to do research with a biological science faculty member in an area of the animal and plant sciences. Permission of the faculty member and the chairman of the biological sciences department required. (U/G)(1). Fall and spring.

BI402, Independent Study: Open to juniors and seniors who wish to do research with a biological science faculty member in an area of the animal and plant sciences. Permission of the faculty member and the chairman of the biological sciences department required. (U/G)(2). Fall and spring.

BI403, Independent Study: Open to juniors and seniors who wish to do research with a biological science faculty member in an area of the animal and plant sciences. Permission of the faculty member and the chairman of the biological sciences department required. (U/G)(3). Fall and spring.

BI405, Topics in Biology: Study of a current biological topic. Prerequisite: Permission of the instructor. (U/G)(1). Occasionally.

BI406, Topics in Biology: Study of a current biological topic. Prerequisite: Permission of the instructor. (U/G)(2). Occasionally.

BI407, Topics in Biology: Study of a current biological topic. Prerequisite: Permission of the instructor. (U/G)(3). Occasionally.

BI408, Topics in Biology: Study of a current biological topic. Prerequisite: Permission of the instructor. (U/G)(4). Occasionally.

BI409, Topics in Biology: Study of a current biological topic. Prerequisite: Permission of the instructor. (U/G)(5). Occasionally.

BI411, Principles of Physiology: Analysis of the functions of all major systems of the vertebrates with emphasis on mammalian physiology. Prerequisite: BI202 and either BI201 or 203. (U)(4). Annually, term varies.

BI413, Vertebrate Histology and Microtechnique: A study of the structure of vertebrate tissues and the techniques used in microscope slide preparations. Prerequisite: BI301 or permission of the instructor. Prerequisites: BI202 and either BI201 or 203. (U/G)(4). Occasionally.

BI418, Population and Community Ecology: Fundamental concepts of ecology at the population and community levels of organization, illustrated by modeling, field and/or laboratory investigations. There will be an emphasis on quantitative reasoning and critical thinking. Prerequisites: BI201 and BI202 or 203. (U)(4). Occasionally.

BI419, Conservation Biology: This course will focus on the biological principles that must be the anchor for the management and/or preservation of native flora and fauna. Conservation biology, however, is by necessity a multidisciplinary endeavor, and the course also deals with the social, political, and economic factors that weigh on conservation decisions. BI201 and either BI202 or 203. (U)(3). Occasionally.

BI421, Landscape Ecology: This course will focus on ecological patterns and processes at the landscape level. An emphasis will be placed on spatial analyses of native flora and fauna using geographic information systems software applications. Students will conduct individual research projects. Prerequisite: BI201 and either BI202 or 203. (U)(4). Occasionally.

BI430, Developmental Biology: A study of embryonic development from the formation of gametes, through fertilization, and up to the development of the multicellular organism. Emphasis will be on the anatomical changes during development and on the cellular and molecular events causing these changes. Prerequisite: BI203 and either BI201 or 202. (U)(4). Occasionally.

BI431, Plant Development: An introduction of the cellular and molecular mechanisms important in the development of members in the plant kingdom, from multi-cellular algae to flowering plants. The laboratory will include techniques important in investigating developmental phenomena such as scanning electron microscopy and tissue culture. Prerequisites: BI202 and 203. (U)(4). Occasionally.

BI432, Plant Physiology: Introduction to how plants work, including housekeeping functions (photosynthesis, mineral nutrition, water relations, metabolism), growth and reproduction, defenses, and responses to the environment. Laboratories include necessary anatomy but emphasize biochemistry and molecular biology. Prerequisites: BI202 and either BI201 or 203, and CH106 or CH107. (U)(4). Occasionally.

BI435, Molecular Genetics: Molecular structure, biochemical function of the gene as illustrated by the original research literature, viruses, and eukaryotes cells. Prerequisite: BI202 and 203 and CH361. (U)(3). Occasionally.

BI436, Genomics, Bioinformatics, and Gene Evolution: This course will introduce students to the new, rapidly expanding fields of genomics, proteomics, and bioinformatics, as well as the overarching field of systems biology. The students will also learn what these new approaches reveal about how genes and genomes evolve. Prerequisites: BI203 and either BI201 or 202. (U)(4). Occasionally.

BI438, Microbiology: Basic principles of microbiology and associated laboratory techniques. Lecture, demonstration, and laboratory. Prerequisites: BI202, 203 and CH106 or 107. (U)(4). Fall.

BI480, Biology Capstone: This course provides a capstone experience, a chance to put into practice the knowledge and analytical skills learned as a biology major. The course will explore a specific area of biology through reading and discussion of the scientific literature and preparation of a review paper. Open only to senior biology majors. (U)(3). Fall and spring.

BI490, Internship in Biological Sciences: A course offering the student supervised work/

research experience in a setting pertinent to the major area of study but outside the department. Permission of the department chair is required. (U)(3). Occasionally.

BI499, Honors Thesis: (U)(3). Occasionally.

Chemistry Department

Administration

Stacy O'Reilly, Ph.D., department chair

Professors

Geoffrey C. Hoops, Ph.D. ; Joseph L. Kirsch, Ph.D.; Shannon G. Lieb, Ph.D.; Stacy A. O'Reilly, Ph.D.; Robert A. Pribush, Ph.D., Anne M. Wilson, Ph.D.

Associate Professors

Olujede Akinbo, Ph.D.; John Esteb, Ph.D.; Todd Hopkins, Ph.D.; LuAnne McNulty, Ph.D.; Michael Samide, Ph.D.

Assistant Professors

R. Jeremy Johnson, Ph.D.

Instructors

Adam Azman, Ph.D.; Tracy LeGreve, Ph.D.; Paul Morgan, Ph.D.

Why Study Chemistry?

Chemistry is often referred to as the “central science.” It plays a role in the discovery of better medicines, in the development of safer chemicals for household use, and in the development of the next generation of electronic gadgets. It also must ensure that all of these things are done in a sustainable manner.

The study of chemistry will do more than just impart technical knowledge, ideas, and techniques useful in a laboratory setting. It will allow for experiences that will develop problem-solving abilities and critical thinking skills. Class and conference presentations, poster sessions and lab reports will help develop proficiency in communicating in a variety of settings. The skills gained can be applied not just to careers in chemistry, but also to careers in health care, law, business, education, and to the pursuit of advanced degrees in a variety of fields.

Why Study Chemistry at *Butler*?

The faculty and staff are dedicated to providing a supportive yet challenging environment for students interested in studying chemistry at the undergraduate level. The curriculum is designed to prepare students for the accelerating pace of change in chemistry and across science. Students are encouraged

to pursue undergraduate research with faculty whose expertise span a wide range of chemistry sub-disciplines. Departmental poster sessions, weekly seminars, and project-driven laboratories encourage interaction between students and faculty during and outside class starting in the first year curriculum.

Chemistry Department Student Learning Outcomes

- Understand key concepts related to the physical and chemical properties of matter.
- Communicate within and outside the chemical discipline.
- Develop problem-solving skills through experimentation and analysis.
- Appreciate the relationship between integrity, science, and society.
- Demonstrate knowledge of and use of appropriate safety protocols in laboratory settings.

Degrees

- Major in Chemistry
- Minor in Chemistry

Requirements for the Major

Students who plan to enter the chemical profession or pursue graduate studies in chemistry should complete the requirements (or as many of the requirements as possible) for American Chemical Society Certification. Students interested in chemistry as a path to a professional program and who are considering an additional major or a minor may want to pursue the major with honors eligibility. Students completing a major in chemistry with 32 hours should combine their chemistry major with another area of study and plan for a double major.

Requirements for a Major in Chemistry with Certification from the American Chemical Society

Introductory, Foundation, and Allied courses

- CH105-106, General Chemistry or CH107, Advanced General Chemistry
- CH351, Organic Chemistry I and CH352, Organic Chemistry II
- CH321, Analytical Chemistry
- CH332, Inorganic Chemistry
- CH361, Biochemistry
- CH471 or CH472, Physical Chemistry I or II
- MA106, Calculus I and MA107, Calculus II

- PH201-202, Intro to Analytical Physics or PH107-108, Elementary Physics

Three additional in-depth courses from the following list.

- CH422, Analytical Chemistry II
- CH431, Advanced Inorganic Chemistry
- CH4x9, Special Topics in Chemistry
- CH462, Biochemistry II: Central Metabolism
- CH465, Environmental Chemistry
- CH471 or CH472, Physical Chemistry I or II

Chemistry Laboratory Experiences. A minimum of 400 hours of in-lab experiences are required and must cover four of the five areas of chemistry. Labs taken as part of CH321, CH351, and CH352 count toward the 400 hours of lab experience.

- CH424, Instrumental Analysis Laboratory
- CH432, Synthesis and Characterization
- CH463, Biochemistry Laboratory I
- CH473, Physical Chemistry Laboratory I
- CH474, Physical Chemistry Laboratory II
- CH493-4, Undergraduate Research
- Butler Summer Institute
- Research Experiences for Undergraduates

Recommended Chemistry and Allied Courses

- CH491, Chemistry Literature
- CH392, Chemistry Seminar I
- CH492, Chemistry Seminar II
- CH493-4, Undergraduate research
- MA208, Calculus and Analytic Geometry III
- MA334, Differential Equations

Requirements for a Major in Chemistry with Honors Eligibility

At least 32 hours of chemistry, not including CH392 Chemistry Seminar I, are required.

- CH105-106, General Chemistry or CH107, Advanced General Chemistry
- CH351, Organic Chemistry I and CH352, Organic Chemistry II
- CH321, Analytical Chemistry
- CH332, Inorganic Chemistry
- CH361, Biochemistry
- CH392 Chemistry Seminar I
- CH471 or CH472, Physical Chemistry I or II
- MA106, Calculus I and MA107, Calculus II
- PH201-202, Intro to Analytical Physics or PH107-108, Elementary Physics

Requirements for a Major in Chemistry

Introductory, Required and Allied courses

- CH105-106, General Chemistry or CH107, Advanced General Chemistry

- CH351, Organic Chemistry I and CH352, Organic Chemistry II
- MA106, Calculus I
- PH201-202, Intro to Analytical Physics or PH107-108, Elementary Physics

Complete enough hours of upper-level chemistry courses from the following list to reach 32 total hours of chemistry. Courses must include work in two of the four remaining areas of chemistry.

- CH321, Analytical Chemistry; CH422, Analytical Chemistry II; CH424, Instrumental Analysis Laboratory
- CH332, Inorganic Chemistry; CH431, Advanced Inorganic Chemistry
- CH361, Biochemistry I; CH462, Biochemistry Laboratory I; CH463, Biochemistry IIA
- CH471 or CH472, Physical Chemistry I or II; CH473 or CH474 Physical Chemistry Laboratory I or II

Requirements for a Minor in Chemistry

General and Organic Chemistry

- CH105-106, General Chemistry or CH107, Advanced General Chemistry
- CH351, Organic Chemistry I and CH352, Organic Chemistry II

An additional course from this list:

- CH321, Analytical Chemistry
- CH332, Inorganic Chemistry
- CH361, Biochemistry
- CH471 or CH472, Physical Chemistry I or II

Core Courses Offered by Chemistry NW210-CH, Chemistry and Society:

Chemistry and Society is a study of chemistry and its applications to and impact on society. Four hours of lecture/discussion and one two-hour laboratory per week. Credit not applicable toward a major in chemistry. (U)(5). Fall, spring, and summer.

NW211-CH-I, Water Quality: Water Quality is a study of chemistry and its applications to water systems in and around Indianapolis. Four hours of lecture/discussion and one two-hour laboratory per week. Credit not applicable toward a major in chemistry. (U)(5).

Chemistry Courses

CH105, General Chemistry: The study of atomic and molecular structure, reactions,

stoichiometry, thermochemistry, and states of matter. Four lectures and one three-hour laboratory per week. For students with some background in chemistry. (U)(5). Fall.

CH106, General Chemistry: The study of kinetics, equilibria, acid-base theories, thermodynamics, and electrochemistry. Four lectures and one three-hour laboratory per week. Prerequisite: CH105 or equivalent with a grade of C or better. (U)(5). Spring.

CH107, Advanced General Chemistry: A course for students with a strong chemistry background. Admission by placement exam only. Topics to be covered are chemical bonding, chemical kinetics, solution chemistry, acid-base chemistry, chemical equilibrium, thermodynamics, and electrochemistry. (U)(6) Fall.

CH321, Analytical Chemistry 1: An introduction to the fundamental theory and techniques of quantitative analysis. Four lectures and one four-hour laboratory per week. Prerequisite: CH106 or CH107 with a grade of C or better. (U)(5). Fall and spring.

CH332, Inorganic Chemistry: The study of atomic structure, ionic, covalent molecular, and metallic substances, acid/base theories, with an emphasis on main group elements and an introduction to coordination chemistry. Three lectures per week. Prerequisite: CH351 with a grade of C or better. (U)(3). Spring.

CH351, Organic Chemistry: The systematic study of organic compounds stressing structure and reactions. The course covers nomenclature, stereochemistry, resonance, reactions of hydrocarbons and alkylhalides, and basic laboratory techniques. Prerequisite: CH106 or CH107 with a grade of C or better. Four hours of lecture and one three-hour laboratory per week. (U)(5). Fall.

CH352, Organic Chemistry 2: A continuation of CH351 covering reactions and mechanisms of alcohols, acids and their derivatives, amines, and other functional groups as well as synthesis, spectroscopy, and advanced laboratory techniques. Prerequisite: CH351 with a grade of C or better. Four hours of lecture and one three-hour laboratory per week. (U)(5). Spring.

CH361, Biochemistry 1:Bio-Organic

Chemistry: Systematic study of the structure of biological macromolecules (proteins, nucleic acids, carbohydrates), binding of ligands in proteins, and the fundamentals of enzymatic catalysis. Prerequisites: CH352 with a grade of C or better. Knowledge in introductory biology strongly recommended for this course. Four hours lecture/week. (U)(4). Fall.

CH392, Chemistry Seminar 1: Attendance at and participation in the chemistry departmental seminar series, including pre- and post-seminar reports. (P/F) credit. Prerequisites: 12 hours of chemistry. (U)(1). Fall and spring.

CH402, Internship in Chemistry: Designed to give chemistry students professional and practical experience in business, industry, and other activity related to their degree objectives. Oral presentation required. Course will not count for laboratory hours required for ACS certification. Each course may only be taken once for credit. Prerequisites: junior standing and permission of the department chair. (U)(3). Fall and spring.

CH403, Internship in Chemistry: Designed to give chemistry students professional and practical experience in business, industry, and other activity related to their degree objectives. Oral presentation required. Course will not count for laboratory hours required for ACS certification. Each course may only be taken once for credit. Prerequisites: junior standing and permission of the department chair. (U)(6) Fall and spring.

CH411, Independent Study: These courses provide an opportunity for a qualified student to pursue a special course of study under the direction of a faculty mentor. Prerequisite: 14 hours of chemistry, permission of the instructor, and permission of the head of the department. (U/G)(1). Occasionally.

CH412, Independent Study: These courses provide an opportunity for a qualified student to pursue a special course of study under the direction of a faculty mentor. Prerequisite: 14 hours of chemistry, permission of the instructor, and permission of the head of the department. (U/G)(2). Occasionally.

CH422, Analytical Chemistry 2: This course provides an introduction to advanced instrumental theory, design, and technique. Three lectures per week. Prerequisite: CH321 with a grade of C or better. (U)(3). Annually, term varies.

CH424, Instrumental Analysis Laboratory:

Project-based application of specific instrumental methods of chemical analysis. Instrumental techniques covered could include: atomic or molecular spectroscopy, chromatography, or electrochemistry. The topic will vary by section number. One four-hour laboratory per week. Prerequisite: CH321. (U)(2). Annually, term varies.

CH429, Special Topics in Analytical

Chemistry: Various advanced topics in analytical chemistry. The subject matter for study will be listed when the course is offered. Prerequisite: one year of analytical chemistry or permission of the instructor. (U/G)(3). Occasionally.

CH431, Advanced Inorganic Chemistry:

The study of coordination chemistry, organometallic chemistry, and catalysis. Three lectures per week. Pre-requisite: CH332 with C or better. Corequisite: CH471 or CH472. (U/G)(3). Fall.

CH432, Synthesis and Characterization:

Project-based laboratory dealing with the synthesis, characterization and properties of synthetic products. One four-hour lab per week. Prerequisite: CH332 and CH361, or permission of instructor. (U)(2). Annually, term varies.

CH439, Special Topics in Inorganic

Chemistry: Various advanced topics in inorganic chemistry. The subject matter for study will be listed when the course is offered. Prerequisite: one year of inorganic chemistry or permission of the instructor. (U/G)(3). Occasionally.

CH459, Special Topics in Organic

Chemistry: Various advanced topics in organic chemistry. The subject matter for study will be listed when the course is offered. Prerequisite: one year of organic chemistry or permission of the instructor. (U/G)(3). Occasionally.

CH462, Biochemistry IIA: Central

Metabolism: Topics include carbohydrate and lipid metabolism, electron transport and oxidative phosphorylation, biological membranes: structure, transport, and signal transduction. Prerequisites: CH361 with a grade of C or better. Three hours of lecture and one two-hour computer laboratory per week. (U)(4). Spring.

CH463, Biochemistry Laboratory

1: Laboratory separation, detection, quantitation, and characterization of proteins, including enzyme-catalyzed kinetics, using chromatography, electrophoresis, and spectroscopy. This writing-intensive class will also emphasize reading, writing, and peer-review skills involving biochemical literature. One 1-hour lecture and one 3-hour laboratory per week. Prerequisite: CH361 and CH321, both with grade of C or better. (U)(2). Spring.

CH465, Environmental Chemistry:

This course focuses on the application of basic chemistry principles in understanding the source, fate, transport, and transformation of compounds in natural and polluted environmental compartments. This includes the atmosphere, hydrosphere, and lithosphere. Impact of these on a number of issues will be discussed. Prerequisite: CH351. (U)(3).

CH469, Special Topics in Biochemistry:

Various advanced topics in biochemistry. The subject matter for study will be listed when the course is offered. Prerequisite: one year of biochemistry or permission of the instructor. (U/G)(3). Occasionally.

CH471, Physical Chemistry 1: The

introduction to quantum chemistry, bonding, spectroscopy, and statistical mechanics. Prerequisites: CH352 or equivalent, MA107 or equivalent, PH202 or equivalent. (U/G)(3). Spring.

CH472, Physical Chemistry 2: The

introduction to chemical thermodynamics and chemical kinetics. Prerequisites: CH 352 or equivalent, MA 107 or equivalent, PH202 or equivalent. (U/G)(3). Fall.

CH473, Physical Chemistry Lab 1:

Laboratory studies in thermodynamics, chemical kinetics, and physical property measurements. One four-hour laboratory per week including one hour of lecture. Corequisites: CH471 or CH472. (U/G)(2). Annually, term varies.

CH475, Computational Chemistry:

The course covers theoretical methods of computing molecular structure. Based on the structure, thermodynamic properties, reactivity, and spectroscopic measurements (ultraviolet, visible, infrared, and nuclear magnetic resonance) can be computed. Computed values are compared

to experimental data. Prerequisites: CH352 with a C or better. (U)(2). Occasionally.

CH479, Special Topics in Physical

Chemistry: Various advanced topics in physical chemistry. The subject matter for study will be listed when the course is offered. Prerequisite: one year of physical chemistry or permission of the instructor. (U/G)(3). Occasionally.

CH492, Chemistry Seminar 2: Attendance at and participation in the chemistry departmental seminar series, including an oral presentation on a research project or literature review.

Required for university honors. Prerequisites: CH392 and 28 hours of chemistry. (U)(1). Fall and spring.

CH493, Undergraduate Research: Individual research under guidance of a faculty member.

Required for university honors. Prerequisite: 14 hours of chemistry, permission of the instructor, and permission of the head of the department. (U/G)(1). Fall and spring.

CH494, Undergraduate Research: Individual research under guidance of a faculty member.

Required for University honors. Prerequisite: 14 hours of chemistry, permission of the instructor, and permission of the head of the department. (U/G)(2). Fall and spring.

CH499, Honors Thesis: (U)(3). Annually, term varies.

CH518, Advanced Placement Workshop

Chemistry High School Teachers: The workshop will focus on the topics found on the AP exam and in college general chemistry (atomic structure, periodic properties, bonding, kinetics, thermodynamics, electrochemistry, equilibrium, solutions, acid/base, and solubility). The focus of the workshop will be on problem solving and course content material with some limited laboratory demonstration activities. (G)(3). Summer.

Classical Studies Program

Administration

Chad Bauman, Ph.D., department chair

Assistant Professors

Christopher Bungard, Ph.D.

Lynne Kvapil, Ph.D.

Why Study Classics?

The culture, history, and literature of Ancient Greece and Rome have long captivated

the imagination of people throughout history and across the globe, from the Renaissance to the Founding Fathers of America, to modern writers from the Caribbean. We continue to live in a world of classical roots, whether it be the Athenian roots of democracy or the Roman origins of our Republic, the Greek love for the beauty of athletics, or an enthusiasm for theater that moved from Greece to Rome to Shakespeare and beyond. The Greeks and the Romans helped articulate the liberal arts that are at the heart of a Butler education. As we engage with the thinking and the art of the ancients, we aim to develop an understanding, enjoyment, and critical appreciation of some abiding principles of our world. We enter into dialogue with minds of the past in order to understand ourselves better now. Studying the Greeks and Romans, we become part of our larger family over time. We enrich our minds and our imaginations, and we sharpen our skills for work and life today.

Why study Classical Studies at Butler?

- **Intimate and vibrant learning community:**

Students in the Classical Studies program at Butler have the opportunity to work closely with a small but dedicated faculty. Smaller classes give students a greater opportunity to engage directly with faculty and with each other. As part of a smaller major, students develop a stronger sense of a community of thinkers, engaging in a subject they are passionate about.

- **Building on past knowledge:**

Our program recognizes the quality of work many students have done before arriving on our campus. Students placing into second or third year of Latin and completing at least six hours of study in Latin are eligible for 3-9 advanced placement credit hours, which may count toward the major or the minor.

- **Real engagement with the ancient world:**

Students are encouraged to immerse themselves in the environments that inspired the ancient Greeks and Romans. Our program offers the opportunity to study the culture and literature of the Romans while travelling to important sites in Rome and Italy. Our program is also supportive of students who wish to study abroad in programs in Greece and Italy specifically focused around Classical Studies.

- **Practical experience:** Our students are encouraged to take advantage of opportunities to work with faculty on research of their own, whether in the form of a Butler Summer Institute project or a senior thesis. Students who have done quality research have presented their work at undergraduate conferences and regional Classics conferences.
- **Making your education your own:** Thanks to generous support from the Georgia Watkins Fund, our program provides funds to help students participate in archaeological digs, select summer study programs, or conferences in Classics. Grants are awarded on a competitive basis.
- **Embracing the liberal arts:** Since the field of Classical Studies embraces a wide variety of approaches to the study of the ancient Greeks and Romans, our program encourages students who wish to relate their interest in Classics with work in other disciplines. Our students often take courses in English, history, philosophy, religion, political science, and the modern languages.

CLA Program Student Learning Outcomes

Students majoring in Classical Studies are expected to gain factual knowledge about key figures, historical events and concepts from Greek and Roman antiquity. They will interpret and analyze significant works from antiquity, and at the same time gain a better understanding of cultural diversity by comparing current values and practices to those of the Greeks and Romans. They will become proficient in reading Latin or Ancient Greek texts and discover how knowledge of Latin or Ancient Greek helps in the understanding of modern languages.

Degrees

- Major in Classical Studies
- Minor in Classical Studies

Requirements for the Major:

A minimum of 30 hours combined of CLA, GK and/or LT, including one 300-level course in GK or LT. A minimum of three 300-level courses altogether. Students may test out of the 200-level courses.

Requirements for the Minor:

A minimum of 18 hours combined of CLA, GK, and/or LT. A minimum of two 300-level courses altogether. Note: It is recommended that students learn either Greek or Latin, at least at the beginning level. If they continue with two courses at the 200-level or above, these courses will count both toward their minor and toward fulfilling the foreign language requirement for a liberal arts degree.

Core Courses Offered by Classical Studies

PCA262-CLA, Greek Art and Myth: Art illuminates myth; myth makes sense of art. Students will acquire a sense of the major periods of western art, will consider artistic questions large (Is art subjective? Is there a proper subject matter of art?) and small (What is contrapposto?), will study in some depth about 60 artistic images, mostly Greek, and will become acquainted with a set of Greek myths. The course will include a museum visit, a skit, and a creative art project. (U)(3). Fall and spring.

TI200-CLA, Roman Perspectives: This course will examine civic engagement in the Roman world, both as a pagan and Christian capital for the West. We will undertake this investigation by looking at a variety of original sources translated into English. As we examine the texts of these authors, we will also have the opportunity to think about how the ideas of the ancient Romans have influenced cultures from Britain, France, and Spain in the West, to the shores of North Africa, to the civilizations of the Eastern Mediterranean. (U)(3). Fall.

TI201-CLA, Ancient Greek Perspectives: An examination of areas of ancient Greek culture. Sources include texts of poetry, history, drama, law, medicine, and philosophy, as well as works of art. Themes will vary depending on the professor. Possible themes: deep thinking and free thinking, participating in democracy, gender roles, warfare, and empire. (U)(3). Spring.

Classical Studies Courses

CLA301, Epic Poetry: An in-depth study of the ancient epic. Course will focus on Homer's Iliad, Homers Odyssey, or Virgil's Aeneid. Other material will be brought in as background. (U)(3). Spring.

CLA302, Lyric Poetry / Love Poetry: An in-depth study of ancient love poetry. Course will focus on love poetry in Greek and Latin. Other ancient love poetry (Hebrew, Sanskrit, Chinese) may be included. (U)(3). Occasionally.

CLA303, Drama on the Ancient Stage: Course may focus on Greek or Roman tragedy or comedy. Performance may be part of the course. (U)(3). Fall.

CLA323, Women in Antiquity: We will examine current gender issues and search for their roots in antiquity, particularly in the Near East and Greece. (U)(3). Occasionally.

CLA360, Topics in Classics: In-depth study of special topics not covered in regular courses. (U)(3). Fall and spring.

CLA402, Independent Study: Individual study of a specific topic in Classics that does not involve the reading of Latin or Greek texts. (U)(3). Occasionally.

CLA499, Honors Thesis: Thesis research. (U)(3). Occasionally.

Foreign Language Courses

GK101, Elementary Greek 1: Introductory course which prepares students to read the New Testament and the works of Homer, Sophocles, Plato and others. (U)(4). Fall.

GK102, Elementary Greek: Introductory course which prepares students to read the New Testament and the works of Homer, Sophocles, Plato and others. GK101 is a prerequisite. (U)(4). Spring.

GK203, Intermediate Ancient Greek 1: A course at the intermediate level, with emphasis on vocabulary acquisition. Material will be chosen for accessibility. Readings may include: Euripides' *Alcestris*, Plato's *Crito*, selections from Homer's *Iliad* or Herodotus' *History* or *Lysias'* speeches, or selections from the New Testament in Koine Greek. Prerequisite: GK 101 and 102 or placement at the 200 level. (U)(3). Occasionally.

GK301, Advanced Ancient Greek: A course at the advanced level with a vocabulary stretch and arcane points of grammar. Readings may include: tragedies of Aeschylus, Sophocles, or Euripides; Plato's *Apology*, *Symposium*, *Phaedrus*, or selections from the Republic; Thucydides *Peloponnesian War*. This course is

repeatable for credit. The author will change each semester. Prerequisite: GK203 and 204, placement into the 300 level, or the permission of the instructor. (U)(3).

GK360, Topics in Greek: In-depth study of works not covered in earlier courses. This course is repeatable for credit. Prerequisite: GK203 and 204, placement into the 300 level, or permission of instructor. (U)(3).

GK402, Independent Study: Directed reading in Greek. Consult head of department before registering. (U)(3). Occasionally.

GK499, Honors Thesis: (U)(3). Occasionally.

LT101, Elementary Latin 1: An introductory course that prepares the student to read the Latin prose and poetry of Virgil, Homer, Livy, Ovid and others. (U)(4). Fall.

LT102, Elementary Latin: An introductory course that prepares the student to read the Latin prose and poetry of Virgil, Homer, Livy, Ovid and others. LT101 is a prerequisite. (U)(4). Spring.

LT203, Intermediate Latin 1: A course at the intermediate level, with emphasis on vocabulary acquisition. Material will be chosen for accessibility. Readings may include: Cicero's orations, Virgil's *Aeneid*, Pliny's *Letters*. Prerequisite: LT101 and 102 or placement at the 200 level. (U)(3). Fall.

LT204, Intermediate Latin 2: A course at the intermediate level, with emphasis on vocabulary acquisition. Material will be chosen for accessibility. Readings may include: Cicero's orations, Virgil's *Aeneid*, Pliny's *Letters*. Prerequisite: LT101 and 102 or placement at the 200 level. (U)(3). Spring.

LT301, Advanced Latin: A course at the advanced level with a vocabulary stretch and arcane points of grammar. Readings may include: Ovid's *Metamorphoses*, lyric poetry by Catullus, Propertius, Tibullus and Ovid, satire by Horace or Juvenal, the comedies of Plautus and Terence. Prerequisite: LT203 and 204, placement into the 300 level, or permission of the instructor. (U)(3). Spring.

LT360, Topics in Latin: In-depth study of works not covered in earlier courses. This course is repeatable for credit. Prerequisite: LT203 and 204, placement into the 300 level, or permission of instructor. (U)(3).

LT400, Independent Study: Directed reading in Latin. Consult head of department before registering. (U)(1). Occasionally.

LT401, Independent Study: Directed reading in Latin. Consult head of department before registering. (U)(2). Occasionally.

LT402, Independent Study: Directed reading in Latin. Consult head of department before registering. (U)(3). Occasionally.

LT499, Honors Thesis: (U)(3). Occasionally.

Computer Science and Software Engineering

Administration

Jonathan P. Sorenson, Ph.D., department chair
Web page: www.butler.edu/csse

Professors

Zhi-Hong Chen, Ph.D.; Panagiotis K. Linos, Ph.D.; Jonathan P. Sorenson, Ph.D.

Associate Professor

Ankur Gupta, Ph.D.

Why Study Computer Science or Software Engineering?

These disciplines are an excellent choice for students who enjoy problem-solving and are good at mathematics and the sciences. Good communication skills are also a plus, as this type of work is typically done in small groups or as part of a team. Computers and software have become essential tools in all disciplines, so you can pair the study of computer science or software engineering with a major or minor in any other area of study, including the sciences, business, fine arts, or the humanities. Employment prospects in computer science and software engineering are excellent.

Why Study Computer Science or Software Engineering at *Butler*?

There are several reasons we feel our programs are distinctive:

- Our Engineering Projects in Community Service (EPICS) Program combines service-learning with the practice of software engineering; student-run teams develop software for charity and nonprofit clients.
- Our supercomputer is available for student research projects, with possible support available through the Honors Program and the Butler Summer Institute.
- Our students learn parallel programming theory and techniques both in the

freshman-level CS142 course and in the junior/senior level CS452 course.

- Most of our students add a second major or minor program and still graduate on time.
- Quality internships and part-time jobs are plentiful in the Indianapolis area.
- Our alumni advisory board is active and engaged, not only mentoring our students and visiting for pizza lunches with our students, but also advising the department on curriculum and career preparation.

Our software engineering program prepares students for professional careers as software system designers, developers, testers, maintainers, and project managers. Our computer science program is more broad-based and prepares students not only for a variety of careers in the computing disciplines, such as systems or database administration and web development, but also for graduate study either in computer science or a related discipline, or for professional programs such as law school.

Degrees

- Major in Computer Science
- Minor in Computer Science
- Major in Software Engineering

CS Program Student Learning Objectives

- Analyze and solve mathematics-based problems.
- Understand and explain the main concepts, principles, algorithms, data structures, and theories of computer science.
- Write programs and develop software to solve problems.
- Communicate and work effectively in teams.
- Articulate one's role in society as a computing professional, including ethical, legal, and social obligations.

Requirements for the Computer Science Major

All of the following courses:

- MA106, 107, Calculus and Analytic Geometry I, II
- MA215, Linear Algebra
- CS151, 252, Foundations of Computing I, II
- CS248, Object-Oriented Programming and Data Structures

- CS282 or 283, EPICS I
- CS321, Computer Organization
- CS351, Algorithms
- SE361, Object-Oriented Design
- CS433, Theory of Database Systems
- CS452, Parallel Algorithm Design and Programming
- CS485, Computer Ethics
- CS473, Topics in Computer Science
- One course numbered CS440-459
- One course numbered CS430-439 or SE460 or above

Requirements for the Computer Science Minor

- CS151, Foundations of Computing I
- CS248, Object-Oriented Programming and Data Structures
- Twelve additional credit hours of CS or SE electives numbered 250 or above

Software Engineering Student Learning Objectives

- Analyze and solve mathematics-based problems.
- Understand and explain the main concepts, principles, algorithms, data structures, and theories of computer science and software engineering.
- Write programs and develop software to solve problems.
- Communicate and work effectively in teams.
- Articulate one's role in society as a computing professional, including ethical, legal, and social obligations.
- Acquire and synthesize new knowledge for software development in specific application domains.

Requirements for the Software Engineering Major

All of the following courses:

- MA106, 107, Calculus and Analytic Geometry I, II
- MA162, Probability and Statistics
- CS151, 252, Foundations of Computing I, II
- CS248, Object-Oriented Programming and Data Structures
- CS282 or 283, EPICS I
- CS321, Computer Organization
- CS351, Algorithms
- CS433, Theory of Database Systems

- CS452, Parallel Algorithm Design and Programming
- CS485, Computer Ethics
- SE361, Object-Oriented Design
- SE461, Managing Software Development
- SE462, Modernizing Legacy Software
- SE463, Software Testing and Quality Assurance
- SE411, Internship

One of the following two courses:

- CS435, Computer Networks
- CS441, Organization of Programming Languages
- Three additional credit hours of CS or SE electives numbered 300 or above

Core courses offered by Computer Science

AR220-CS, Robot Programming: This introductory programming course features personal robots that can move, draw, and take digital pictures. Robot behaviors are programmed and controlled remotely using a high-level language such as Python from a desktop or laptop computer. Topics include conditional execution, repetition, defining functions, and using arrays. No prior programming experience required. (U)(3). Fall.

Computer Science Courses

CS142, Introduction to Computer Science and Programming: An introduction to programming in a high-level language (assignment, data types, expressions, selection, loops, functions, arrays) including parallel programming for supercomputers. Topics such as AI, software engineering, and databases, are also discussed. Prerequisite: MA101, or equivalent. (U)(3). Fall, spring, and summer.

CS151, Foundations of Computer Science: Introduction to mathematical problem solving, with emphasis on techniques for designing computer-based solutions. Concepts include problem-solving principles, logic, proof techniques, sets, sequences, functions, relations, and inductive and recursive thinking. Prerequisites: MA101 or 102 or equivalent. (U)(3). Fall.

CS248, Object-Oriented Programming and Data Structures: This course is an introduction to object-oriented programming using Java. Topics include algorithm analysis, recursion, the stack, queue, tree, and heap data structures,

sorting algorithms, and GUI programming. A brief survey of computer science is also included: history, software engineering, computer organization, operating systems, networks, programming languages, databases, artificial intelligence, and theory. Prerequisites: CS142 or equivalent and CS151. (U)(5). Spring.

CS252, Foundations of Computing 2: As a continuation of CS151, concepts include mathematical logic, formal grammars, algebraic structures, finite state machines and automata, graph theory, and combinatorics. Prerequisite: CS151 (U)(3). Spring.

CS271, Topics in Computer Science: In-depth study of special topics not covered in regular courses. (U)(1). Occasionally.

CS 282S, Epics 1 Service Learning: Supervised team software project for a local charity or non-profit organization. May be repeated for credit. Corequisite: CS248 or permission of the department. (U)(2). Fall and spring.

CS 283S, Epics 1 Service Learning: Supervised team software project for a local charity or non-profit organization. May be repeated for credit. Corequisite: CS248 or permission of the department. (U)(3). Fall and spring.

CS300, Teaching Practicum: Students assist a faculty member teaching a 100 or 200 level CS course by helping students with assignments and laboratory exercises, conducting help sessions, preparing course materials, and setting up laboratory exercises. The student receives regularly scheduled supervision from the faculty instructor. May be repeated once for credit. (U)(3). Occasionally.

CS308, Problem Seminar: A survey of basic problem-solving strategies such as recursion, divide and conquer, and backtracking, and applying these strategies to sample problems in mathematics, text processing, graphics, and games. Consolidates material from CS242 and CS243. Prerequisite: CS248 or permission of the instructor. (U)(1). Fall and spring.

CS321, Computer Organization: Principles of computer architecture are introduced from a layered point of view, beginning at the level of gates and digital logic, and progressing through micro-programming, the machine language

execution cycle, addressing modes, symbolic assembly language, and the fundamentals of operating systems. Advanced topics including pipelined and parallel architectures are also covered. Corequisite: CS 248. (U)(3). Fall.

CS351, Algorithms: A systematic study of data structures and algorithms with an introduction to theoretical computer science. Topics include lists, stacks, queues, trees, and graph structure, searching and sorting algorithms, mathematical algorithms, time and space complexity, an introduction to the theory of NP-completeness, and an introduction to computability theory. Prerequisite: 248. (U)(3). Fall.

CS 382S, Epics 2 Service Learning: Supervised team software project for a local charity or non-profit organization. May be repeated for credit. Prerequisites: concurrent registration in CS351 and SE361 and either CS282 or CS283, or permission of the department. (U)(2). Fall and spring.

CS 383S, Epics 2 Service Learning: Supervised team software project for a local charity or non-profit organization. May be repeated for credit. Prerequisites: concurrent registration in CS351 and SE361 and either CS282 or CS283, or permission of the department. (U)(3). Fall and spring.

CS401, Independent Study: Provides an opportunity for qualified students to pursue special topics under the guidance of a department staff member. Prerequisite: permission of the department. (U/G)(1). Occasionally.

CS402, Independent Study: Provides an opportunity for qualified students to pursue special topics under the guidance of a department staff member. Prerequisite: permission of the department. (U/G)(2). Occasionally.

CS403, Independent Study: Provides an opportunity for qualified students to pursue special topics under the guidance of a department staff member. Prerequisite: permission of the department. (U/G)(3). Occasionally.

CS411, Internship: Supervised work experience directly related to major area of study. Prerequisites: junior or senior standing and permission of department. (U)(3). Occasionally.

CS431, Theory of Operating Systems:

Introduces the major concept areas of operating systems principles, including the study of process, storage, and processor management; performance issues; distributed systems; and protection and security. Prerequisites: CS248, CS252, and CS321. (U/G)(3). Occasionally.

CS433, Database Systems: An introduction to the theory, design, and use of modern database management systems. Topics include the relational, entity-relationship, and object-oriented data models, query languages such as SQL, file systems, concurrency and deadlock, reliability, security, and query optimization. Prerequisites: CS248, CS252, and CS321. (U/G)(3). Fall.

CS435, Computer Networks: An introduction to computer networks from a layered point of view beginning with the physical and data link layers, and progressing through the medium access layer, the network layer, the transport layer, and the applications layer. Specific content includes Ethernet, TCP/IP, and the Web. Students will write client/server programs that communicate across a network. Prerequisite: CS321. (U/G)(3). Occasionally.

CS441, Organization of Programming Languages: Emphasizes the principles and programming paradigms that govern the design and implementation of contemporary programming languages. Includes the study of language syntax, processors, representations, and paradigms. Prerequisites: CS252, CS 321, and SE 361. (U/G)(3). Occasionally.

CS451, Theory of Computation: Basic theoretical principles of computer science that are embodied in formal languages, automata, computability, and computational complexity. Includes regular expressions, context-free grammars, Turing machines, Church's thesis, and unsolvability. Prerequisites: CS252, CS321 and CS351. (U/G)(3). Occasionally.

CS452, Parallel Algorithm Design and Programming: A study of theoretical and practical paradigms of parallel algorithm design. Topics include model costs, lower bounds, architecture and topology, data-parallelism, synchronization, transactional memory, message passing, and parallel design for sorting, graphs, string processing, and dynamic programming. Spring.

CS455, Numerical Analysis: Solutions of equations and systems, error analysis, numerical differentiation and integration, interpolation, least squares approximation, numerical solution of ordinary differential equations. Prerequisites: MA107 and CS142 or equivalent. (U/G)(3). Occasionally.

CS471, Topics in Computer Science: In-depth study of special topics not covered in regular courses. Prerequisite: permission of department. (U/G)(1). Fall and spring.

CS472, Topics in Computer Science: In-depth study of special topics not covered in regular courses. Prerequisite: permission of department. (U/G)(2). Fall and spring.

CS473, Topics in Computer Science: In-depth study of special topics not covered in regular courses. Prerequisite: permission of department. (U/G)(3). Fall and spring.

CS482S, Epics 3 Service Learning: Supervised team software project for a local charity or non-profit organization. May be repeated for credit. Prerequisite: Concurrent registration in SE461 and either CS382 or CS383, or permission of the department. (U)(2). Fall and spring.

CS483S, Epics 3 Service Learning: Supervised team software project for a local charity or non-profit organization. May be repeated for credit. Prerequisite: Concurrent registration in SE461 and either CS382 or CS383, or permission of the department. (U)(3). Fall and spring.

CS485, Computer Ethics: Ethical and social issues in computing with emphasis on professional responsibilities, risks and liabilities, and intellectual property. Prerequisite: CS142 and sophomore standing. (U/G)(1). Fall.

CS490, Research Methods: An introduction to research methodology in computer science, including an overview of computer science literature and techniques for presenting and evaluating research results. Prerequisites: CS321, CS351, and SE361, or junior standing and permission of the department. (U)(2). Occasionally.

CS491, Senior Seminar: Techniques for giving oral presentations of research results in computer science. Prerequisite: CS490 or permission of the department. (U)(1). Occasionally.

CS499, Honors Thesis: (U)(3). Occasionally.

Software Engineering Courses

SE267, Business Application Dev.:

Programming in Visual Basic, with applications to business. Topics include data representation, control structures, arrays, functions, and objects. Prerequisites: none. (U)(3). Fall and spring.

SE331, Web-Based Client/Server

Programming: Web-based applications programming in a Unix-based environment. Topics include XHTML/CSS and JavaScript on the client side, and a PHP and Perl CGI programming on the server side. Other topics include client/server object-oriented software architectures, protection and security related to network programming, and database connectivity. Prerequisite: CS248 (U)(3). Occasionally.

SE361, Object-Oriented Design: This course uses the Unified Modeling Language (UML) as a vehicle to introduce the basic principles of object-oriented methodology and design, covering classes, objects, data abstraction, polymorphism, information hiding, and relationships among classes such as inheritance, association, aggregation, and composition. Specific design techniques are covered for object-oriented programming languages such as Java and C++. The course also provides a first exposure to the software development lifecycle of object-oriented software applications. A small team design project is required. Prerequisite: CS248. (U)(3). Spring.

SE411, Internship: Supervised work experience in software engineering. Prerequisites: SE361, SE461, CS485, and one of SE462, CS382, or CS383. (U)(3). Occasionally.

SE461, Managing Software Development: Techniques, principles, and processes for developing large, complex software systems: Systems analysis and specification, modeling, design patterns, implementation, validation and verification, quality assurance, and project management. A team-based software project is required. Prerequisite: SE361. (U/G)(3). Occasionally.

SE462, Modernizing Legacy Software: Fundamental concepts, principles, techniques, and tools for the maintenance and evolution of legacy software systems. Software maintenance and evolution process models, reengineering,

reverse engineering, and program comprehension tools. A modernization project is required. Prerequisite: SE361. (U/G)(3). Occasionally.

SE463, Testing and Quality Assurance:

Basic concepts, systematic techniques, and tools involved in testing and QA of software systems. Some topics to be covered include black and white box testing techniques, object-oriented testing, regression testing, system integration testing, planning and reporting of testing activities. Prerequisite: SE361 (U)(3). Occasionally.

SE472, Topics in Software Engineering:

In-depth study of special topics not covered in regular courses. Prerequisite: permission of the department. (U/G)(2). Occasionally.

SE473, Topics in Software Engineering:

In-depth study of special topics not covered in regular courses. Prerequisite: permission of the department. (U/G)(3). Occasionally.

Economics Program

Professors

Peter Grossman, Ph.D., Efroymsen chair of economics; Robert Main, Ph.D.; William Rieber, Ph.D.

Associate Professor

Kathy Paulson Gjerde, Ph.D.

Adjunct Faculty

Robert Kirk, Ph.D.; Theodore Kuhn, M.A.; Thomas Litkowski, M.A.; Timothy Zimmer, Ph.D.

Why Study Economics?

Economics provides you with problem-solving and data-gathering skills to make informed decisions in a variety of settings; e.g., government, law, finance, business, and journalism; and for a variety of job responsibilities—from college intern to a newly hired bank credit analyst at one end of the spectrum, to U.S. senator, Supreme Court justice, or CEO of a successful business on the other.

Besides being a strong major in its own right, economics is a nice complement for students who have interests in philosophy, political science, sociology, history, mathematics, psychology, foreign languages, engineering, and English. Indeed, the Nobel Prize in economics is often awarded to economists who also have a keen interest in one of the above areas.

Why Study Economics at *Butler*?

You can study economics as a major in the College of Liberal Arts and Sciences and also as a major in the College of Business. The student in Liberal Arts and Sciences may have a given career path in mind but often does not. He/ she knows that economics offers an array of opportunities and takes economics to learn critical thinking skills and about the dynamic economic environment in which we live. The career choice will follow. The same applies to a student who majors in the College of Business, but the career choice is more targeted to the business sector. The economics courses taken in either college are the same; the courses outside of economics, though, are different between the two colleges.

Economics Student Learning Outcomes

Students will learn and discuss issues such as how the Federal Reserve creates money and influences interest rates domestically and around the world, why the euro changes in value against the dollar, and the reason behind Zimbabwe inflation. You'll learn about the "Wealth of Nations" from rich countries (e.g. the U.S.) to poor ones (e.g. Bangladesh), about growing countries (e.g. China) and countries transitioning to capitalism (e.g. Russia). You'll learn about the invisible hand of the market and the different roles of government in a mixed economy.

The tools in addressing these questions include supply and demand, international trade and exchange rate determination, monetary and fiscal policy, market structure, and statistical relationships.

Degrees

- Major in Economics
- Minor in Economics

Requirements for the Major

Required Foundation

- EC231, Principles of Microeconomics
- EC232, Principles of Macroeconomics
- MA125, Business Calculus or MA106, Calculus and Analytical Geometry I (Either course also satisfies the University core curriculum under Analytical Reasoning.)
- MS100, Basic Excel Skills
- MS264, Statistics
- MS265, Information Technology

- Foundation Course hours: 13 (Not counting MA125 or MA106, and with MS101 being one hour)

Other Required

- EC332, Intermediate Macroeconomics
- EC354, Intermediate Microeconomics
- EC464, Quantitative Methods-Econometrics
- Other Required Course hours: 9

Any four courses numbered 300 or 400 level

- Economics Electives hours: 12
- Total Hours: 34

Requirements for the Minor

- EC231, Principles of Microeconomics
- EC232, Principles of Macroeconomics
- Either EC332, Intermediate Macroeconomics or EC354, Intermediate Macroeconomics
- Three courses numbered 300 or 400 level
- Total hours: 18

Core Course Offered by Economics SW 220-COB, The Economy and Society:

This course examines important concepts of microeconomics and macroeconomics and analyzes issues such as energy prices, prescription drug costs, pollution, and globalization of markets using these concepts. It explores how economic life is intertwined with a society's culture, politics, values, and history. Further, it considers the limitations of the economic methodology to place economics in a context with the other social sciences. (U)(3). Fall and spring.

Economics Courses

EC231, Principles of Microeconomics: This course examines the economic behavior of individuals, firms, and markets. The course provides basic concepts of economics and the analytical tools for students to understand how and why people make economic choices. Prerequisites: sophomore standing; or 15 hours and (MA106 or MA125). (U)(3). Fall, spring, and summer.

EC232, Principles of Macroeconomics: This course studies aggregate output, employment, trade, government fiscal and monetary policies, and other national and international economic issues. It provides a framework for understanding and evaluating economic policy choices made by political leaders throughout the world. Prerequisite: EC231. (U)(3). Fall, spring, and summer.

EC332, Intermediate Macroeconomics:

Discusses measures of national income; it also examines causes of growth and fluctuations in national income. Prerequisites: junior standing, EC231 and EC232. (U)(3). Annually, term varies.

EC336, Comparative Economic Systems:

An inquiry into the underlying principles and operational methods of national economic systems throughout the world. Focuses on the transition of the former socialist countries to market economies, and reviews the alternative models of central planning, market socialism, and market capitalism. Compares the economic policy choices (and consequences) that countries adopt to further national objectives. Prerequisite: EC101 or EC231. (U)(3). Occasionally.

EC339, Economic History of the United States:

Study of the economic development of the United States, emphasizing both theoretical and quantitative tools of analysis. Prerequisite: EC101 or EC231 (U)(3). Occasionally.

EC342, Law and Economics: This course looks at law and crime from an economic perspective. Topics include property law, contract law, torts, and crime. The course examines theory as well as many actual cases. It also explores the evolution and economic impacts of our laws and legal structure. Prerequisite: EC101 or SW220 or (EC231 and EC232). (U)(3). Occasionally.

EC346, Health Care Economics: The course will apply economic tools and methods to better understand the current health care system and possible reform policy initiatives. It is intended to be discussion based and should be attractive to students with a diverse academic background. Prerequisite: EC231 (U)(3). Fall and spring.

EC350, Managerial Economics: Application of microeconomic theory to the management of firms: demand, cost and pricing; strategic behavior; and the boundaries of the firm. Credit will not be given for both EC350 and EC354. Prerequisites: EC231, EC232, MS264. (U)(3). Occasionally.

EC351, Urban Economics: The application of economic analysis to urban affairs, e.g., ghetto redevelopment, growth, and fiscal management. Theory and policy both are considered in analyzing urban economic

problems. Prerequisite: EC101 or EC231. (U)(3). Occasionally.

EC352, Personnel Economics: This course presents an economic approach to a variety of human resource issues, including recruitment and hiring, turnover, motivating workers to high levels of productivity, and job assignment. Basic microeconomic theory is applied to these topics to gain a better understanding of how to successfully manage people. Prerequisites: EC231 and EC232. (U)(3). Spring.

EC354, Intermediate Microeconomics:

Economic theory and management decision-making. Specific topics include demand determinants, cost-output functions, and pricing theory. Credit will not be given for both EC350 and EC354. Prerequisites: EC231 and EC232. (U)(3). Annually, term varies.

EC355, Money and Banking: The study of the U.S. monetary system, including the role of the Federal Reserve System. The functions and operations of commercial banks and other depository institutions also are examined. Credit will not be given to both EC355 and FN371. Prerequisite: EC231, EC232. (U)(3). Occasionally.

EC391, Environmental and Natural Resources:

The economics of externalities and their relation to property rights. Alternative strategies for dealing with environmental problems. Analysis of problems of allocating natural resources over time. Prerequisite: EC101 or EC231. (U)(3). Occasionally.

EC401, Independent Study: (U)(1). Occasionally.

EC402, Independent Study: (U)(2). Occasionally.

EC403, Independent Study: (U)(3). Occasionally.

EC433, International Economics: Examines theories of international trade, tariffs, and regional economics integration; also examines foreign trade financing, international investment, and balance of payments adjustment. Prerequisite: EC231, EC232. (U)(3). Fall, spring, and summer.

EC434, Public Finance: Systems of expenditure, taxation, borrowing, and budgeting of national, state, and local

governments. Theories and principles of taxation. Prerequisite: EC101 or EC 231. (U)(3). Occasionally.

EC438, Economic History of Europe: A study of the economic development of selected European states since 1500. Emphasis on economic, demographic, political, social, and cultural forces affecting production and distribution. Prerequisite: EC101 or EC231. (U)(3). Occasionally.

EC462, Mathematical Economics: This course is an introductory exploration of mathematical economics. It examines economics through mathematical models and operations and explores basic issues in economics—supply and demand, profit and utility maximization, monetary and fiscal policy—using formal mathematical models. Students will not simply go over mathematical economic models but will develop an appreciation for how formal economic models are constructed. Prerequisites: EC231, EC232, MA106 or equivalent. (U)(3). Occasionally.

EC464, Quantitative Methods—Econometrics: Applications of statistical methods to economic analysis and forecasting. Examines methods of hypothesis testing, linear regression, and time-series analysis, and applies these to issues of micro and macroeconomics. Prerequisites: EC231, EC232, and MS264 or MA260. (U)(3). Spring.

EC495, Special Topics in Economics: Seminar in selected economics topics. Course content will vary from semester to semester. Prerequisite: EC101 or EC231. (U)(3). Occasionally.

EC499, Honors Thesis: (U)(3). Occasionally.

Engineering Dual-Degree Program (EDDP)

Administration

Joseph L. Kirsch, Ph.D., program director;
Jessica R. McCormick, program coordinator

The EDDP (Engineering Dual Degree Program) results from a partnership between the well-established programs at Butler University and the Purdue School of Engineering and Technology at Indianapolis. The EDDP allows students to study at Butler University, which is known for its quality science, humanities, social science,

fine arts, and professional programs and also have access to ABET-accredited engineering programs at the Purdue School of Engineering and Technology at Indianapolis. Students completing this program will earn degrees from both institutions. The EDDP is not a 3-2 program where students are expected to transfer after three years to another school to complete their engineering studies. The EDDP has a curriculum that integrates engineering, science, mathematics, computer science, social sciences, humanities, and fine arts courses and allows residence at Butler University for the duration of the program.

Engineering Dual Degree Program (EDDP)

Students select a major from both institutions (Dual-Degree Butler University and Purdue School of Engineering and Technology at Indianapolis).

Major Options at Butler University

- Biology
- Chemistry
- Computer science
- Economics
- Mathematics
- Physics
- Science, technology, and society

Major Options at Purdue School of Engineering and Technology at Indianapolis

- Biomedical engineering
- Computer engineering
- Electrical engineering
- Energy engineering
- Mechanical engineering
- Motorsports engineering

Summary of program features

1. The dual degree program leads to a degree in engineering from Purdue School of Engineering and Technology at Indianapolis (biomedical, computer, electrical, energy, mechanical, or motorsports) and a degree from Butler University (biology, chemistry, computer science, economics, mathematics, physics or STS).
2. The EDDP is not a 3-2 program where students are expected to transfer after three years to another school to complete their engineering studies. The EDDP has a curriculum that integrates engineering,

science, mathematics, computer science, social sciences, humanities, and fine arts courses.

3. The biomedical, computer, electrical, and mechanical engineering programs are ABET-accredited. The newer energy and motorsports programs will be included in the next ABET review.
4. The dual degree programs are five years with residence available at Butler University throughout the programs.
5. One summer internship is part of the program.
6. Courses in mathematics, sciences, humanities, social sciences, and fine arts are taught through Butler University while the engineering courses are taught through Purdue School of Engineering and Technology at Indianapolis.
7. Normally engineering courses taken during the first three years will be taught at Butler University.
8. Transportation is facilitated between sites (Butler and Purdue School of Engineering and Technology at Indianapolis, approximately 5 miles).
9. Job placement and career services are available to dual degree students at Butler University, Purdue School of Engineering and Technology at Indianapolis, and Purdue University at West Lafayette.

The curriculum for the EDDP can be viewed at www.butler.edu/engineering. Engineering courses are noted on the Butler University transcript with a departmental designation of DD.

English Language and Literature

Administration

Andrew G. Levy, Ph.D., department chair

Professors

Dan Barden, M.F.A.; Joseph R. Colavito, Ph.D.; Hilene Flanzbaum, Ph.D.; Andrew G. Levy, Ph.D.; Susan Neville, M.F.A.; Carol Reeves, Ph.D.; William P. Walsh, Ph.D.

Associate Professors

Chris Forhan, M.F.A.; Lee Garver, Ph.D.; Jason Goldsmith, Ph.D.; William Watts, Ph.D.

Assistant Professors

Michael Dahlie, M.F.A.; Ania Spyra, Ph.D.; Brynnar Swenson, Ph.D.

Instructors

Barbara Campbell, Ph.D.; Angela Hofstetter,

Ph.D.; Alessandra Lynch, M.F.A.; Rebecca Ries, M.A.; Robert Stapleton, M.F.A.; Susan Sutherland, M.A.

Why Major in English?

The English major offers students the tools to master close reading, formal analysis, literary history, critical theory, research strategies, and creative expression. English majors enjoy the beauty of great works of art as they simultaneously ask important questions about the relationship between language and the production of meaning and value. Our students learn to discuss and write critically about the many ways literature and language have influenced the values and lived experiences of societies over centuries, among genders and classes, races and ethnicities, and across geographical boundaries. When English majors head out into the world, we expect that they will carry with them a passion for reading and writing, and a commitment to use language clearly, purposefully, and with sophistication and elegance.

Why major in English at Butler?

The English Department at Butler University balances the study of traditional fields of English and American literature with a commitment to interdisciplinary work, involving contemporary fields such as gender and sexuality, film studies, comparative literature, cultural studies, rhetoric of science and creative writing. Our full-time faculty includes formalists and theorists, cultural historians and rhetoricians, and novelists and poets. Our course offerings reflect diversity: students can choose a traditional English major, or the major with a concentration—Creative Writing or Theory, Culture and Criticism. In each case, students will find small classes, dedicated teachers, and an active and engaged group of fellow students.

Butler's English Department is home to one of the country's most important Visiting Writers Series, which encourages a sense of literary and creative community that goes beyond the classroom. Recent visitors to the series have included Joyce Carol Oates, Richard Russo, Yusef Komunyaaka, Elmore Leonard, Jorie Graham, and Junot Diaz. The popular Visiting Writers Series course offers students the chance to meet and talk to many of these writers. The department's secondary programs also extend the opportunities for our majors, including a city-wide creative writing camp, a large peer-

tutoring program where students help students across the University, and an internship program where students gain experience in classrooms, pressrooms, and in small and large businesses.

English Student Learning Objectives

Our students graduate as incisive readers, cogent thinkers, and powerful writers, well prepared for any profession requiring a rigorous understanding and mastery of language. Because of their exposure to a vast array of human experiences in literature, English majors are more likely to be able to listen to the voices of opposition and disagreement; to accept the persistence in the world of ambiguity and complexity without resorting to facile simplification, cliché or stereotypes; to consider evidence rather than rush to judgment; and to react to human dilemmas and suffering with compassion. English majors also carry with them a lasting ability to take informed pleasure in all forms of literature and creative production. We believe that the education our majors gain as readers and writers is invaluable whether they work in education, the legal field, the arts, electronic communication, publishing, business, the nonprofit sector, government, or other careers.

Requirements for English Major

- Minimum of 36 hours beyond freshman English.

Sophomore requirements

- EN185, three of the four courses in the Literary and Cultural History sequence (EN245, 246, 265 and 266), EN321 or 322.

Junior/Senior requirements

- EN390: Research Seminar; one 300/400-level course in language, rhetoric, or literary criticism; two 300-level literature courses; one 300/400-level course in subject area not covered in the Literary and Cultural History Sequence; for seniors, one 400-level seminar and one EN 450-level senior essay with emphasis in writing

Requirements for English Minor

- Minimum of 18 hours beyond freshman English; EN185; 3-6 hours of EN200-level literature courses and 9-12 hours of EN300- and 400-level literature courses.

Concentration in writing

- Minimum of 21 hours beyond freshman English requirement; EN185, 218 or 219; nine additional hours in writing courses and

six hours of EN literature courses, including at least one course at the 300-level or above.

With Creative Writing

Through the concentration in creative writing, English majors have the opportunity to study the art and craft of creative writing. Students are given the opportunity to take workshops in poetry, fiction, and nonfiction. Recent independent study projects have included screenplays, memoirs, and graphic novels. Each year, through the nationally recognized Vivian S. Delbrook Visiting Writers Series, students have the opportunity to meet and work one-on-one with writers such as Jonathan Lethem, Jean Valentine, and Lorrie Moore. Students who enroll in the creative writing concentration will take:

- Minimum of 48 hours beyond freshman English

Sophomore Requirements

- EN185, 218, 219, three of the four courses in the Literary and Cultural History Sequence (EN245, 246, 265, and 266); EN321 OR 322

Junior/Senior Requirements

- EN390: Research Seminar; one 300/400-level course in language, rhetoric, or literary criticism; two 300-level literature courses; one 300/400-level course in subject area not covered in the Literary and Cultural History Sequence; two 300-level writing courses; for seniors, EN410, Senior Creative Writing Seminar, one creative writing portfolio, and one EN450 senior essay.

With Theory, Culture and Criticism

Students will take additional courses in cultural studies, comparative literature, literary criticism, and critical theory in order to study literary texts in a global cultural context. LTCC courses will look at diverse cultural objects—novels, plays, films, visual arts, and media—through the lens of the literary and cultural theories, with the goal of producing sophisticated readers of the contemporary world. This concentration is highly recommended for those planning to pursue advanced degrees in the humanities.

With Emphasis in Literary Theory, Culture, and Criticism

- Minimum of 48 hours beyond freshman English.

Sophomore Requirements

- EN185, three of the four courses in the Literary and Cultural History Sequence (EN245, 246, 265, and 266), EN321, EN322.

Junior/Senior Requirements

- EN390, Research Seminar; one 300/400-level course in language or rhetoric; EN385, Studies in Literary Criticism; EN387, Studies in Literary Theory; two 300-level literature courses; two 300/400-level Literary Theory, Culture and Criticism-approved electives; for seniors, one 400-level seminar and one EN450-level senior essay.

Core Courses Offered by English **PCA232-EN, Seeing the World and the Self:**

When you look out the window do you see a tree or the rhythmic sway of dark line and bright color? Do you see a field of grass or waves of innumerable greens? This course will encourage you to see the world through the eyes of an artist by focusing on the natural world. To achieve this we will examine a variety of formats including poetry, the personal essay, painting, and photography in relation to key aesthetic concepts such as the sublime, the beautiful, and the picturesque. We will juxtapose contemporary writers and artists with those from earlier periods to demonstrate how the way we see the world is culturally determined. We will complement our readings with trips to nearby museums (IMA), galleries, and the studios of local artists. In addition, we will take advantage of such local natural resources as the grounds of the IMA, the canal walk, and Holcomb Gardens, where you will find the raw material for your own reflection and creative expression. (U)(3). Fall and spring.

TI210-EN, Inquiries in Am Lit and His I:

This course will be organized around a theme in early American literature, and thereby seek to increase students' understanding of major works, authors and literary movements of the period. Texts for the course will come primarily from the period up to the American Civil War, and both the texts and the authors studied will be placed within their larger literary and cultural contexts. Particular themes for the course will be published each semester in the schedule of classes. (U)(3). Fall.

TI 211-EN, Inquiries in Am Lit and His

II: This course will be organized around

later American literature, and thereby seek to increase students' understanding of major works, authors, and literary movements of the period. Texts for the course will come primarily from the period after the American Civil War, and both the texts and the authors studied will be placed within their larger literary and cultural contexts. Particular themes for the course will be published each semester in the schedule of classes. (U)(3). Spring.

TI212-EN, Inquiries in Brit Lit and His I:

This course will be organized around early British literature, and thereby seek to increase students' understanding of major works, authors, and literary movements of the period. Texts for the course will come primarily from the period up to 1800, and both the texts and the authors studied will be placed within their larger literary and cultural contexts. Particular themes for the course will be published each semester in the schedule of classes. (U)(3). Fall.

TI 213-EN, Inquiries in Brit Lit and His

II: This course will be organized around later British literature, and thereby seek to increase students' understanding of major works, authors, and literary movements of the period. Texts for the course will come primarily from the period after 1800, and both the texts and the authors studied will be placed within their larger literary and cultural contexts. Particular themes for the course will be published each semester in the schedule of classes. (U)(3). Spring.

TI 214-EN, Shakespeare:

Introduces Shakespeare's themes, stagecraft, language, and moral vision with special attention to the varieties of human experience portrayed in the plays. (U)(3). Fall and spring.

TI 215-EN, Theory, Culture, Criticism:

This course is an introduction to cultural studies: a critical, theoretical, interpretive, and interdisciplinary way to understand our world and our place in it. This course will look at diverse cultural objects—novels, plays, films, visual arts, and media—through the lens of the literary and cultural theories, with the goal of producing sophisticated readers of the contemporary world. (U)(3). Fall and spring.

English Courses

EN101, Writing Tutorial: Intensive practice in discovering, shaping, and communicating meaning through writing. Individualized

instruction for students who need additional critical reading and writing development to perform satisfactorily in the First-Year Seminar. Students will meet during the first week of classes at the published time, but thereafter, students will arrange a weekly tutorial time with the professor as well as arrange weekly or biweekly tutorials with a Peer Tutor from the Writers' Studio. Students are assigned to the course on the basis of tests and writing samples. (P/F) credit. (U)(3). Fall.

EN185, Introduction to the Discipline of English: Introduces students to the methods of critical reading and writing and helps them to develop the skills necessary for the study of literature. Required of all English majors. Prerequisite: EN 102. (U)(3). Fall and spring.

EN201, Advanced Composition: Studies the craft of expository prose. Emphasizes the construction of well-developed and well-supported arguments. Prerequisites: FYS101 and 102. (U)(3). Annually, term varies.

EN218, Intro Creative Writing: Poetry: Focuses on the connection between reading and writing. Emphasis on techniques of writing poetry. (U)(3). Fall and spring.

EN219, Intro Creative Writing: Prose: Focuses on the connection between reading and writing. Emphasis on techniques of prose writing, fiction, and non-fiction. Prerequisites FYS101 and 102 (U)(3). Fall and spring.

EN245, Inquiries in American Literary and Cultural History 1: This course will be organized around a theme in early American literature, and thereby seek to increase students' understanding of major works, authors, and literary movements of the period. Texts for the course will come primarily from the period up to the American Civil War, and both the texts and the authors studied will be placed within their larger literary and cultural contexts. Particular themes for the course will be published each semester in the schedule of classes. (U)(3). Fall.

EN246, Inquiries in American Literary and Cultural History 2: This course will be organized around later American literature, and thereby seek to increase students' understanding of major works, authors, and literary movements of the period. Texts for the course will come primarily from the period after the

American Civil War, and both the texts and the authors studied will be placed within their larger literary and cultural contexts. Particular themes for the course will be published each semester in the schedule of classes. (U)(3). Spring.

EN265, Inquiries in British Literary and Cultural History 1: This course will be organized around early British literature, and thereby seek to increase students' understanding of major works, authors, and literary movements of the period. Texts for the course will come primarily from the period up to 1800, and both the texts and the authors studied will be placed within their larger literary and cultural contexts. Particular themes for the course will be published each semester in the schedule of classes. (U)(3). Fall.

EN266, Inquiries in British Literary and Cultural History 2: This course will be organized around later British literature, and thereby seek to increase students' understanding of major works, authors, and literary movements of the period. Texts for the course will come primarily from the period after 1800, and both the texts and the authors studied will be placed within their larger literary and cultural contexts. Particular themes for the course will be published each semester in the schedule of classes. (U)(3). Spring.

EN301, Topics in Advanced Composition: Studies specific prose methods or styles of writing. Recent offerings include review writing, stylistic analysis, classical rhetoric, and peer tutoring. Open to juniors and seniors. (U/G)(3). Spring.

EN303, Studies in Professional Writing: You will learn some basic forms of professional writing as well as some of its special purposes such as public education and outreach; argument and advocacy; reporting; reviewing; or entertaining. You will learn to write within such areas as the environment, health and medicine, science and technology. (U/G)(3). Annually, term varies.

EN310, Intermediate Writing Workshop: Students will have the opportunity to work on their own writing in a workshop setting, which includes the participation and critique of all other students in the course. Students will read extensively in the specified genre and attend Butler's Visiting Writers' Series events.

Prerequisites: EN 218 and 219 or permission of the director of creative writing. (U/G)(3). Fall and spring.

EN319, History of the English Language:

Studies changes in our language from Indo-European and Old English, through Middle English, to modern American and British English. Open to juniors and seniors. (U/G)(3). Occasionally.

EN321, Comparative Literature 1: Studies world literature in historical, aesthetic, and cultural context. Prerequisite: EN185. (U/G)(3). Fall and spring.

EN322, Comparative Literature 2: Studies world literature in historical, aesthetic, and cultural context with special attention paid to issues in literary and translation theory. Prerequisites: EN321 or junior/senior status. (U/G)(3). Occasionally.

EN341, Topics in Nineteenth Century A: Studies major writers within the context of nineteenth century American culture. (U/G)(3). Annually, term varies.

EN362, Renaissance Literature: Studies English poetry, prose, and drama of the 16th and early 17th centuries. Open to juniors and seniors. (U/G)(3). Occasionally.

EN363, Shakespeare: Studies representative comedies, tragedies, and histories in both their historical and intellectual contexts and their adaptations to modern performance. Open to juniors and seniors. (U/G)(3). Fall and spring.

EN366, Romanticism: Studies British poetry and prose of the late eighteenth through the mid nineteenth century. Examines the aesthetic, historical, and intellectual issues of the Romantic Revolution. Particular themes will be published each semester in the schedule of classes (U/G)(3). Occasionally.

EN367, Victorian Literature: Studies English poetry and prose from 1832 to the death of Queen Victoria in 1901. Examines the aesthetic, historical, and intellectual issues of the period and shows how late-Victorian literature provides a bridge to 20th-century aesthetics. Open to juniors and seniors. (U/G)(3). Occasionally.

EN368, 20th Century British Literature: Studies modern and postmodern British poetry and prose in historical, aesthetic, and cultural context. Open to juniors and seniors. (U/G)(3). Occasionally.

EN370, Literature and Public Problems: This course explores how literary works capture, contextualize, and imagine past, present, or future public problems such as environmental health, economic, and other social issues that impact locally, nationally, and/or internationally. (U)(3). Annually, term varies.

EN381, Studies in Major Authors: Specific courses focusing on extensive study of one or two major writers, their lives, their art, and their development. Open to juniors and seniors. (U/G)(3). Annually, term varies.

EN382, Studies in Poetry: Specific courses on important groups of poets, historical periods of poetry, or bodies of national poetry. Current offerings include modern American poetry, modern British poetry, and contemporary international poetry. Open to juniors and seniors. (U/G)(3). Annually, term varies.

EN384, Studies in Drama: Specific courses on genres of drama, historical periods of drama, or bodies of national drama. Current offerings include Elizabethan and Jacobean Drama, Modern American Drama and Modern European Drama. Open to juniors and seniors. (U/G)(3). Annually, term varies.

EN385, Studies in Literary Criticism: Specific courses in the history of literary criticism, important groups of critics, or the application of literary critical methods. (U/G)(3). Annually, term varies.

EN386, Studies in Rhetoric: Offers general and specialized study of the history, criticism, theory, literature, and application of the rhetorical arts. (U/G)(3). Annually, term varies.

EN387, Studies in Literary Theory: Specific courses in the history of literary and critical theory, important groups of theorists, or the application of critical methodologies. Annually, term varies.

EN390, Research Seminar: Focusing on a single text, or a set of texts by a single author, this course is designed to equip students with the research and writing skills necessary for advanced work in English. This course is required of all English majors, and should be taken during the junior year. Prerequisite: EN185 and two of the following: EN245, EN246, EN265, and EN266. (U/G)(3). Fall and spring.

EN393, Special Topics in Literature: Specific courses on topics of interest. Open to juniors and seniors. (U/G)(3). Fall and spring.

EN395, Internship: Directed experience in a career setting. Students apply through the head of the department. Open to junior and senior majors. (U)(3). Fall and spring.

EN396, Internship: Directed experience in a career setting. Students apply through the head of the department. Open to junior and senior majors. (U)(6) Fall and spring.

EN410, Senior Creative Writing Seminar: Students will participate in an advanced writing workshop, critique other students work, attend Butler Visiting Writers Series events, and complete a substantial writing project. Prerequisites: Senior standing and pre-approval of course project by director of creative writing. (U)(3). spring.

EN422, Comparative Literature 2: Surveys major periods and texts in non-Western world literature. (U/G)(3). Occasionally.

EN450, The Senior Essay: In this course, students will work toward completing their Senior Essay, a 20-25 page literary research-based paper that is a requirement for graduation in the English major. Students will master professional writing and research methods in their field, as well as techniques for revising prose. (U)(3). Fall and spring.

EN 455S, Writing in Schools: This class will rotate classroom discussion sessions where students examine various modes of age-appropriate creative and expository writing pedagogy, and an active experience where students guide and teach elementary or secondary school students to express themselves in literary genres. (U)(3). Fall and spring.

EN463, Shakespeare: Studies representative comedies, tragedies, and histories in both their historical and intellectual contexts and their adaptations to modern performance. Open to juniors and seniors. (U/G)(3). Occasionally.

EN466, Romanticism: Studies British poetry and prose of the late eighteenth through the mid-nineteenth century. Examines the aesthetic, historical, and intellectual issues of the Romantic Revolution. Particular themes will be published each semester in the schedule of classes (U/G)(3). Occasionally.

EN482, Studies in Poetry: Specific courses on important groups of poets, historical periods of poetry, or bodies of national poetry. Current offerings include modern American poetry, modern British poetry, and contemporary international poetry. Open to juniors and seniors. (U/G)(3). Occasionally.

EN493, Special Topics in Literature: Specific courses on topics of interest. Open to juniors and seniors. (U/G)(3). Occasionally.

EN495, Independent Study: (U/G)(1). Fall and spring.

EN496, Independent Study: (U/G)(2). Fall and spring.

EN499, Honors Thesis: Senior majors. (U)(3). Fall and spring.

EN501, Graduate Seminar Special Topic: (U/G)(3). Fall and spring.

EN710, Research Problems: (G)(3). Fall and spring.

EN711, Thesis: (G)(3). Fall and spring.

The **English M.A. Program** offers graduate students the opportunity to pursue one of two possible advanced paths of study. In the thesis track, M.A. students complete 24 semester hours of coursework and six semester hours of M.A. thesis work. In the non-thesis track, students complete 36 semester hours of coursework. Individuals who complete this degree should expect to acquire a rigorous grounding in the fundamentals of professional literary analysis, criticism, and research.

M.F.A. in Creative Writing

Butler's M.F.A. in Creative Writing is a 36-hour studio program designed for students seeking to enhance their creative and professional proficiency in the literary arts. The program features 10 three-credit courses and six hours of formal thesis work with an advisor. We offer workshops in poetry, fiction, nonfiction, electives in screenwriting, teaching creative writing, alternative forms, graphic novel, young adult fiction, poetic craft, and literary editing and publishing. Students can also take upper-level courses in English, or in other departments, as part of their education.

The program features access to a combination of top-flight, full-time faculty and prominent visiting faculty, including the Booth Tarkington Writer-in-Residence. Through

the Vivian S. Delbrook Visiting Writer's Series, students attend readings and small question-and-answer sessions with nationally and internationally recognized writers. The program also operates a literary magazine, Booth (www.booth.edu), which offers students a variety of editorial and teaching mentorship opportunities, and sponsors a rich variety of community programs through the new Efroymson Center for Creative Writing.

M.F.A. Courses

EN501, Graduate Seminar Special Topic: (U/G)(3). Fall and spring.

EN502, Graduate Prose Workshop: Graduate level creative writing workshop in one of the following prose forms: fiction (novel, short story, or mixed); creative nonfiction; children's/young adult; screenwriting; graphic novel; or open genre. Open to M.F.A. in Creative Writing students only (G)(3). Fall and spring.

EN503, Graduate Poetry Workshop: Graduate level creative writing workshop in poetry. M.F.A. in Creative Writing students only. (G)(3). Fall and spring.

EN504, Project Workshop: Required of all MFA students pre-thesis. Thesis preparation and long-form study in one or more of the following genres: fiction, creative nonfiction, poetry, screenwriting, young adult, digital forms, and/or other literary genres. (G)(3).

EN505, Literary Editing and Publishing: This course introduces students to the production of literary publications. Through lectures and discussions, we will examine everything from the evaluation of manuscripts to the marketing of a finished product. We will also survey the evolving field of literary magazines and related ethical concerns. (G)(3). Annually, term varies.

EN506, Reading for Writers: Required of all MFA students. Reading practice and pedagogy in one or more of the following genres: fiction, creative nonfiction, poetry, screenwriting, young adult, digital forms, or other literary genres. (G)(3).

Gender, Women, and Sexuality Studies

Administration

Ageeth Sluis, Ph.D., director

Assistant Professor

Brooke Beloso, Ph.D.

Gender, Women, and Sexuality Studies provides an interdisciplinary setting in which students can examine gender—the social meaning of the distinction between the sexes—and sexuality—sexual identities, discourses, and institutions—as they intersect with race, class, ethnicity, nationality, and transnational movements.

In required courses, students will analyze gender and sexuality from a variety of academic fields, and they will explore the theoretical and historical basis of such study. Upper-division electives are chosen from at least three disciplines, allowing students to pursue their inquiries in more depth without narrowing their focus to a single field. Internships provide students with the option to apply theoretical knowledge to work and/or community-based learning opportunities.

Gender, Women, and Sexuality Studies is an excellent complement to all majors at Butler University, regardless of whether the student plans to attend graduate school or seek employment immediately after graduation. For students interested in graduate school, Gender, Women, and Sexuality Studies provides a strong foundation in women's and gender studies, as well as for advanced work in any academic discipline that lends itself to gender critique. For students interested in entering the work force, Gender, Women, and Sexuality Studies students are well equipped to work in a diverse and multicultural world, an attribute today's employers are seeking in a variety of professions and occupations, including public administration, social services, business, the arts, law, medicine, social work, anthropology, journalism, media, and criminology.

Requirements for a major in Gender, Women and Sexuality Studies:

Required Courses

GWS102 Intersections of Identity: Gender, Race, Class, and Sexuality (3 hrs)

GWS202 Resistance for Social Change (3 hrs)

GWS304 Feminist and Queer Theory (3 hrs)

Transnational Requirement—Select two of the following (6 hrs)

GWS303 Special Topics: sexandthecity.org

AN320 Gender and Sexuality in

Globalization

AN322 Sex, Gender and Sexuality in Japan

AN380 Special Topics: Gender and Colonial: Past and Present
 EN393 Special Topics: Gender, Language and Globalization
 HST314 Hidden History of Sex: Gender and Sexuality in Latin America
 PO380 Special Topics: Politics of Gender and Sexuality in Africa
 RL377 Religion, Gender and the Goddess in Asia
 SP450 Slavery in the New World
 Fifteen credit hours of GWSS-approved electives with no more than six credit hours in any one discipline.

Requirements for a minor in Gender, Women and Sexuality Studies:

GWS102 Intersections of Identity: Gender, Race, Class, and Sexuality (3 hrs)
 GWS202 Resistance for Social Change (3 hrs)
 GWS304 Feminist and Queer Theory (3 hrs)
 Transnational Requirement—Select one of the following (3 hrs)
 GWS303 Special Topics: sexandthecity.org
 AN320 Gender and Sexuality in Globalization
 AN322 Sex, Gender and Sexuality in Japan
 AN380 Special Topics: Gender and Colonial: Past and Present
 EN393 Special Topics: Gender, Language and Globalization
 HST314 Hidden History of Sex, Gender, and Sexuality in Latin America
 PO380 Special Topics: Politics of Gender and Sexuality in Africa
 RL377 Religion, Gender and the Goddess in Asia
 SP450 Slavery in the New World
 Six credit hours of GWSS-approved electives.

Electives

A separate list of GWSS-approved electives will be published each semester, but examples of courses students have taken for GWSS credit in the past include the following:
 GWS300/PL348 Philosophy of Feminism
 GWS303 Special Topics: Love for Sale: Intimate Labor and the Commodification of Love
 GWS303 Special Topics: Ransom Notes and Radical Chic
 GWS303 Special Topics: sexandthecity.org
 GWS303 Special Topics: Written Out of Wedlock: Living in Sin, Dancing on the Altar

GWS303 Special Topics: Health Disparities
 AN320 Gender and Sexuality in Globalization
 AN322 Sex, Gender, and Sexuality in Japan
 AN380 Special Topics: Gender and Colonial: Past and Present
 ART315 Postmodernism in the Arts
 ART382 Special Topics: Gender in Art
 EN343 The American Renaissance and Its Others
 EN393 Special Topics: Fin-de-Siecle Literature
 EN393 Special Topics: Gender, Language and Globalization
 EN493 Special Topics: Sex, Suffrage, and Empire: Modernism and the New Woman
 HST338 The Era of Jim and Jane Crow
 HST341 U.S. Women's History
 JR418 Gender and Media: Global Views
 MRC354 Gender and Communication
 MRC420 Queering Film
 MRC465 Communication and Cultural Criticism
 MRC468 Women and Rock
 MRC470 Sports, Media, and Culture
 MRC482 Voices of Dissent and Social Change
 PO372 Role of Protest in US Politics
 PO380 Special Topics: Gender and Generation in War and Peace
 PO380 Special Topics: Politics of Gender and Sexuality in Africa
 PO386 Black Political Thought
 PS305 Psychology of Gender
 PS333 Human Sexuality
 RL377 Religion, Gender, and the Goddess in Asia
 SO317 Gender and Society
 SO380 Gender, Race, and Crime
 TI234-HST Reel American
 TI231-HST Mad Women in America

Core Courses offered by Gender, Women, and Sexuality Studies

SW 223-GWS, Resistance for Social Change:

Civil rights, social movements, resistance and liberation are the subjects of this course. We will examine the ways in which such minoritized populations as people of color, women, the LGBT-identified, and the poor have demanded rights and responsibilities. (U)(3). Fall and spring.

SW 232-GWS, Intersections of Identity: This course will explore the social construction of

difference and inequality with particular focus on gender, race, sexuality, and class. Students will interrogate dominant ideologies and develop an understanding of how systems of inequality impact everyone's daily lives. (U)(3). Fall and spring.

Gender, Women, and Sexuality Studies Courses

GWS100, Perspectives in Gender, Women, and Sexuality Studies: Designed to introduce students to the wide range of topics addressed in gender, women's, and sexuality studies. The course is largely made up of guest lectures given by faculty from a variety of disciplines across campus. Open to non-minors. Pass-fail credit. (U)(1).

GWS102, Intersections of Identity: This course will explore the social construction of difference and inequality with particular focus on gender, race, sexuality, and class. Students will interrogate dominant ideologies and develop an understanding of how systems of inequality impact everyone's daily lives. (U)(3).

GWS201, Introduction to Feminism: Provides a history of feminist movements and feminist theory, giving students a sense of how feminist thought has developed and how it has influenced our political and domestic lives as well as scholarly endeavors in academic disciplines ranging from literary studies to biology. Primarily for those interested in advanced work in women's studies and for first- and second-year students. Prerequisite: GS 200. Open to non-minors. (U)(3).

GWS202, Resistance for Social Change: This course will examine social justice movements both within and beyond the United States. Taking an interdisciplinary, intersectional approach, students will investigate how marginalized groups, such as people of color, gays, women, and workers, have demanded greater rights and responsibilities. (U)(3). Fall and spring.

GWS300, Philosophy of Feminism: Introduces students to the philosophical method of thinking out issues that confront women in contemporary American society and which challenge all of us. The course's primary focus is the study of feminist responses to issues such as gender socialization, reproductive rights, affirmative action, pornography, beauty, eco-feminism, alternative families, and others. (U)(3). Occasionally.

GWS301, Gender Studies: Theory and Methods: Theory and Method: Teaches the process of gender critique by applying that process to materials in the content area chosen by the instructor. This may range from literature, to music, to political theory. Students will engage in the inquiry about how gender critique affects the material to which it is applied. This or GS 201 is required for the minor. Prerequisite: GS 200. Open to non-minors. (U)(3).

GWS303, Topics in Gender Studies: Selected topics of significance in gender studies. (U)(3). Annually, term varies.

GWS304, Feminist and Queer Studies: This course investigates the central concepts of critical theory through the exploration of the overlapping terrains of women's and gender studies, feminist and queer theory. Prerequisites: GWS 102 and 202 or junior/senior status. (U)(3).

GWS398, Internship/Practicum in Gender Studies: Designed to give students the opportunity to apply theoretical knowledge to everyday experience through a volunteer position, internship, or employment in a setting where they can explore gender issues. The student will work in conjunction with a faculty member; the project must be approved by the gender studies director. Prerequisite: GS 100, GS 300, or 301, junior or senior standing and completion of six hours of electives. (U)(1). Annually, term varies.

GWS400, Internship/Practicum in Gender Studies: Designed to give students the opportunity to apply theoretical knowledge to everyday experience through a volunteer position, internship, or employment in a setting where they can explore gender issues. The student will work in conjunction with a faculty member; the project must be approved by the gender studies director. Prerequisite: GS 100, GS 300, or 301, junior or senior standing and completion of six hours of electives. (U)(3). Annually, term varies.

GWS401, Independent Study: Offers the qualified student of gender studies the opportunity to pursue a topic of individual interest. Open only to seniors, by permission of the instructor. (U)(1). Annually, term varies.

GWS402, Independent Study: Offers the qualified student of gender studies the opportunity to pursue a topic of individual interest. Open only to seniors, by permission of the instructor. (U)(2). Annually, term varies.

GWS403, Independent Study: Offers the qualified student of gender studies the opportunity to pursue a topic of individual interest. Open only to seniors, by permission of instructor. (U)(3). Annually, term varies.
GWS490, Internship. (U)(3).

History and Anthropology— Including Geography

Administration

Elise Edwards, Ph.D., department chair

Professors

Bruce Bigelow, Ph.D.; George Geib, Ph.D.;
Paul Hanson, Ph.D.

Associate Professors

John Cornell, Ph.D.; Vivian Deno, Ph.D.; Elise Edwards, Ph.D.; Scott Swanson, Ph.D.; Ageeth Sluis, Ph.D.

Assistant Professors

Sholeh Shahrokhi, Ph.D.; Zachary Scarlett, Ph.D.

The disciplines of history, anthropology, and geography share the same home because they address the same fundamental questions about life from different perspectives, the interplay among which enlarges our students' minds and lives. Butler is singular among American universities in knitting these three disciplines into a working organism. Prospective majors in both history and anthropology take together a freshman course, introducing them to each other and to the disciplines in their departments, thus offering all the advantages of self-standing disciplines and interdisciplinary work and becoming themselves a community. Members of the department offer expertise in wide-ranging areas of the world: United States, Latin America, East Asia, the Middle East, and Europe. Within these areas we offer courses on the fundamental conditions that shape human life past and present: citizenship, politics, peace and war, gender, race, class, sexuality, language, economics, religion, and thought. We do not process our students. The department offers a small student-faculty ratio, individual attention, and abundant opportunities for undergraduate research. Most of our students also study away

from Butler, either abroad or in Washington, D.C., offering them a taste of this increasingly global world we inhabit.

Why Study Anthropology?

Anthropology explores the human condition, appreciating humans as both biological and cultural creatures. The primary focus of our program is cultural anthropology, which studies the ways that humans create meaning, forge alliances, assert differences, reinforce, and create anew social and political hierarchies, and expose vectors of inequality. Students are trained to read critically and understand the complexities of ethnography—the research method and product that defines the discipline. They also have the opportunity to produce their own original ethnographic work in course research assignments as well as larger honors thesis projects, which may be the outgrowth of study abroad, field school, or internship experiences. The ability to analyze different cultures, figure out how they work, and step into them—applying the characteristic methods and theories of our discipline—readily prepares students for a variety of careers: health care, education, NGOs, and, increasingly, various forms of business. Anthropology majors are also well prepared for advanced study in anthropology and archeology, public health, social work, law, and business.

Why Study History?

History explores the human condition throughout the world from earliest time to the present moment. It investigates what actually happened in the world in order to comprehend why people think what they think and do what they do. There is no question or problem of human life foreign to history. One age-old purpose of history is to ready people as citizens to care for the common good and public life. Another, equally venerable, is moral: history trained people to consider carefully the possibilities of good life or better life together. Not so long ago historians focused most of their attention on the politics, wars, and thought of elites. In recent years, history has broadened its scope to encompass the lives of all people. History as a discipline characteristically teaches its students to read and analyze texts and artifacts of every sort. Its search for meaning requires of its students creative intelligence to develop from their

findings hypotheses and theories that seek an ever better, often changing, understanding of the patterns of human life. History is performed as a conversation since it takes many eyes, ears, and minds to fathom the complexities of life on this planet, so historians offer their own thoughts and listen carefully to the thoughts of others to refine both. It is uncommonly fun. Students of history take these skills and habits of thought in every imaginable direction, to graduate and professional study, often to teaching, law, government, civil service and business, frequently to vocations that care for people, and finally to building communities and raising children.

Why Study Geography?

Cultural geography brings together history, culture, and spatial patterning, and reinforces the message of both history and anthropology in a common department. Geography at Butler starts by studying Indianapolis, then moves outward to Indiana, the United States, and the world. These courses are generally valuable but particularly so to students preparing to teach social studies in secondary school.

Why Study Anthropology and History at Butler?

We offer just about the only curriculum in America that weds the depth of history and the breadth of anthropology. Like the blind sages and the elephant, we address basic aspects of life from different perspectives, and then talk about it with each other. Both programs work together to train students to read with acuity, attend carefully to detail, write clearly, listen carefully, say well what they have to say, think both imaginatively and analytically, and work fruitfully with other people. We ask students not just to listen to us, still less to mimic us, but to do the things we do: pose their own questions, seek answers to their questions in archival research or ethnographic investigation, develop their own ideas and opinions and address the ideas and opinions of other people throughout time and across the world, grapple with the fundamental moral questions which life poses for us. We seek to give students practice in thinking for themselves and good company in which to do so.

Our small class size and student-to-faculty ratio guarantee one-on-one attention, mentoring, and guidance to all majors and

minors. We know our students well. The anthropology and history programs at Butler do not seek to train students for any particular profession but seek instead to equip our students with the skills to become who they wish to be. Because students come to our programs with widely varying interests and goals, we offer them no uniform regimen of study or of practical experience. Each student, grounded in several fundamental courses of method and theory, builds a suitable course of study geared to their specific interests. The department offers more advanced students various opportunities for student research often culminating in honors theses.

We seek to deepen book learning with various kinds of hands-on experience, and our courses, when appropriate, regularly incorporate experiential components. Anthropology students helped Exodus International settle Burmese refugees in Indianapolis and turn what they shared into ethnographies for class. Students in a course on working class history shadowed the Butler grounds crew, cleaners, and cafeteria workers. The department also offers practical experience to test the waters for later life. During the past few years, students in the department have undertaken internships in circumstances as varied as the Indiana State House, the Indiana State Archives, the U.S. Attorney General's Office, the Center for American Progress, archeological fieldsites in Kenya, the Legal Aid Society of Indianapolis, the Kinsey Institute, a Tibetan refugee camp in India, Father and Families Inc. of Indianapolis, the Monroe County Historical Society, a women's domestic violence organization in Buenos Aires, Earth House in Indianapolis, and humanitarian organizations in Palestine.

The graduates of our programs quickly scatter in all directions. Many first give their energies to help other people through programs like Teach For America and the Peace Corps. Many seek graduate study, law school, and medical school; others enter government, the military or civil service, and still others enter various forms of business. We also number among our graduates a fireman, a missionary, a carpenter, and research chemists, each of whom is happy to explain how studying history and anthropology helped get them where they wished to go. Indianapolis offers much that we use in teaching and learning: Indiana's seat

of government and hard-hit neighborhoods, a Rembrandt self-portrait, Chinese scroll paintings and immigrant communities fresh off the boat, museums and archives, sports teams and political rallies, music, theater, homeless people, domestic violence shelters, ethnic and religious communities of every description. Our courses draw on them all.

Anthropology Program Student Learning Objectives

The anthropology program seeks to teach students to think for themselves independently and critically; appreciate human and cultural differences and master the basic tools necessary for understanding those differences; employ the ethnographic method; appreciate academic and civil discourse; and ready themselves for responsible citizenship. More specifically, we seek to teach students the characteristic methods of anthropology and the basic range of anthropological theories, to analyze evidence and develop arguments, conduct anthropological research alone and with other people, incorporate the views of other people into their projects, look at problems from a variety of perspectives, share their ideas and research in proper form.

History Program Student Learning Objectives

The history program seeks to teach students to think for themselves independently and critically; master the history of one part of the world; apply the past to understand the present; appreciate those who are different from themselves; appreciate academic and civil discourse; and ready themselves for responsible citizenship. More specifically, we seek to teach students the characteristic methods of history and the basic range of historical theories, to analyze evidence and develop arguments, conduct historical research, incorporate the views of other people into their projects, look at problems from a variety of perspectives, and share their ideas and research in proper form.

Degrees

- Major in anthropology
- Minor in anthropology
- Minor in geography
- Major in history
- Minor in history

- Master of arts in history
- Combined major in anthropology and psychology (see Combined Majors)
- Combined major in history and anthropology (see Combined Majors)
- Combined major in history and political science (see Combined Majors)

Anthropology Anthropology Requirements for the Major

All anthropology majors are required to complete:

- 36 credits
- AN101, AN102, and GE109
- 3 hours in a subfield of anthropology (200-400 level)
- 3 hours of methodology (AN350, 354, 356, or course approved by advisor)
- 3 hours of theory (AN390)
- 12 hours of elective courses, at least 3 hours in area courses, and 3 hours in topics courses
- 3 hours capstone: AN460 or other advisor approved course or Honors Thesis
- 3 hours internship, field school or advisor-approved elective

All students are also encouraged to participate in recommended anthropological field schools during their program at Butler.

Anthropology Requirements for the Minor

The minor in anthropology consists of 18 hours coursework, with at least 12 hours at the upper-division level, AN102, and AN101, GE102, or “subfield” course.

Core Courses offered by Anthropology

SW210-AN, Sex, Gender and Sexuality

in Japan: This course explores the socio-historical constructions of sex, gender, and sexuality in modern Japan from the Meiji Restoration (1868) to the present. Students will study the roles of various agents, including the state, medical science, and the media, in the production of sexual knowledge and the shaping of gendered practices. (U)(3).

SW215-AN, Being Human:

Anthro Approaches to Life and Meaning: Cultural anthropology is a discipline focused on how

humans create meaning, forge alliances, and assert differences. This course allows students to explore conceptual, theoretical, methodological, and ethical issues central to the anthropological study of what it means to be human and make meaning in the world. (U)(3). Fall and spring. SW262-AN, Sport, Empire and Identity: (U)(3). Occasionally.

Anthropology Courses

AN101, First Year Seminar: This course will introduce students to basic theories and methods in the disciplines of anthropology and history through the exploration of past and present cultural encounters and exchanges, and the diverse responses they engendered. Topics will range across time and space and focus on exploration, trade, colonialism, imperialism, and current cross-cultural interactions. (U)(3). Fall.

AN204, Cultures Through Film: An introduction to cultures of the world through film, supplemented by related ethnographic texts. Students consider the role of the film in representation and cross-cultural understanding. (U)(3). Occasionally.

AN300, Religion and Ritual: The cross-cultural study of such phenomena as witchcraft and magic; spirit possession; revitalization and millenarianism; and Christianity and Islam, primarily in contemporary, non-Western societies. Theoretical and historical overview of anthropological approaches are addressed. (U/G)(3). Occasionally.

AN302, The Body and Society: This course explores symbolism, ideologies, and treatments of the body cross-culturally. Topics considered include imageries of the human body, ideas about bodily aesthetics and bodily health, physical treatments of the body, the relationship of body ideologies and identify, and the body and power dynamics. (U/G)(3). Occasionally.

AN304, Medical Anthropology: An introduction to the field of medical anthropology, which explores the links between culture, society, disease, and illness. Topics include discussion of biomedical, epidemiological, and other models of disease; knowledge and practice of healers cross-culturally; the relationship between religion and healing; and occupational health issues. (U/G)(3). Occasionally.

AN311, Anthropology of Difference: This course is about exclusions and inclusions. All around us, there are walls and fences erected to keep people out and hold 'others' in. Some partitions are concrete—harsh and visible; the rest remain fluid and negotiable. This is a course on power and the social life of contemporary humans. (U)(3). Occasionally.

AN312, Political Anthropology: Utilizes the comparative perspective to study authority, organization, and power. Topics include the ways in which authority is acquired and accepted as legitimate, issues of comparative political systems, local level politics, the connections between local and wider political systems, and the cultural and symbolic aspects of power and legitimacy. Subject matter includes political communities in various cultural contexts. (U/G)(3). Occasionally.

AN320, Gender and Sexuality in Globalization: This course examines how gender is culturally constructed; the relationships between power, sexuality, and social roles; and the key theoretical debates on gender in anthropology. (U/G)(3). Occasionally.

AN326, Youth Conflict Global Cinema: Will explore teenage life across different cultural boundaries and social realities that inform global inter-connections of our time. Examines the cinematic image of youth in the U.S./world by exploring everyday life practices and problems that shape the desires of youth. (U)(3). Occasionally.

AN328, Popular Culture: This course examines the role and function of popular culture in different social and cultural settings throughout the world. Students will compare the impact of popular culture in different regions, examining the cultural importance of such media as film, television, sporting events, music, and the Internet. (U/G)(3). Occasionally.

AN329, Japanese Popular Culture: This course will examine Japanese popular culture, including comics (manga), fashion magazines, feature films, anime, music, sports, and even children's games, to understand the social pervasiveness and cultural force of the mediums. While focusing on Japan, the course will introduce students to critical theoretical

perspectives about popular culture that can be applied more broadly. (U/G)(3). Occasionally.

AN335, The Global Society: This course is an exploration of globalization and the social and cultural processes that are transforming local life throughout the world. The course introduces students to the impact of global capitalism, transnational culture and political flows, and the role of global non-government organizations in different regions. (U/G)(3). Occasionally.

AN338, Language and Culture: The course will consider the topic of human language and its use in society. Current linguistic and socio-linguistic assumptions, language differences and similarities, and the influence of cultural factors will be discussed. (U/G)(3). Occasionally.

AN340, Ethnographic Arts: This course examines the cultural and social significance of art in non-Western contexts, paying particular attention to expressive forms found in Africa, the Americas, and the Pacific. Relevant media include sculpture and masking, architecture, body ornamentation, dance and music. (U/G)(3). Occasionally.

AN342, Science, Technology and Society: This course explores the cultural aspects of scientific knowledge and its effects, as well as the socio-cultural consequences of scientific and technological innovation. Students will examine issues including the power of scientific “truth” claims, the social dynamics of laboratory settings, and science’s effect on what it means to be human. (U/G)(3). Occasionally.

AN346, The Anthropology of Sport: This course will look at sport as a topic of anthropological study. We will explore (1). the cultural and political values produced and reaffirmed through sports training and competition, (2). the ritualistic and symbolic aspects of sporting events and spectacles, (3) the messages transmitted through media-produced images of sport. (U/G)(3). Occasionally.

AN350, Anthropological Methods: An introduction to the research process in cultural anthropology, with an emphasis on qualitative methods. Students also are prepared to conduct research, including fieldwork, to evaluate and present research, and to critically evaluate the research of others. (U/G)(3). Occasionally.

AN352, Ethnography: Ethnography is most generally a qualitative research approach focused on providing detailed, in-depth description. We will approach ethnography from two angles in this course: (1). as a topic of intellectual analysis and critique, and (2). as a methodology that we will employ in a research project at a specific field site. (U/G)(3). Occasionally.

AN354, The American City: A methodological introduction to American urban studies from the perspectives of geography and anthropology; geographical and cultural change of the structure of the American city in the nineteenth and twentieth centuries with emphasis upon Indianapolis and the Butler-Tarkington neighborhood. Fieldwork and service learning are highlighted. (U/G)(3). Occasionally.

AN360, Peoples and Cultures of Africa: A study of the rich and diverse cultural traditions of Africa. Topics include: the analysis of stereotypes associated with African cultures; effects of colonialism on contemporary life; religion and cosmology; ecological adaptation; kinship and social organization; the expressive arts; and ethnicity. (U/G)(3). Occasionally.

AN362, Peoples and Cultures of Latin America: A survey of the peoples, societies, and cultures of Latin America, giving attention to demographic features, social differentiation, and stratification and the major social institutions. (U/G)(3). Occasionally.

AN364, Native American Cultures: A survey course on the original, indigenous peoples of the Americas. The course will explore stereotypes of Native Americans; the effects of conquest and colonialism; and the resiliency of their traditions in contemporary settings. (U/G)(3). Occasionally.

AN366, East Asia Through Ethnography: An introduction to selected topics in the society and cultures of East Asia (China, Japan, and Korea), Southeast Asia (Indonesia, Malaysia, Thailand, and the Philippines), and South Asia (the Indian sub-continent). Topics include post-colonialism, transnational processes, family and kinship, world and local religious traditions and ritual practices, economic development, and gender issues. (U/G)(3). Occasionally.

AN368, Coming of Age in the Middle East: This Peoples and Cultures course explores life in an enigmatic geopolitical region called the Middle East. Issues of religiosity, Islam, gender, sexuality, urbanization of life, revolution, war, and global politics are considered in the context of local diversity and global political economy. (U/G)(3). Occasionally.

AN370, Peoples and Cultures of Europe: A survey of the peoples, societies, and cultures of Western and Eastern Europe. In light of globalization and movements unifying Europe such as the European Union, the course will pay special attention to demographic features, cultural practices, and major social institutions. (U/G)(3). Occasionally.

AN380, Selected Topics in Anthropology: An in-depth analysis of the theory, methodology, and subject matter in an area not provided for in the current offerings of the department. (U/G)(3). Occasionally.

AN390, Development of Anthropological Thought: This course inquires into the emergence and development of anthropological thought, theories, methods, and generalizations in the context of western social and cultural milieu. The particular emphasis is on the changing shape of the academic discipline of anthropology, from the late nineteenth century to the present. Pre-requisite: AN102 and junior standing. (U/G)(3). Occasionally.

AN460, Culture and History: This course explores anthropologists' use of historical methods and historians' employment of cultural analysis. Students will examine the history of the rapprochement between the disciplines, the fields' most influential interlocutors, significant debates, and some of the scholarly work emerging from this disciplinary pairing. (U/G)(3). Occasionally.

AN481, Independent Study: An opportunity for qualified students to pursue a topic of individual interest. With permission of the director. (U/G)(1). Occasionally.

AN482, Independent Study: An opportunity for qualified students to pursue a topic of individual interest. With permission of the director. (U/G)(2). Occasionally.

AN483, Independent Study: An opportunity for qualified students to pursue a topic of individual interest. With permission of the director. (U/G)(3). Occasionally.

AN484, Internship: A program offering the superior student the opportunity to participate in a closely supervised work experience in a setting pertinent to the major area of study. Majors are strongly encouraged to engage in the internship experience. Prerequisites: AN102 and permission of the director. (U)(3). Occasionally.

AN485, Internship: A program offering the superior student the opportunity to participate in a closely supervised work experience in a setting pertinent to the major area of study. Majors are strongly encouraged to engage in the internship experience. Prerequisites: AN102 and permission of the director. (U)(6). Occasionally.

AN486, Seminar in Anthropology: Intensive reading with problems for investigation in some special field. Pre-requisites: AN102 and permission of the director. (U)(3). Occasionally.

AN499, Honors Thesis: (U)(3). Occasionally.

Geography Geography Requirements for the Minor

A minor in geography consists of 18 hours of coursework, with at least 12 hours at the upper-division level.

Geography Courses

GE109, Cultural Geography: A survey of 11 cultural regions of the world. Course includes study of the ecological base, history, economy, politics, and ethnic relations. Emphasis is on conflict between Western and non-Western societies since 1500. (U)(3). Annually, term varies.

GE305, Topics in Geography: Regional and thematic study of contemporary issues in geography not treated in traditional courses. (U/G)(3). Occasionally.

GE310, Historical Geography of United States: The creation and persistence of regional variations of culture in the United States from the colonial era to the present. (U/G)(3). Occasionally.

GE400, Independent Study: (U)(1). Occasionally.

GE401, Independent Study: (U)(2). Occasionally.

GE402, Independent Study: (U)(3).
Occasionally.

History

History Requirements for the Major

All history majors are required to complete

- 30 hours in history, at least 21 of which must be taken at the upper-division level (courses numbered 300 or above). Geography courses automatically count toward the history major. Specific anthropology and other University courses may be applied to the history major when approved by the department chair;
- 6 hours of lower-division courses (HST111, 205, 211, 212, 214), one of which must be U.S. history and one of which must be non-U.S. history;
- At least one course numbered 300-402 from three of the following five areas: 1) U.S.; 2) Latin America; 3) Europe; 4) Asia; 5) Africa and the Middle East;
- HST301, Historiography, typically offered once a year in the fall semester; and
- HST480, Seminar in History.

As a liberal arts major with relatively few program requirements, history works well for many students as a secondary major or minor.

History Requirements for the Minor

A minor in history consists of 18 hours of coursework, with at least 12 hours at the upper-division level.

History Requirements for the Master of Arts

The department offers a master of arts in history. Graduate students may select either a 30-hour program of courses with a master's thesis or a 36-hour program of courses without a thesis. Those in the 36-hour track must complete at least two HST480 seminars.

Core Courses offered by History

SW264-HST, Japan's Past and Present:

Understanding Japan on the Ground: An introduction to central anthropological concepts "on the ground" in Japan for two weeks. The course will develop students' appreciation of Japanese cultural forms and practices and products of and responses to historical circumstances and exigencies, and the ways they become transfigured as they

shed and accrue meanings over time. (U)(3).
Occasionally.

SW265-HST, The Mexican Revolution:

As the first social revolution in world history, the Mexican Revolution (1910-1920) toppled a repressive dictatorship and rang in a new era of state formation, nationalism, and modernization. Victorious new leaders sought to alter not only the political structures of the country, but also "revolutionize" Mexican society through a series of far-reaching reforms to "mold the hearts and minds" of New Men and New Women. "The Mexican Revolution and the Archeology of Knowledge" will provide students with the opportunity to study the class, race, and gender politics of the Mexican Revolution as they were shaped through the disciplines of anthropology and history. In analyzing the cultural project of the revolution, especially indigenismo, or indigenism, "the valorization of Mexico's indigenous past and study of indigenous cultures," students will examine the relationship between social science and nation building, historiography and national identity, and knowledge and power. By tracing "IMagined" Mexican cultures through the lenses of archeology, ethnography and history, students will assess the political objectives and consequences of the cultural phase of the revolution. (U)(3). Occasionally.

TI 231-HST, Mad Women in America:

Mother. Daughter. Wife. For generations those titles were assumed to contain the hopes and dreams of all women, and any woman who denied this was 'mad'—angry or crazy. In this course, we will examine the lives and experiences of actual and fictional women designated as 'mad' and consider how they have been represented in the arts and in history texts. We will start with readings of cross-cultural examples of mad women Lilith, Medea, and La Llorna, and then narrow our focus to consider such women in U.S. history and culture. Course sources include music, film, art, poetry, and traditional history accounts. (U)(3). Occasionally.

TI234-HST, Reel America: Film and the American Experience: 1890-1965

Famed film director Sydney Pollack said of film, "It's the 20th century's real art form." This has been particularly true in the U.S. where film has been an important means of transmitting definitions about American values

and identity. This course examines the role of film in depicting the American experience in the 20th century and does so with a particular emphasis upon the interpretation of film within a community of other texts drawn from the period. (U)(3). Occasionally.

TI 235-HST, American Visions: American Visions? American Dreams? American Nightmares? What does it mean to be an American? Are their connective cultural/historical threads across time that help to form a national identity? These and other questions are at the heart of a raucous, multifaceted exploration of American history, identity, and culture. (U)(3). Fall and spring.

History Courses

HST101, First Year Seminar: This course will introduce students to basic theories and methods in the disciplines of anthropology and history through the exploration of past and present cultural encounters and exchanges and the diverse responses they engendered. Topics will range across time and space and focus on exploration, trade, colonialism, imperialism, and current cross-cultural interactions. (U)(3). Fall.

HST111, Introductory Seminar: Exploration of selected topics in history. (U)(3). Occasionally.

HST205, Questions in History: Course examines questions in history with a focus on issues of social, political, scientific, and/ or economic concern. Topics vary by instructor. May be repeated once for credit toward the major. (U)(3). Annually, term varies.

HST211, Major Themes in European History: This course will survey formative periods in European societies from the late Middle Ages to the present. Emphasis throughout will be on the development of capitalist/industrialist economies, state-building and nationalism, and major transformations in European thought. (U)(3). Occasionally.

HST212, American Visions: America's past from the perspective of important, representative individuals and groups, showing changing perceptions of the American experience. Developments in thought from Puritan times to the present. (U)(3). Fall and spring.

HST214, Major Themes in Asian History: A survey of major themes in South, Southeast, and East Asian history from ancient times to the present, with a focus on the modern period. It examines such processes as the formation of classical civilizations, rise and fall of empires, cultural encounters, transformations of societies, and such themes as imperialism, nationalism, and Communism. (U)(3). Occasionally.

HST215, Themes in World History: This course emphasizes the increasing connectivity of regional cultures, especially from the rise of the Silk Road civilizations 2000 years ago to the present. Specific topics include the diffusion of cultural innovations, immigration, long-distanced trade, the spread of diseases, and empire-building. (U)(3).

HST301, Historical Method and Historiography: Course examines important methods and approaches to the study of the past and prepares students to undertake significant research projects. Prerequisite: Junior standing. Non-departmental students only by permission of the department. (U/G)(3). Fall.

HST305, Topics in History: Selected topics of significance in contemporary historical scholarship. Freshmen admitted only by permission of the department. (U/G)(3). Fall and spring.

HST306, Topics in the History of Science: This class will explore the many connections between periods of geographical expansion and the expansion of scientific knowledge. While beginning with earlier examples of empire, the readings will mainly focus on the Age of Exploration and the Scientific Revolution, and 19th century imperialism and a second "revolution" in science. Topics will include the use of technology in empire building, the impact of cross-cultural contact on the expansion of knowledge, and the connections between applications of science and imperial politics. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST308, The Greek World: Freshmen admitted only by permission of the department. (U)(0). Occasionally.

HST309, History of Rome: Freshmen admitted only by permission of the department. (U)(3). Occasionally.

HST310, Sex, Gender, Love, Friendship in the Classical World: Examines classical Mediterranean culture from the inside out. Course focuses upon dimensions of private life and interplay between private and public worlds. Discussion/seminar format. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST311, Europe in the Middle Ages: A study of western European history from the decline of the Roman empire until the beginning of the modern period. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST312, Medieval England: History of Great Britain from Alfred of Wessex to the accession of the Tudors in 1485. Social, political, and constitutional development of England, and comparable developments in Scotland and Ireland. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST314, Sex, Gender, Love, and Friendship in Medieval World: A continuation of HS326. Focuses upon dimensions of private life and interplay between private and public worlds in European society during the middle ages. Discussion/seminar format. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST315, Europe in the Renaissance 1300-1600: A study of politics, society, and culture in Renaissance Europe. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST316, Early Modern England: England in the Tudor/ Stuart Era. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST317, Early Modern Europe: A general history of the major changes in Europe from 1500 to 1715. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST318, Individual and Society in Europe 1600-1850: Society and culture in modern Europe, focusing on the experience of common people in an era of rapid economic and political change. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST319, French Revolution and Napoleon: An intensive study of the political, social, and cultural currents in France during the revolutionary era. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST320, Enlightenment and Romanticism: Explores the history of two seminal social/intellectual movements of the modern era. Major figures include Voltaire, Rousseau, Mozart, Byron, Goethe, Beethoven, and J.S. Mill. Discussion/seminar format. Freshmen admitted only by permission of the department. (U,G) Occasionally.

HST321, 19th Century Europe: A study of European history from 1815 to 1914. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST322, 20th Century Europe: An examination of European politics and society from 1900 to the present. Topics include the outbreak of the Great War, the Russian Revolution, Nazism and Fascism, World War II, the Holocaust, the reconstruction of Europe, the Cold War, European integration, and Europe today. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST323, Modern France: Examines themes in the political, social, and cultural history of France from the defeat of Napoleon in 1815 to the presidency of Francois Mitterand. Freshmen admitted only by permission of the department. (U/G) Occasionally.

HST324, Modern Germany: A survey of German culture, society, and the state from the Napoleonic Era to the founding of the post-war Germanies. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST325, Contemporary Germany: Division and Reunification—Examines German politics, culture, and society from the end of World War II to the present. Topics include denazification, the Cold War, the Berlin Wall, socialism and capitalism in the two Germanies, protest movements, and reunification. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST326, Modern to Postmodern: Explores major developments in modern thought and culture from the mid-19th century to

the present. Topics include the social and intellectual history of Liberalism, Marxism, Darwinism, Modernism in art and music, Existentialism, Post-Modernism and more. Discussion/seminar format. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST331, Colonial America: The first British empire in comparative global perspective. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST332, The American Revolution: An intensive study of the revolt from Great Britain, 1754-1789. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST333, The Early American Republic: The United States between 1789 and 1850. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST334, The Age of Jackson: The United States between 1815 and 1850; the transportation revolution, Romanticism, the second party system, and the rise of nationalism. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST335, The Civil War: A study of the causes, conduct, and consequences of the American Civil War. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST337, Emergence of Modern U.S.: The United States from the end of the Civil War to the start of the Great Depression. Examines the new urban industrial culture; shifting patterns of race, class, and gender relations; the relationship between science, technology, and government; and emerging tensions between religion and U.S. culture. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST338, The Era of Jim and Jane Crow: Explores the racial and gender logic of state sanctioned segregation, Jim and Jane Crow, and the struggle that eventually overthrew the system. Multifocal in approach, the class examines Crow from both a raced and gendered perspective and draws on the diverse ethnic and racial history of the nation. Freshmen admitted only by permission of the department. (U)(3). Occasionally.

HST339, Recent U.S. History: The U.S. from the Great Depression to the present, with an emphasis on contemporary cultural, social, and political issues. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST341, US Women's History: This course examines the history of U.S. women through an exploration of the political, social, and cultural contribution of women to the nation. The course focuses on the experiences of U.S. women from a variety of vantage points: as workers, reformers, political activists, artists, and more. At the discretion of the instructor, the course either covers from the colonial period to the present, or from 1848 to the present. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST342, Topics in Women's History: Topics in Women's History vary by semester and by instructor. Each class will take as its central focus the experience of women, either in particular geographic locales, historical time periods, or thematic concentrations. Class may be repeated for credit with a different topic. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST343, Race and Ethnicity in the U.S.: Examines the histories of race and ethnicity in the U.S. and the ways in which racial and ethnic identities have been deployed as tools of marginalization, assimilation, and group identity. Class explores race and ethnicity as legal, medical, historical, and gendered concepts and lived experiences. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST345, History of the American Midwest: Emergence of the Midwest from the old Northwest Territory of the Early American Republic through the Civil War and the twentieth century; emphasis on the development of a distinctive regional culture and interaction of various religious, ethnic, and racial groups. (U)(3). Occasionally.

HST349, U.S. History through Film: Course examines filmic representations of U.S. History. The class focuses on the ideological content of films over their technique. Students are expected to have a familiarity with U.S. history. Topics to vary by instructor and may be

repeated once for credit toward the major and/or minor. Lecture/discussion/viewing format. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST350, History of Children and Youth:

This course examines the experience of children in history. Topics include changing conceptions of childhood, social/historical settings, parenting practices, gender roles, schooling, and the emergence of youth culture. Readings feature the history of children in America. Writing includes student autobiography and projects on contemporary children/youth. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST351, American Constitutional History:

A study of the origins and development of Constitutional concepts which have served as the basis for the growth of the federal government. Recent trends are emphasized. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST353, U.S. Diplomacy in the 20th

Century: Examines the formation of fundamental principles and issues of U.S. diplomacy in the 20th Century, beginning with the Spanish-American War of 1898, and the evolution and consequences of those principles and issues to the present day. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST366, Gender, Sex, and Sexuality in

Latin America: This course covers the history of gender and sexuality in Latin America from the start of colonialism until the recent times. Through the analysis of changing ideas of both femininity and masculinity, students will learn about the politics of gender in Latin America and how gender influences historical production. Freshmen admitted only by permission of the department. Occasionally.

HST371, Modern China: Political and social history of China since the Opium War (1839) with emphasis on the revolutionary upheavals of the 20th century. Freshmen admitted only by permission of the department. (U/G) Occasionally.

HST372, Peoples and Cultures of China:

This seminar course explores the multi-ethnic nature of the Chinese state from ancient time to the present. It covers such topics as

the relations between China proper and the grassland, Sinification, conquest dynasties, state policies toward minority groups, forms of ethnic identity, and ethnic nationalism. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST373, China and the World: This seminar course focuses on China's changing position in the world, China's changing relations with the world, and China's changing perceptions of the world from ancient times to the present. It examines China's contact with the major regions of the world in different historical periods and the impact of such contacts on both China and the world. Freshmen admitted only by permission of the department. (U/G) (3). Occasionally.

HST379, Asian Revolutions in Fiction and

Film: This course will explore the literary and visual representations of the Communist and nationalist revolutions in the villages of China, Vietnam, Korea, Japan, India, and/ or other Asian nations, with the purpose of examining Asian values and ideas and understanding Asian peoples, cultures, societies, and histories through literature and film. Freshmen admitted only by permission of the department. (U/G) (3). Occasionally.

HST390, American Military History:

The American military from the colonial era to the present; institutional development and the role of the armed forces in shaping and implementing public policy. Freshmen admitted only by permission of the department. (U/G) Occasionally.

HST401, Seminar in History: A particular phase or period of history will be studied each semester. Freshmen admitted only by permission of the department. (U/G)(3). Occasionally.

HST411, Independent Study: Offers the qualified student of history the opportunity to pursue a topic of individual interest. Open only to juniors, seniors, and graduate students by permission of the instructor. (U/G)(1). Occasionally.

HST412, Independent Study: Offers the qualified student of history the opportunity to pursue a topic of individual interest. Open only to juniors, seniors, and graduate students by permission of the instructor. (U/G)(2). Occasionally.

HST413, Independent Study: Offers the qualified student of history the opportunity to pursue a topic of individual interest. Open only to juniors, seniors, and graduate students by permission of the instructor. (U/G)(3). Occasionally.

HST421, Internship: Offers the qualified student the opportunity for supervised work experience in a setting pertinent to the major area of study. Permission of the department chair. (U)(3). Occasionally.

HST422, Internship: Offers the qualified student the opportunity for supervised work experience in a setting pertinent to the major area of study. Permission of the department chair. (U)(6) Occasionally.

HST499, Honors Thesis: (U)(3). Occasionally.

HST518, Summer Workshop for Advanced Placement History Teachers: This course is open to new and experienced AP History teachers. Participants will discuss the themes, habits of mind, and periodization of the Advanced Placement History course, integrating content with AP History best practices. We will also review and score past AP History exams. (G)(3). Summer.

HST701, Research: For graduate students researching a master's thesis. By permission of instructor. (G)(3). Fall, spring, and summer.

HST711, Thesis: For graduate students writing a master's thesis. By permission of instructor. (G)(3).

Individualized Major Program Administration

Stuart Glennan, Ph.D., chairperson of the LAS Individualized Majors Program Committee

Individualized majors meet the needs of students whose primary academic interests cut across traditional academic disciplines. This program allows students who have shown interest in cross-disciplinary work to design their own majors. The purpose of the individualized major program (IMP) option is to provide an option to study a cross-disciplinary topic in depth, not to constitute a general studies option or to replace a double major. The IMP may appeal to non-traditional and returning students as well as to students

who have completed an associate degree and wish to complete a B.A. degree with a different focus than their associate degree. Recent IMP students have graduated in Chinese language and culture, ancient Egyptian language and culture (Egyptology), music business, and medical illustration.

Requirements

The IMP consists of at least 36 hours of course work, which must form a coherent whole. This may include work taken at other colleges including work taken through the Consortium for Urban Education (CUE) interchange in Indianapolis. All normal core and LAS college requirements must be met. In LAS, the same course cannot be counted toward two different majors. The proposed program should include an experience beyond the normal classroom-based course such as an internship, a semester of study abroad, an honors or departmental thesis, a senior seminar in a relevant department, or a service-learning project in the junior or senior year. Because each IMP is unique, there is no fixed list or sequence of courses for the major.

Admission to the IMP

A student should submit to the IMP committee through its chairperson a proposal for an IMP anytime between the beginning of the sophomore year and the end of the fall semester of the junior year. In general, this application will include a general statement which describes the nature of the proposed IMP, how this IMP relates to the student's goals, and why these goals can better be pursued as an IMP rather than within a traditional major or double major. The proposal also should demonstrate the coherence and integrity of the proposed IMP, show that course resources are available to support the IMP (including courses to be taken outside of Butler), and provide evidence that the student has the motivation and initiative to carry out the IMP. The student should also recruit an advisor for the IMP and provide a detailed list of courses, which will constitute the major (subject to revision each year due to changes in available courses relevant to the IMP). The IMP committee will evaluate the proposal and decide whether to approve it. More information and the application form to be used in submitting a proposal can be found by going to the Academics page of the Butler website and

selecting the Individualized Majors Program (IMP) from the drop-down list of programs and majors.

Individualized Major Courses

IM401, Independent Study: Offers the qualified student in the Individualized Majors Program the opportunity to pursue a topic of individual interest which is related to the Individualized Major Program. Open only to students in the Individualized Majors Program with permission of the instructor and approval by the Individualized Majors Committee. (U) (1). Fall, spring, and summer.

IM402, Independent Study: Offers the qualified student in the Individualized Majors Program the opportunity to pursue a topic of individual interest which is related to the Individualized Major Program. Open only to students in the Individualized Majors Program with permission of the instructor and approval by the Individualized Majors Committee. (U) (2). Fall, spring, and summer.

IM403, Independent Study: Offers the qualified student in the Individualized Majors Program the opportunity to pursue a topic of individual interest which is related to the Individualized Major Program. Open only to students in the Individualized Majors Program with permission of the instructor and approval by the Individualized Majors Committee. (U) (3). Fall, spring, and summer.

IM405, Internship: Offers the qualified student the opportunity for supervised work experience in a setting pertinent to the area of study of their individualized major. Requires junior or senior standing and approval by the student's individualized major advisor and by the individualized majors committee. (U)(3). Fall, spring, and summer.

IM406, Internship: Offers the qualified student the opportunity for supervised work experience in a setting pertinent to the area of study of their individualized major. Requires junior or senior standing and approval by the student's individualized major advisor and by the Individualized Majors Committee. (U)(6) Fall, spring, and summer.

IM499, Honors Thesis: (U)(3).

International Studies

Administration

Eloise Sureau-Hale, Ph.D., director

The major cuts across traditional barriers between intellectual disciplines and draws on the resources of the Departments of English, History, Geography and Anthropology, Modern Foreign Languages, Philosophy and Religion, Political Science, and Sociology in the College of Liberal Arts and Sciences; the Departments of Economics, Finances and Management in the College of Business; and the College of Communication. Faculties most directly affiliated with the program are:

Professors

Kwado Anowka, Ph.D., journalism, international communication, Africa; Robert B. Bennett, Jr., J.D., business in the European Union; Bruce Bigelow, Ph.D., geography, globalization; Terri Carney, Ph.D., Spain; Roberto Curci, Ph.D. international finance, Latin America; Peter Grossman, Ph.D., international economics, comparative economic systems; Paul Hanson, Ph.D., history, France and China; Antonio V. Menéndez-Alarcón, Ph.D., sociology, Europe and Latin America; Gregory Osland, Ph.D., international marketing, Latin America; Katherine B. Novak, sociology, research methods; William Rieber, Ph.D., international economics; Paul Valliere, Ph.D., religion, Eastern Europe; Harry Van der Linden, Ph.D., philosophy, international ethics and justice; Linda Willem, Ph.D., Spanish, Spain

Associate Professors

Craig Auchter, Ph.D., political science, Latin America; John Cornell, history, contemporary Europe; Bauman Chad, religion, India and Asia; Elise Edwards, anthropology, Japan; Margaretha Geertsema Sligh, communication, international communication; Siobhán McEvoy-Levy, Ph.D., political science, Europe, Middle-East; Gabriela Muñiz, Spanish, Latin America; Margaret Padgett, Ph.D., international organizational behavior; Ageeth Sluis, Ph.D, history, Latin America; Eloise Sureau-Hale, French, France and Francophone World; Sylvie Vanbaelen, French, Francophone World

Assistant Professors

Krista Cline, Ph.D., sociology, international crime, research methods; Irune Gabiola, Ph.D., Spanish, Latin America, and the Caribbean; Mike Koehler, J.D., legal aspects

of international business; Su-Mei Ooi, Ph.D., political science, international relations, Asia; Robin Turner, Ph.D., political science, foreign policy, Africa, Sholeh Shahrokhi, Ph.D., anthropology, Middle East and Iran

Visiting Assistant Professor

Robert Oprisko, Ph.D., political science, Eastern Europe

Why study International Studies

The international studies major is an interdisciplinary program designed to give students an awareness of the diversity, complexity, and interdependence of the world community, and to provide them with the necessary background to understand and analyze the political, economic, social, and cultural aspects of current world problems and issues. The international studies major offers students the cultural competency necessary to be successful in an increasingly complex and global job market. It prepares students for careers in government, international organizations, journalism, international consulting, business, education, community development, and human rights work with nongovernment organizations. It also provides a foundation for graduate work in such disciplines and programs of study as law, international studies, international relations, area studies, social sciences (anthropology, history, political science, sociology, etc.), comparative literature, religious studies, public policy, and public administration.

Why study International Studies at Butler?

The curriculum of the international studies program at Butler is flexible; it can be adapted to meet the student's individual interests and career plan. The following outlines some of the key characteristics and advantages of studying international studies at Butler University.

- A student-oriented program.
- A large number of full-time faculty from various departments and areas of studies, rendering the curriculum truly comprehensive and global, and offering the students a great variety of perspectives.
- A curriculum that prepares students to be able to work and be successful in an increasingly multicultural environment.
- A curriculum that prepares students for interdisciplinary research.

- A well-structured curriculum that gives students the fundamental knowledge in the field, while allowing students to concentrate in regional foci and subfields of their interest.
- Washington, D.C. internship: Students can intern in many government agencies, in the Congress, nongovernmental organizations, foreign embassies, international organizations such as the OAE, IMF, etc, and think-tanks.
- International internships, where students can acquire hands-on knowledge of many countries around the world.
- A comprehensive study abroad program with opportunities for study in nearly every country of the world.
- Concrete experiences in diplomacy by participating at the Harvard National United Nations Model or McGill University United Nations Model in Montreal (cost of travel and lodging to participate is covered by the program).
- Participation at the Midwest European Union Model.
- Financial support for students conducting thesis research.
- Financial support for travel for students presenting papers at conferences.
- An active student-run International Studies Club

International Studies Student Learning Objectives

This program provides students with the opportunities to acquire, develop, and demonstrate knowledge and understanding on a range of skills and abilities in relation to the international system and the process of globalization. When completing this degree, students will be able to:

- Demonstrate knowledge of the major dimensions of globalization such as economic, political, and cultural globalization.
- Describe the major functions of international organizations, such as the United Nations, the World Bank, the International Monetary Fund, and the World Trade Organization.
- Draw connections between social issues in their local community and the larger national and global context for such issues.

- Describe and assess the main aspects of international relations, including the main aspects of U.S. foreign policy, colonialism, and nationalism.
- Demonstrate knowledge of appropriate social scientific methods to compile and interpret data in assigned research projects or papers.
- Understand the complexity of the contemporary world and demonstrate familiarity with the variety and relativity of cultures within one major region

Major Requirements

Majors in International Studies must complete 42 credit hours, 33 of which must be fulfilled at the 300-level or above. Minors must complete 21 hours, 15 of which must be fulfilled at the 300-level or above.

I. Core (21 hrs)

A. Introduction: Take IS101 and one of the other courses listed.

IS101, Introduction to International Studies
 GE109, Cultural Geography
 PO141, Introduction to International Politics
 PO151, Introduction to Comparative Politics
 TI 250-RL, Religions of the World
 SW 220-COB 01, The Economy and Society

B. International Arrangements and Interactions: Take IS390, United Nations and Other International Organizations, and one of the following courses:

AN320, Gender, Sex Through Globalization
 AN326, Youth Conflict, Global Cinema
 EC336, Comparative Economic Systems (additional prerequisite: permission of the instructor)
 JR417, International Communications
 IB320, International Business Environment (additional prerequisite: permission of the instructor)
 IB321, The North American Business Environment (additional prerequisite: permission of the instructor)
 PO322, International Conflict and Peace Building
 SO355, International Crime

C. Research Methods Course One of the following research methods courses:

AN350, Anthropological Methods
 AN352, Ethnography
 HST301, Historical Method and Historiography
 PO201, Research and Analysis
 SO393, Research Methods Seminar

D. International Relations and Diplomacy One of the following

HST381, U.S. Diplomacy in the Twentieth Century
 PO355, U.S. Foreign Policy
 PO320, International Relations
 PL364, Ethics and International Relations

E. Capstone Course (to be taken in the junior or senior year)

IS410W, The Global Society
 Prerequisites: IS101, another course from A, and at least one 300-level course.

II. International Studies Area Courses

A. 18 hrs from two of the following areas—9 hrs in each area—(two disciplines must be represented).

1. *Africa*
 AN360, Peoples and Cultures of Africa
 FR334, Introduction to Francophone Cultures
 FR485, Topics in Francophone Studies (will count when at least $\frac{3}{4}$ of content focuses on Africa)
 PO350, African Politics
2. *Asia*
 AN322, Sex, Gender, and Sexuality in Modern Japan
 AN329, Japanese Popular Culture
 AN368, Coming of Age in the Middle East
 FL320, Chinese Civilization
 HST372, Peoples and Cultures of China
 HST373, China and the World
 HST379, Asian Revolutions in Fiction and Film
 IB323, Contemporary Business Issues in East Asia (additional prerequisite: permission of the instructor)
 RL353, Buddhism
 RL354, Islam: Religion, Culture, and Society
3. *Europe*
 EC438, Economic History of Europe
 EN381, Modern British Literature
 FR320, Modern French Civilization

- FR345, France and the Francophone World: 1900 to present
 FR465, 20th -21st Century French Novel and Francophone World
 FR475, 20th -21st Century French Drama and Francophone World
 GR340, German Studies II: Nation and Identity
 GR342, German Studies III: Modernity and Tyranny
 HST324, Modern Germany
 HST325, Contemporary Germany
 HST322, 20th Century Europe
 HST323, Modern France
 IB495, Business in the European Union
 IS301, Model European Union
 PO370, Government and Politics of Europe
 SO333, European Societies
 SP440, Contemporary Spanish Studies
 SP340, Spain: 1700 to the Present
 SP490, Seminar on Spanish Cultures
4. *Latin America*
 AN362, Peoples and Cultures of Latin America
 PO360, Political Regimes in Latin America
 PO364, Popular Participation in Latin America
 PO362, United States-Latin American Relations
 SO331, Latin American Societies
 SP330, Themes in Hispanic Studies (will count when at least $\frac{3}{4}$ of content focuses on Latin America)
 SP345, Hispanic Masterpieces
 SP350, Spanish American Culture: Mexico, Central America, Caribbean
 SP355, Spanish-American Culture: South America
 SP360, Hispanic Film (will count when at least $\frac{3}{4}$ of content focuses on Latin America)
 SP365, Hispanic Short Story (will count when at least $\frac{3}{4}$ of content focuses on Latin America)
 SP370, Topics in Contemporary Hispanic Societies
 SP450, Topics in Spanish-American Studies
 SP460, Topics in 20th Century Spanish-American Studies
 SP490, Seminar on Latin American Cultures
5. *Foreign Languages*
 Nine hours at the 300/400-level on one modern foreign language. Classes in French, German, Spanish, and Chinese are offered at Butler University. Classes in other languages such as Arabic, Japanese, or Italian can be taken at other universities in the area (IUPUI) and will transfer.
- B. One elective (3 hrs.) to be chosen from the following or any 300-400 course in I or II-A above:**
 AN302, The Body and Society
 AN320, Gender and Sexuality in Globalization
 EC433, International Economics (prerequisite or permission of the instructor)
 EN321, 322, 421, 422, Comparative World Literatures
 FN451, International Financial Management (additional prerequisites: FN340 and permission of the instructor)
 IB336, Comparative Economic Systems (prerequisites: EC101 or EC231)
 IB367, Legal Aspects of International Business (additional prerequisite: permission of instructor)
 IB433, International Economics (Prerequisite: EC231, EC232)
 IB460, International Organizational Behavior (additional prerequisite: permission of instructor)
 MK491, International Marketing (additional prerequisite: permission of instructor)
 PO302, Third World Politics
 SO323, Racial and Ethnic Relations
 SO343, Popular Culture: A Comparative Study
 SO349, Recent Social Movements: A Comparative Study
- Any courses such as Special Topics, Seminars, or Studies in major Authors, Poetry, Fiction or Drama which offer a contemporary international focus in a given semester.
- III. Special International Studies Courses**
 May include:
 IS401, 402, and 403, Independent Study in International Studies (1, 2, or 3 hours)
 IS404 and 405, Internship in International Studies (3 or 6 hours)

IS470, Selected Topics in International Studies (3 hrs); Prerequisite: permission of instructor

IS499, Honors Thesis (3 hrs)

IV. Study Abroad—Highly recommended

Experience abroad is strongly encouraged for all international studies students.

This may be in the form of attendance at a foreign college or university, an international internship, independent travel connected with an approved independent study project, or participation in an approved foreign study tour. Credits from those experiences abroad usually count toward fulfilling the requirements of the major or minor.

V. Model United Nations and Model

European Union—Highly recommended

International studies majors can participate in the Model United Nations and the Model European Union. We have participated in the Model United Nations organized by McGill University in Montreal, and University of Toronto, Canada, and Harvard Model United Nations, Boston. The Model European Union is held in Saint Louis. These two events play a very important role in the formation of students interested in international issues, because they learn the rules of negotiation and diplomacy as well as the workings of the United Nations and the European Union. The cost for participating in these events (registration, airfare, and lodging) is covered by the International Studies budget.

Minor Requirements

Minors in International Studies must complete 21 credit hours, 15 of which must be fulfilled at the 300-level, or above.

I. Core (12 hrs)

A. Introduction.

IS101, Introduction to International Studies

B. International Arrangements and Interactions: One of the following courses:

AN326, Youth Conflict, Global Cinema

AN320, Gender, Sex Through Globalization

EC336, Comparative Economic Systems (Additional prerequisite: permission of the instructor)

IS390, United Nations and Other International Organizations

JR417, International Communications

IB320, International Business Environment (Additional prerequisite: permission of the instructor)

IB321, The North American Business Environment (Additional prerequisite: permission of the instructor)

PO322, International Conflict and Peace Building

SO355, International Crime

C. International Relations and Diplomacy:

One of the following courses:

HST381, U.S. Diplomacy in the Twentieth Century

PO355, U.S. Foreign Policy

PO320, International Relations

PL364, Ethics and International Relations

D. Capstone Course (to be taken in the junior or senior year)

IS410W, The Global Society

Prerequisites: IS101, another course from A, and at least one 300-level course.

II. International Studies Area Courses (9 hrs)

(take courses from at least two different areas)

1. Africa

AN360, Peoples and Cultures of Africa

FR334, Introduction to Francophone Cultures

FR485, Topics in Francophone Studies (will count when at least $\frac{3}{4}$ of content focuses on Africa)

PO350, African Politics

2. Asia

AN322, Sex, Gender, and Sexuality in Modern Japan

AN329, Japanese Popular Culture

AN368, Coming of Age in the Middle East

FL320, Chinese Civilization

HST372, Peoples and Cultures of China

HST373, China and the World

HST379, Asian Revolutions in Fiction and Film

IB323, Contemporary Business Issues in East Asia (Additional prerequisite: permission of the instructor)

RL353, Buddhism

RL354, Islam: Religion, Culture, and Society

3. *Europe*
 EC438, Economic History of Europe
 EN381, Modern British Literature
 FR320, Modern French Civilization
 FR345, France and the Francophone World: 1900 to present
 FR465, 20th -21st Century French and Francophone Novel (will count when at least $\frac{3}{4}$ of content focuses on Europe)
 FR475, 20th -21st Century French and Francophone Drama (will count when at least $\frac{3}{4}$ of content focuses on Europe)
 GR342, German Studies III: Modernity and Tyranny
 HST324, Modern Germany
 HST325, Contemporary Germany
 HST322, 20th Century Europe
 HST323, Modern France
 IB495, Business in the European Union
 IS301, Model European Union
 PO370, Government and Politics of Europe
 SO333, European Societies
 SP440, Contemporary Spanish Studies
 SP340, Spain: 1700 to the Present
 SP490, Seminar on Spanish Cultures
4. *Latin America*
 AN362, Peoples and Cultures of Latin America
 PO360, Political Regimes in Latin America
 PO364, Popular Participation in Latin America
 PO362, United States-Latin American Relations
 SO331, Latin American Societies
 SP330, Themes in Hispanic Studies (will count when at least $\frac{3}{4}$ of content focuses on Latin America)
 SP345, Hispanic Masterpieces
 SP350, Spanish American Culture: Mexico, Central America, Caribbean
 SP355, Spanish-American Culture: South America
 SP360, Hispanic Film (will count when at least $\frac{3}{4}$ of content focuses on Latin America)
 SP365, Hispanic Short Story (will count when at least $\frac{3}{4}$ of content focuses on Latin America)
 SP370, Topics in Contemporary Hispanic Societies
 SP450, Topics in Spanish-American Studies
 SP460, Topics in 20th Century Spanish-American Studies
 SP490, Seminar on Latin American Cultures

5. *Foreign Languages*
 Nine hours at the 300/400-level on one modern foreign language. Classes in French, German, Spanish, and Chinese are offered at Butler University. Classes in other languages such as Arabic, Japanese, or Italian can be taken at other universities in the area (IUPUI) and will transfer.
 AN302, The Body and Society
 AN310, Family, Household, and Other Social Relationships
 AN320, Gender and Sexuality in Globalization
 EC433, International Economics (prerequisite or permission of the instructor)
 EN321, 322, 421, 422, Comparative World Literatures
 FN451, International Financial Management (Additional prerequisites: FN 340 and permission of the instructor)
 IB336, Comparative Economic Systems (Prerequisites: EC101 or EC231)
 IB367, Legal Aspects of International Business (Additional prerequisite: permission of instructor)
 IB433, International Economics (Prerequisite: EC231, EC232)
 IB460, International Organizational Behavior (Additional prerequisite: permission of instructor)
 MK491, International Marketing (Additional prerequisite: permission of instructor)
 PO302, Third World Politics
 SO323, Racial and Ethnic Relations
 SO343, Popular Culture: A Comparative Study
 SO349, Recent Social Movements: A Comparative Study
 Any courses such as special topics, seminars, or studies in major authors, poetry, fiction or drama which offer a contemporary international focus in a given semester.

III. Special International Studies Courses

- May include:
 IS401, 402, and 403, Independent Study in International Studies (1, 2, or 3 hours)
 IS404 and 405, Internship in International Studies (3 or 6 hours)

IS470, Selected Topics in International Studies (3 hrs) (Prerequisite: consent of instructor)

IS499, Honors Thesis (3 hrs)

IV. Study Abroad

Experience abroad is strongly encouraged for all international studies students. This may be in the form of attendance at a foreign college or university, an international internship, independent travel connected with an approved independent study project, or participation in an approved foreign study tour. Credits from those experiences abroad usually count toward fulfilling the requirements of the major or minor.

V. Model United Nations and Model European Union

International Studies majors can participate in the Model United Nations and the Model European Union. We have participated in the Model United Nations organized by McGill University in Montreal, University of Toronto, Canada, and Harvard Model United Nations, Boston. The Model European Union is held in Indianapolis. These two events play a very important role in the formation of students interested in international issues because they learn the rules of negotiation and diplomacy as well as the workings of the United Nations and the European Union. The cost for participating in these events (registration, airfare, and lodging) is covered by the International Studies budget.

Core Courses offered by International Studies

SW270-IS, Understanding Global Issues:

The course addresses the intensification of globalization during the first decade of the 21st century. It introduces students to contemporary issues related to globalization. (U)(3). Fall.

International Studies Courses

IS101, Introduction to International Studies:

The course is designed to help students to understand and critically reflect on issues that affect both the United States and the international community. The issues addressed in this course are key pieces of the larger and interrelated set of the international system. (U)(3). Fall and spring.

IS301, European Union Model: This course introduces the student to the organization and functioning of the different institutions of the European Union and prepares them to participate in the Midwest Model European Union, which takes place every April for three days. The major topics we will address include: the history of the European integration, government and politics of the European Union and its institutions. Prerequisites: Any 100-level course in the social sciences or permission of the instructor. (U)(1). Spring.

IS390, The United Nations and Other International Organizations: This course introduces students to several international organizations, with a focus on the United Nations. The broader theoretical and experiential focus of the class will help students understand international institutions and to become more effective global citizens, while developing proficiency in policy formulation, parliamentary procedure, negotiation, and conflict resolution. (U)(3). Fall.

IS401, Independent Study: Independent Study in International Studies offers the qualified student in International Studies the opportunity to pursue a topic of individual interest. Prerequisite: junior or senior standing, consent of the director of the project, and approval of the director of the International Studies Program. (U)(1). Fall and spring.

IS402, Independent Study: Independent Study in International Studies offers the qualified student in International Studies the opportunity to pursue a topic of individual interest. Prerequisite: junior or senior standing, consent of the director of the project, and approval of the director of the International Studies program. (U)(2). Fall and spring.

IS403, Independent Study: Independent Study in International Studies offers the qualified student in International Studies the opportunity to pursue a topic of individual interest. Prerequisite: junior or senior standing, consent of the director of the project, and approval of the director of the International Studies program. (U)(3). Fall and spring.

IS404, Internship in International Studies: Internship in International Studies offers the qualified student the opportunity for supervised experience in internationally oriented jobs in U.S. or foreign governments, business, or

international organizations. A popular and very useful internship for an International Studies major is the Washington internship. (U)(3). Fall and spring.

IS405, Internship in International Studies: Internship in International Studies offers the qualified student the opportunity for supervised experience in internationally oriented jobs in U.S. or foreign governments, business, or international organizations. A popular and very useful internship for an International Studies major is the Washington internship. (U)(3). Fall and spring.

IS410, The Global Society: This course is about the constitution of the global system, and the processes which are reproducing and transforming the structures of globalization. The course acquaints the student with the process of worldwide economic, cultural, and political flows and provides an introduction to the organization and functioning of the global society. Prerequisite: IS101. (U/G)(3). Spring.

IS470, Selected Topics in International Studies: Selected Topics in International Studies: In-depth study of selected topics not covered in traditional courses. Prerequisite: consent of instructor. (U)(3). Fall and spring. IS499, Honors Thesis: Honors Thesis (U)(3). Fall and spring.

Disciplinary Courses

The descriptions for the other courses listed in the program are available in the corresponding discipline of the catalog (i.e. history, political science, sociology, etc.). Furthermore, a complete list and description of new courses or topic courses will be published every semester.

Irwin Library

Administration

Julie Miller, dean of libraries

IL101, Library Research Methods: This course promotes intelligent and thoughtful use of information and information sources over the course of a student's lifetime. Techniques for developing search strategies that are most appropriate for use in various information structures and for evaluating the quality of information will be emphasized. (U)(1).

Mathematics and Actuarial Science

Administration

William W. Johnston, Ph.D., department chair; Lacey P. Echols, M.A.T., coordinator of mathematics support services

Professors

William W. Johnston, Ph.D.; Judith Harper Morrel, Ph.D.; Prem L. Sharma, Ph.D.

Associate Professors

John W. Gaisser, Ph.D.; Duane Leatherman, M.A.

Assistant Professors

Rebecca G. Wahl, Ph.D.; Jonathan E. Webster, Ph.D.; Christopher J. Wilson, Ph.D.

Visiting Assistant Professor

Joshua A. Cole, Ph.D.

Instructors

Lacey P. Echols, M.A.T.; Kathie J. Freed, M.S.; Kelsie Graham, M.A.; Karen Holmes, Ph.D.; Mary Z. Krohn, Ph.D.

The department offers both majors and minors in each of the disciplines of mathematics and actuarial science. In addition to the departmental requirements listed below, a student must complete the core curriculum requirement, the College of Liberal Arts and Sciences language requirement, and other general requirements listed in this Bulletin. A bachelor of science degree is also available in natural science and mathematics or in natural science and actuarial science for majors who complete a total of at least 60 credits combined from the two chosen areas.

Mathematics

The mathematics major is well suited to and designed for students who are interested in gaining employment in government or industry jobs that require problem-solving skills; attending graduate or professional school; or teaching in secondary schools.

Why Study Mathematics at *Butler*?

- The department faculty provides a personal education in a close-knit community. Students and faculty members know one another in supportive, professional relationships, and faculty members care about their students and their success and know every student by name. All of the department's classes are small—fewer than 30 students in every one, including introductory-level courses. Every course is taught by faculty members with advanced

degrees and with a wide range of specialties in the different mathematical subfields, and there are no graduate students teaching departmental classes. In these ways, the department offers a consistently student-oriented education.

- The department's curriculum is top-rated in quality. It adheres to the CUPM (Committee for Undergraduate Program in Mathematics) guidelines—one of the few collegiate mathematics departments in the U.S. to commit enough teaching resources to do so. In summary, the Butler mathematics major is a wonderful choice for a strong investment in any student's future.
- Department professors are available to students. Each one maintains office hours—no appointment necessary. The department's office doors are open every single workday. Faculty members support each other, and students may talk with any faculty member to get help needed.
- The Department's Mathematics Tutoring Lab hires mathematics and mathematics education majors to provide support to students enrolled in lower-level and core mathematics classes—at no charge.
- Mathematics faculty members are always open to sponsoring student/professor collaborative research for the department's majors, such as in the Butler Summer Institute (BSI).
- Dual degrees are available in engineering through a partnership with Purdue University-Indianapolis (IUPUI). One dual-degree option, for example, is that a student can earn a dual major in both mathematics (from Butler) and engineering (from IUPUI). (See Engineering Dual-Degree Program—EDDP.)

Mathematics Student Learning Outcomes

Our graduates are problem solvers with a broad knowledge of mathematical subfields. They are extraordinarily strong at thinking about and proving abstract mathematical statements, and they communicate mathematical solutions and concepts clearly and effectively. Butler mathematics majors carry with them an ability to understand mathematical arguments and assess their validity. They can identify the fundamental concepts in the main areas of mathematics,

including set theory, logic, calculus, discrete mathematics, linear and modern algebra, and real and complex analysis. They can construct mathematical proofs using standard techniques such as induction, contradiction and contraposition, and they can solve mathematical problems by applying abstract theory and/or mathematical models as appropriate. Our graduates communicate well to various audiences—to individuals who might be trained in mathematics and to those who are not. This ability includes the use of mathematical word processing systems to write mathematics. In these many ways, our majors understand various interconnections among the branches of mathematics, the discipline's breadth and depth, and its beauty.

Requirements for the Major

- MA106, 107, 208, Calculus and Analytic Geometry I, II, III
- MA200, Basics of Advanced Mathematics
- MA205, Discrete Mathematics
- MA215, Linear Algebra
- MA312, Modern Algebra I
- MA326, Real Analysis I
- MA330, Complex Analysis
- MA490, Senior Seminar
- Choose one of MA313, Modern Algebra II or MA327, Real Analysis II.
- Programming course numbered CS142 or higher.
- Three upper-division electives to be chosen from MA301, MA305, courses numbered between MA310 and MA399, or numbered MA473.

Requirements for the Minor

- MA106, 107, Calculus, and Analytic Geometry I, II
- MA200, Basics of Advanced Mathematics
- MA205, Discrete Mathematics
- Choose one of MA305, Graph Theory, or MA208, Calculus and Analytic Geometry III
- MA215, Linear Algebra
- One additional upper-division elective to be chosen from MA301, MA305, courses numbered between MA310 and MA399, or MA473

Actuarial Science

An actuary is a mathematician responsible for estimating risks, primarily in the insurance and financial security industries. The

Butler program prepares each major for a successful career as an actuary, as well as for the professional SOA (Society of Actuaries) Examinations in Probability (P), Financial Mathematics (FM), Actuarial Models (MLC and MFE), and Construction and Evaluation of Actuarial Models (C).

Why Study Actuarial Science at Butler?

- Butler is one of only a few institutions in Indiana to offer an undergraduate degree in actuarial science. The department additionally offers a combined Actuarial Science/Management curricular option, in which students can earn both an actuarial science undergraduate degree and an MBA degree.
- The department has a very active student club in actuarial science. It also works with a departmental board of advisors for actuarial science, whose members are alumni who work with the department faculty and student majors. For example, they often offer advice for the program and support departmental efforts to help students find internships and jobs.
- Each year, upper-level actuarial science major courses are taught by professional actuaries, giving students a chance to see, from a professional who can provide an industry point of view, how classroom ideas and issues arise naturally in the workplace.
- The departmental curricular program prepares students to take as many as three or four actuarial science examinations while still a student at Butler, giving them a jump-start on their career.

Actuarial Science Student Learning Outcomes

Our graduates enter the job market with a strong working knowledge of the basic concepts and theories of actuarial science. They are qualified to sit for the first five exams given by the Society of Actuaries (as listed above, they are the examinations P, FM, MLC and MFE, and C). These actuarial science majors can solve insurance and financial problems related to risk assessment, and they know how to perform related calculations in applications of standard actuarial methods. Finally, they are able to communicate sophisticated quantitative analysis clearly and correctly to various audiences in

both written and spoken presentations. In this way, our actuarial science majors are well prepared to take leadership roles in businesses that require risk management services.

Requirements for the Major

- MA106, 107, 208, Calculus and Analytic Geometry I, II, III
- MA215, Linear Algebra
- MA360, Probability Theory I
- MA361, Statistical Theory
- MA362, Applied Statistical Methods
- MA363, Probability Theory II
- MA372, Loss Models
- MA395, Financial Mathematics
- MA397, Actuarial Mathematics I
- MA398, Actuarial Mathematics II
- MA399, Financial Derivatives

Requirements for the Minor

- MA106, 107, Calculus and Analytic Geometry I, II
- MA360, Probability Theory I
- MA395, Financial Mathematics
- Two of the following courses:
 - MA363, Probability Theory II
 - MA372, Loss Models
 - MA397, Actuarial Mathematics I
 - MA398, Actuarial Mathematics II
 - MA399, Financial Derivatives

Actuarial Science/Management Program

The insurance and financial service industries have a strong need for management prospects who combine analytic and technical skills (related to the department's actuarial science curriculum) with the leadership capabilities, people skills, and understanding of business practices (which come from advanced education in management). The Actuarial Science/Management Program gives its enrolled students capability in this blend of skills and training. Our graduates are able to command excellent entry-level positions and are strong candidates for fast advancement to upper-level management positions. The Actuarial Science/Management Program includes an undergraduate major in actuarial science with a strong component of business theory, followed by a 33-hour MBA program. Enrolled students may choose their graduate courses to gain a concentration in either organizational leadership or finance.

Phase I—The Undergraduate Curriculum Requirements for the Major

- MA106, 107, 208, Calculus and Analytic Geometry I, II, III
- MA215, Linear Algebra
- MA360, Probability Theory I
- MA361, Statistical Theory
- MA362, Applied Statistical Methods
- MA363, Probability Theory II
- MA372, Loss Models
- MA395, Financial Mathematics
- MA397, Actuarial Mathematics I
- MA398, Actuarial Mathematics II
- MA399, Financial Derivatives

In addition, the following business courses are required:

- AC203, 204, Introduction to Accounting I, II
- MS265, Information Technology (Prerequisite: MS100)
- EC231, 232, Principles of Micro/Macroeconomics
- FN340, Corporate Finance
- MK380, Introduction to Marketing Management
- MG360, Organizational Behavior

A student must achieve a minimum of B in a given business course to waive the comparable prerequisite (400 level) course in the MBA program

Phase II — The graduate curriculum

Upon successful completion of Phase I, and after meeting the MBA program admission requirements, students can complete the College of Business MBA program with a minimum of 33 hours of MBA coursework (500-level). To qualify for full admission into the MBA program, the following requirements must be satisfied: 1) students must obtain an appropriate score on the GMAT test; and 2) students must submit to the graduate admission office a graduation admission application, two letters of recommendation, an official transcript, and a résumé.

Core courses offered by Mathematics and Actuarial Science

AR 210-MA, Statistically Speaking: Who needs statistics in the 21st century? Anyone looking critically at numerical information who does not want to be misled by incorrect or inappropriate calculations, or anyone dealing with issues in their environment, state/nation, or career would

benefit from studying the methodology of statistics. These problems include finding ways to improve our environment and living standards or studies conducted in an effort to fight diseases. This course is an introduction to applied statistics in the natural, social, and managerial sciences through the use of current environmental and global issues. Topics include sampling, data analysis, experimental design, and the use of computer-based statistical software. (U)(3). Fall and spring.

AR 211-MA, Codes and Secret Messages:

How can sensitive information such as credit card numbers or military strategy be exchanged between two people without being intercepted by a third party? Are there ways to detect and correct errors resulting from a mistyped identification number or a scratched CD? Can information be exchanged securely among multiple individuals without anyone revealing his or her own decryption scheme? In this course, students will investigate various strategies for storing and transmitting information accurately, efficiently, and securely. Students will design several types of ciphers for sending secret messages, construct various error detecting and error-correcting codes, and implement secure public-key cryptosystems for exchanging messages with classmates. As these issues are explored, students will discover the need for mathematical notions such as modular arithmetic, permutations and combinations, probability and statistics, vectors and matrices, and formal logic. Students will also become aware of the central role played by cryptology and coding throughout history and modern society. (U)(3). Fall and spring.

AR 212-MA, Win, Lose or Draw: Why do we play games? Whatever the reason, games are a big piece of life. The world has played games for a long, long time—every time period, every culture. We will study games and gambling in our culture as well as those in other cultures. To better understand games, the students will study probability theory and its application to gaming. Applications include casino games, lotteries, racing, wagering systems, as well as other games. Some analytical tools that will arise during the course are counting methods, expected value, trees, gambler's ruin, and distributions. (U)(3). Fall and spring.

Mathematics and Actuarial Science Courses

MA101, Algebra: Provides students with the necessary background to continue in mathematics. Topics include the number system, equations, inequalities, graphs, polynomials, algebraic functions, and exponents. Students who have successfully completed any other mathematics course will not be given credit for MA101. Does not satisfy core curriculum requirement. Must not be taken (P/F). (U)(3). Fall and spring.

MA102, Precalculus: This course provides students with the necessary mathematical background to successfully complete a calculus course or a course that has calculus as a major topic. Topics include solving equations and inequalities, exponents, factoring, complex numbers, and functions—linear, quadratic, polynomial, rational, exponential, logarithmic, and trigonometric. Students who have successfully completed any other mathematics course (MA106 or above) will not be given credit for MA102. Does not satisfy core curriculum requirement. Must not be taken (P/F). Prerequisite: Appropriate score on the Butler math placement test. (U)(3). Fall and spring.

MA106, Calculus and Analytic Geometry

1: The beginning calculus course for properly prepared students. Topics include differentiation, integration, elementary differential equations, and exponential, logarithmic, and trigonometric functions. Applications are emphasized. The Analytic Reasoning core course is waived for students who successfully complete this course. Prerequisite: Placement, or C- in MA102. (U)(5). Fall, spring, and summer.

MA107, Calculus and Analytic Geometry

2: Continuation of MA106. Topics include methods of integration, improper integrals, infinite series, conic sections, and polar coordinates. Prerequisite: MA106. (U)(4). Fall, spring, and summer.

MA125, Business Calculus: This course introduces students to the concepts and methods of calculus by studying differentiation and integration with applications to business. Additionally, the mathematics of finance, including simple and compound interest, future and present annuity values, and amortization, is developed. Other topics may include a brief introduction to probability and counting

techniques. Prerequisite: C- in MA101. (U)(3). Fall, spring, and summer.

MA162, Statistical Methods: An introduction to inferential statistics with applications in the natural, social, and managerial sciences. Topics include elementary probability, data analysis, descriptive statistics, confidence intervals, hypothesis testing, linear regression, and contingency tables. The Analytic Reasoning core requirement is waived for students who successfully complete MA162. Prerequisite: MA101 or equivalent. (U)(4). Fall and spring.

MA200, Basics of Advanced Mathematics:

Introduces students to the concepts and methods of higher mathematics with an emphasis on techniques of mathematical proof. Topics include foundations of logic, set theory, relations, partial orders, well-ordering, isomorphism's, induction, equivalence relations, and functions. Corequisite or prerequisite: MA106 or equivalent. (U)(3). Fall and spring.

MA205, Discrete Mathematics: Proofs by induction, simple diagonalization proofs, combinatorial theory, relations and functions, inclusion/exclusion principle, derangements, recurrence relations, and generating functions. Prerequisite: MA106 (U)(3). Fall.

MA208, Calculus and Analytical Geometry

3: Continuation of MA107. Topics include vector calculus, multivariable calculus, partial differentiation, multiple integration, line integrals, and Green's Theorem. Prerequisite: MA107. (U)(3). Fall and spring.

MA215, Linear Algebra: Systems of linear equations, matrices, determinants, vector spaces, linear transformations, and the eigenvalue problem. Prerequisite: MA107. (U)(3). Fall, spring, and summer.

MA301, History of Mathematics: Historical development of number systems, including contributions from Egypt, Greece, China, India, and medieval to early modern Europe. Topics may include arithmetic, algebra, theory of equations, geometry, trigonometry, number theory, combinatorics, probability, and the beginnings of calculus. Prerequisites: MA107 and MA205. (U/G)(3). Fall.

MA305, Graph Theory: Graphs and subgraphs, planar graphs, graph coloring and chromatic polynomials, trees, weighted trees and prefix

codes, transport networks, and matching theory. Prerequisite: MA205. (U)(3). Spring.

MA308, Problem Seminar: A course emphasizing the process of solving mathematical problems. Problems will be drawn from various sources. Students and faculty will meet weekly to exchange ideas and present solutions. Students may earn up to three credits by repeated registrations. Prerequisite: MA107. (U/G)(1). Fall and spring.

MA311, Number Theory: Divisibility, the Euclidean algorithm, prime numbers, unique factorization, linear congruences, the Chinese Remainder Theorem, and applications to public-key cryptography. Additional topics may include primitive roots, quadratic residues, factorization algorithms, Diophantine equations, continued fractions, and the distribution of primes. Prerequisite: MA205. (U/G)(3). Occasionally.

MA312, Modern Algebra: Relations and graphs, groups, subgroups, normal subgroups, homomorphism theorems, rings, and fields. Prerequisites: MA200, 205, 215. (U/G)(3). Spring.

MA313, Modern Algebra II: This course is a continuation of MA312. Topics include Euclidean rings, principal ideal domains, unique factorization domains, field extensions, and Galois theory. Prerequisite: MA 312. (U)(3). Fall.

MA326, Real Analysis I: A rigorous study of the principles underlying real-variable calculus. Topics include limits, continuity, differentiation, and Riemann integration. Prerequisites: MA107, MA200, MA205. (U/G)(3). Fall.

MA327, Real Analysis 2: Continuation of MA326. A variety of topics, such as sequences, series, uniform convergence, introduction to Lebesgue measure and integration, line and surface integrals. Prerequisite: MA326. (U/G)(3). Spring.

MA330, Complex Analysis: Complex numbers, analytic functions, complex integration, Cauchy's Theorem, Taylor and Laurent series, contour integrals, and the residue theorem. Prerequisite: MA208. (U)(3). Spring.

MA334, Differential Equations: Analytical, numerical, and qualitative approaches to differential equations, including linear equations and systems, and nonlinear equations. Prerequisite: MA107. (U/G)(3). Fall and spring.

MA351, Geometry: Various topics from Euclidean, projective, and non-Euclidean geometry. Prerequisite: MA107. (U/G)(3). Spring.

MA360, Probability Theory 1: Combinatorics, general probability, conditioning, discrete/continuous random variables, transformed random variables. Joint, marginal, conditional continuous densities. Covariance. The central limit theorem. Topics may include order statistics, conditional expectation. Prerequisite: MA107 or permission. (U)(3). Fall.

MA361, Statistical Theory: Tests of statistical hypotheses, linear models, nonparametric methods, multivariate distributions, and theory of statistical inference. Prerequisite: MA360. (U/G)(3). Spring.

MA362, Applied Statistical Methods: Simple linear regression, correlation, multiple regression, and time series. Regression topics to be discussed include dummy variables, transformations of data, and multicollinearity. Time series topics cover model identification, parameter estimation, diagnostic checking, and forecasting. Prerequisites: MA215 and 361. (U)(3). Occasionally.

MA363, Probability Theory 2: Poisson process, multistate Markov transition models, mixed continuous-discrete distributions (including expectation and cumulative distribution), moment generating functions, order statistics, conditional densities, and conditional expectation. Actuarial applications, such as net benefit. Prerequisites: MA360 (U/G)(3). Spring.

MA365, Numerical Analysis: Solutions of equations and systems, error analysis, numerical differentiation and integration, interpolation, least squares approximation, numerical solution of ordinary differential equations. Prerequisites: MA107. (U/G)(3). Occasionally.

MA372, Loss Models: Models for the amount of a single payment, models for the number of payments, aggregate loss models. Prerequisite: MA361. (U/G)(3). Occasionally.

MA395, Financial Mathematics: Time value of money, annuities, loans, bonds, general cash flows, immunization, and introduction to financial derivatives. Prerequisite: MA107 (U)(3). Fall.

MA397, Actuarial Mathematics 1: Survival distributions and life tables; the mathematics of life insurance, life annuities, net premiums, and net premium reserves. Prerequisites: MA360, MA395. (U/G)(3). Occasionally.

MA398, Actuarial Mathematics 2: Multiple life functions, multiple decrement models, valuation theory for pension plans, ruin models. Prerequisite: MA397. (U/G)(3). Occasionally.

MA399, Financial Derivatives: Put-call parity, binomial options, Black-Scholes formula, delta-hedging, lognormal distribution, Brownian motion, and Ito's lemma. (U)(3). Occasionally.

MA401, Independent Study: Provides an opportunity for qualified students to pursue special topics under the guidance of a department staff member. Prerequisite: permission of department. (U/G)(1). Fall and spring.

MA402, Independent Study: Provides an opportunity for qualified students to pursue special topics under the guidance of a department staff member. Prerequisite: permission of department. (U/G)(2). Fall and spring.

MA403, Independent Study: Provides an opportunity for qualified students to pursue special topics under the guidance of a department staff member. Prerequisite: permission of department. (U/G)(3). Fall and spring.

MA411, Internship: Supervised work experience directly related to the major area of study. Prerequisites: junior or senior standing and permission of department. (U)(3). Fall and spring.

MA471, Topics in Mathematics: In-depth study of special topics not covered in regular courses. Prerequisite: permission of department. (U/G)(1). Fall and spring.

MA490, Senior Seminar: Intended for seniors majoring in mathematics, this seminar features student presentations on mathematical topics and selected readings. Prerequisites: 15 hours of mathematics and junior standing or permission of department. (U)(1). Spring.

MA499, Honors Thesis: (U)(3). Fall and spring.

Modern Languages, Literatures and Cultures Department

Administration

Terri Carney, Ph.D., department chair

Professors

Terri Carney, Ph. D; Larry W. Riggs, Ph.D.; Sylvie Vanbaelen, Ph.D.; Linda M. Willem, Ph.D.

Associate Professors

Eloise Sureau-Hale, Ph.D.

Assistant Professors

Irune del Rio Gabiola, Ph.D.; Xiaoqing Liu, Ph.D.; Gabriela Muniz, Ph.D.; Jose Alexander Quintanilla, Ph.D.; Juan Pablo Rodríguez Prieto, Ph.D.

Visiting Assistant Professors

Sarah Painitz, Ph.D.

Instructors

Liliana Goens, M.A.; Paul Kanczuzewski, M.A.; Elisa Lucchi-Riester, M.A.; Michelle Strigter, M.A.

Why Study Modern Languages, Literatures, and Cultures?

The study of languages, literatures, and cultures gives students access to a broader global community, invites them to deepen their engagement with other linguistic and cultural traditions, and teaches them to be sensitive and critical readers of cultural texts. Becoming proficient or fluent in another language also enhances self-reflection, increases self-knowledge, and heightens awareness of one's own community and place in the world.

The communicative skills that students sharpen in our classrooms are increasingly valuable in many fields—business, education, fine arts, government, media, social services, and others. A language major or minor pairs well with a variety of other majors, and many of our students choose to combine language study with areas that include: anthropology, biology, health sciences, history, international studies, media, rhetoric and culture, pharmacy, philosophy and religion.

Why Study Modern Languages, Literatures, and Cultures at *Butler*?

The Butler Modern Language faculty members hail from all over the world, including Argentina, Austria, Belgium, China, Columbia, France, and Spain, and their wide variety of linguistic and cultural expertise enriches our curriculum and keeps students connected to the

global communities they represent. Students who study with us find they are well-supported by the resources we have available in the Modern Language Center, where they often study for quizzes on our comfy chairs, watch foreign language films, and work on group projects around our computer stations. Modern Language students choose from a wide variety of well-established study-abroad options, from a three-week program in Costa Rica to full-semester programs in Germany and Spain. They can also try a service-learning course that connects them to local language communities, where they can use their language skills to communicate with native speakers. Given the interdisciplinarity of our programs, students often find creative and productive ways to combine our majors and minors with other areas.

MLLC Student Learning Outcomes

Students will be able to do the following, *in the target language*:

- Clearly communicate in conversation and written form on a variety of topics.
- Articulate a cogent interpretation of a cultural text by applying concepts and terminology pertaining to artistic, cultural studies, linguistic, or literary theories.
- Demonstrate pluralist values, global awareness, and diversity-mindedness.

Degrees

- Majors in French, German, and Spanish
- Minors in Chinese, French, German, and Spanish

Requirements for the Major

A major in French, German, or Spanish consists of 33 hours in the language, at least 24 of these hours being at the 300 and 400 levels. All language majors will need to take at least one 300-level skills course and two 400-level courses. Specific area requirements are listed below by language.

French

French majors must fulfill the following requirements:

- FR300, Oral and Written Communication
**All majors must complete this course for the 300-level skills requirement.*

ONE of the following Culture/Literature survey courses:

- FR334, Introduction to Francophone Cultures

- FR342, Survey of French Civilization

German

German majors must fulfill the following requirement:

ONE of the following:

- GR305, Germany Today
- GR310, German for Writing

Spanish

Spanish majors must fulfill the following area requirements:

ONE 300-level skills course:

- SP300, Spanish Grammar in Context
- SP305, Spanish for Oral Communication
- SP310, Spanish for Written Communication
- SP320WS, Service Learning in Spanish

TWO Culture/Literature courses:

- SP330, Themes in Hispanic Studies
- SP335, Spain: Middle Ages to 1700
- SP340, Spain: 1700 to the Present
- SP345, Analysis of Literary Genres
- SP350, Spanish American Culture: Mexico, Central America, Caribbean
- SP355, Spanish American Culture: South America
- SP360, Hispanic Film
- SP365, Hispanic Short Story
- SP370, Topics—Contemporary Hispanic Societies
- SP420, Topics—Golden Age of Spain
- SP430, Topics—18th- and 19th-Century Spain
- SP440, Topics—Contemporary Spanish Studies
- SP450, Topics—Spanish-American Studies
- SP460, Topics—20th-Century Spanish-American Studies
- SP470, Topics—Hispanic Culture in the United States
- SP490, Seminar

ONE Linguistics course:

- SP325, Introduction to Hispanic Linguistics
- SP375, Spanish Pronunciation
- SP410, Topics in Communication Skills in Spanish
- SP435, Spanish Dialectology
- SP445, Topics in Hispanic Linguistics

Requirements for the Minor

A minor in Chinese, French, German, or Spanish consists of 21 hours in the language, at least 12 of these hours being at the 300 and 400 levels.

Study Abroad

Through membership in the International Student Exchange Program, Butler offers programs in Argentina, Austria, Canada (Quebec), Chile, China, Colombia, Costa Rica, France, Germany, Mexico, Spain, and other countries. Students may choose to participate in other programs through Butler-directed study abroad through the Center for Global Education. Students receive credit for study abroad.

Advanced Placement

All students enrolling in language courses at Butler must take a placement exam before enrolling unless they have completed courses at the college level in the same language. Students who place at the 200- or 300-level on this exam earn from three to nine hours of advanced placement credit after completion of six credits of coursework at the 300-level (with grades of C or better) in that language. Students who have taken the College Board Advanced Placement Test in high school and receive a four or five are placed at the 300-level of the appropriate language. Those students will also receive an additional three hours of 300-level credit.

Modern Language Center

The Modern Language Center (MLC) is a multilingual facility to advocate and support second language and culture acquisition. The MLC (Jordan Hall, Room 391) includes a comprehensive foreign feature and instructional film collection, a large group viewing area, film viewing stations for individuals, computers, a Smart Board, and gaming systems (DS, Wii, etc.) with games in a variety of languages, etc. In addition to state-of-the-art facilities, the MLC hosts a number of activities designed to promote language and culture learning, including tutor tables, movie nights, and karaoke club. The MLC staff is trained in academic technology and research methodology to support all facets of language learning and teaching at Butler.

Courses in English

Language majors can count one FL course towards a major. Courses taught in English do not satisfy the foreign language competency requirement in the College of Liberal Arts and Sciences.

FL320, Chinese Civilization: An overview of Chinese civilization from the early dynasties through the present. This course is taught in English and does not count toward the language requirement. (U)(3). Occasionally.

FL380, Methods Teaching Foreign

Language: Acquaints students with current methods of teaching foreign languages. Provides opportunities for use of the latest technologies, practical work, and discussion of problems encountered when teaching foreign languages and cultures. Also applicable for teacher certification. (U)(3). Occasionally.

FL390, Seminar: Study in depth of a selected topic in European, French, German, or Hispanic culture, such as historical or social conditions, individual writers, artists, political figures, or literary genres. (U)(3). Occasionally.

FL480, Topics: Chinese Studies: Study of a selected topic in the culture of China. Themes may deal with literary, social, political, economic, and/or ethical concerns. Course may be repeated with each different topic. This course is taught in English and does not count toward the language requirement. (U)(3). Occasionally.

FL490, Seminar: Study in depth of a selected topic in European, French, German, or Hispanic culture such as historical or social conditions, individual writers, artists, political figures, or literary genres. (U/G)(3). Occasionally.

Courses in Foreign Languages

To help students gain fluency, the target language is used extensively from the first day. Courses on the 300- and 400-levels are conducted completely in the target language.

Core Courses

TI 225-GR, Literary Responses to Two

World Wars: Our investigation of British, German, French, Italian, and Russian literature will be structured around the two world wars, arguably the most defining catastrophes to befall modern Europe. We will consider how writers such as Virginia Woolf, Franz Kafka, George Orwell, Paul Celan, Heinrich Boll, Gunter Grass, and Vladimir Nabokov responded to the violence of the wars as well as to the far-reaching social changes they brought about. (U)(3).

Chinese Courses

CN101, Beginning Chinese 1: Emphasis on spoken Chinese. Development of speaking, listening, and writing skills, and insights into Chinese culture. Regular practice in the language center. (U)(4). Annually, term varies.

CN102, Beginning Chinese 2: Emphasis on spoken Chinese. Development of speaking, listening, reading, and writing skills and insights into Chinese culture. Regular practice in the language center. (U)(4). Annually, term varies.

CN203, Intermediate Chinese 1: Practice in listening, speaking, reading, and writing for communication skills. Review of fundamentals. Use of the Language Center. Prerequisite: One year of college Chinese or placement by evaluation. (U)(4). Annually, term varies.

CN204, Intermediate Chinese 2: Continuing practice in listening, speaking, reading, and writing for communicative skills. Further review of fundamentals. Use of the Language Center. Prerequisite: CN 203, placement by evaluation or the equivalent. (U)(4). Annually, term varies.

CN305, Advanced Chinese 1: Further develop students' overall language proficiency and emphasize vocabulary building, consolidation of essential grammatical patterns, and insights into Chinese culture. Use of the language laboratory and videos. Prerequisite: Two years of college Chinese or placement on the 300 level. (U)(3). Annually, term varies.

CN306, Advanced Chinese 2: Continue to develop students' overall language proficiency and emphasize vocabulary building, consolidation of essential grammatical patterns, and insights into Chinese culture. Use of the language laboratory and videos. Prerequisite: CN305, placement by evaluation, or the equivalent. (U)(3). Annually, term varies.

CN370, Summer Chinese Language and Culture Program: Develop students' language proficiency and verbal skills, and consolidate grammatical patterns and insights into Chinese culture through classroom instruction and daily one-on-one tutoring and excursions in other cities. Use of the language laboratory and videos. Prerequisite: Two years of college Mandarin Chinese or placement on the 300-level. (U)(6) Occasionally.

CN491, Independent Study: Independent study of Chinese culture, literature, and language. (U)(1). Annually, term varies.

CN492, Independent Study: Independent study of Chinese culture, literature, and language. (U)(2). Annually, term varies.

CN493, Independent Study: Independent study of Chinese culture, literature, and language. (U)(3). Annually, term varies.

French Courses

FR101, Beginning French 1: Development of speaking, listening, reading, and writing skills, and insights into French and Francophone cultures. Prerequisite: No previous formal French instruction. (U)(4). Annually, term varies.

FR102, Beginning French 2: Continuation of FR 101. Development of speaking, listening, reading and writing skills, and insights into French and Francophone cultures. Prerequisite: FR101 or placement test authorization. (U)(4). Annually, term varies.

FR203, Intermediate French I: Review of basics and new grammatical structures and vocabulary. Continued practice in listening, speaking, reading, and writing to develop competence in French. Study of cultural texts. Prerequisite: FR102 or placement test authorization. (U)(3). Annually, term varies.

FR204, Intermediate French II: Continuation of FR203. Further review of basics and new grammatical structures and vocabulary. Continued practice in listening, speaking, reading and writing to develop competence in French. Study of cultural texts. Prerequisite: FR203 or placement by evaluation or the equivalent. (U)(3). Annually, term varies.

FR300, Oral and Written Communication: Intensive work on oral and written skills through grammar review, readings, films. Discussions, oral presentations, short essays, rewriting, work on pronunciation. Prerequisites: Two years of college French or placement on the 300 level. (U)(3). Annually, term varies.

FR320, Contemporary French Culture: Study of contemporary French culture using news media, films, interviews, online newspapers, TV programs in the French language, etc. Prerequisite: FR334 or 342. (U)(3). Annually, term varies.

FR325, Intro to French Linguistics: Basic elements of French linguistics, phonetics, phonology and stylistics. Prerequisite: FR334, FR342, or permission of instructor. (U)(3). Occasionally.

FR334, Intro to Francophone Cultures: This course is an in-depth introduction to the cultures of the Francophone world. It will introduce students to the historical background, the linguistic characteristics, the literature, music, and cinema of areas with a strong Francophone presence. (U)(3). Occasionally.

FR335, France: Middle Ages to 1700: A survey of the evolution of France from the Middle Ages to 1700 through the study of literature and other cultural material. Prerequisites: FR305 or 310 (U)(3). Occasionally.

FR340, France: 18th and 19th Century: Survey of the evolution of France in the 18th and 19th centuries through the study of literature and other cultural material. Prerequisite: FR334 or FR342, or permission of the instructor. (U)(3). Occasionally.

FR342, Survey of French Civilization: Study of French civilization from its origins to the present time. Focus will be on the people, the cultural processes, and ideas that have shaped the country. (U)(3).

FR345, France and Francophone World:1900 to Present: A survey of France and the Francophone world in the 20th and 21st centuries through the study of literature and other cultural material. Prerequisite: FR310 and either FR334 or FR342, or permission of instructor. (U)(3). Occasionally.

FR415, The French Renaissance: Study of the French Renaissance as the beginning of modernity. Focus on prose and poetry. Emphasis on writing, rewriting, and discussion. Also emphasizes continued development of the four language skills: listening, speaking, reading, and writing. (U/G)(3). Occasionally.

FR425, 17th Century France: Study of 17th Century France in the context of early modernity. Focus on prose and theatre. Emphasis on writing, rewriting, and discussion. Also emphasizes continued development of listening, speaking, reading, and writing skills. Prerequisites: FR310 and either FR334 or 342 or permission. (U/G)(3). Occasionally.

FR435, 18th Century France: Overall view of the French Enlightenment and study of the literary works of the period. Prerequisite: FR310 and either FR334 or FR342, or permission of the instructor. (U)(3). Occasionally.

FR450, 19th Century France: Overall view of the French culture and literature of the 19th century. Study of the significant literary works of the period. Prerequisite: FR310 and either FR334 or FR342, or permission of the instructor. (U)(3). Occasionally.

FR465, 20th and 21st Century French: Study of selected important French and Francophone novels of the 20th and 21st centuries. Lectures, reading assignments, and films. Emphasis on class discussion, writing, and rewriting. Prerequisites: FR310 and either FR334 or FR342, or permission of the instructor. (U)(3). Occasionally.

FR475, 20th and 21st Century French: Study of selected important French and Francophone plays of the 20th and 21st centuries. Lectures, reading assignments, and films. Emphasis on class discussion, writing, and rewriting. Prerequisites: FR310 and either FR334 or FR342, or permission of instructor. (U)(3). Occasionally.

FR485, Topics in Francophone Studies: Study of the literatures and/or cultures of French-speaking countries. Use of literary texts, social documents, and movies. Emphasis on class discussion, writing, and rewriting. Course may be repeated with each different topic. Prerequisite: FR310 and either FR334 or FR342, or permission of instructor. (U/G)(3). Occasionally.

FR490, Seminar: Study of a selected topic in the cultures of French-speaking countries. Themes may deal with literary, social, political, and/or esthetic concerns of these countries, of one nation, or of a region. Course may be repeated with each different topic. Prerequisite: Three years of college French or the equivalent. (U/G)(3). Occasionally.

FR491, Independent Study: An opportunity for qualified students to pursue a topic of special interest. Open to majors and minors in French, by permission of the instructor and department chair. Prerequisite: three years of college French or equivalent. (U/G)(1). Annually, term varies.

FR492, Independent Study: An opportunity for qualified students to pursue a topic of special interest. Open to majors and minors in French, by permission of the instructor and department chair. Prerequisite: three years of college French or equivalent. (U/G)(2). Annually, term varies.

FR493, Independent Study: An opportunity for qualified students to pursue a topic of special interest. Open to majors and minors in French, by permission of the instructor and department chair. Prerequisite: three years of college French or equivalent. (U/G)(1). Annually, term varies.

FR499, Honors Thesis: (U)(3). Annually, term varies.

German Courses

GR101, Beginning German 1: Development of speaking, listening, reading, and writing skills and insights into German speaking cultures. Prerequisite: No previous formal German instruction or placement in German 101. (U)(4). Annually, term varies.

GR102, Beginning German 2: Development of speaking, listening, reading, and writing skills and insights into German speaking cultures. Prerequisite: GR101 or placement in GR102. (U)(4). Annually, term varies.

GR200, German Conversation: Students will develop their oral proficiency by concentrating on pronunciation and practical vocabulary. Extensive use of class discussion to increase accuracy and fluency. Course cannot be counted toward the major or minor and does not fulfill the language requirement. Prerequisite: One year of college German or placement in GR203. (U)(1).

GR203, Intermediate German I: Review of the basic structures of German with an emphasis on active skills. Introduction to German literature through readings, film, and discussion in German. Prerequisite: one year of college German or placement in GR203. (U)(3). Annually, term varies.

GR204, Intermediate German II: Continuation of the review of the basic structures of German with an emphasis on active skills. Practice through readings, films, and discussions in German. Exploration of social, artistic, historical, and/or political topics.

Prerequisite: Three semesters of college German or placement in GR204. (U)(3). Annually, term varies.

GR301, German Conversation: (U)(1).

GR305, Germany Today: This course offers practice in oral German to develop accuracy and fluency through guided conversations, discussions, individual presentations, vocabulary building, and grammar review. Topics deal with contemporary German culture, society, politics, media, and business. Prerequisite: Two years of college German or placement at the 300-level. (U)(3).

GR310, German for Writing: This course offers practice in written German to develop accuracy and fluency through the analysis of various writing styles and genres, vocabulary building, and grammar review. Emphasis is on the process of writing, guided corrections, and enhancement of self-evaluation. Prerequisite: Two years of college German or placement in German on the 300-level. (U)(3).

GR311, Contemporary German Authors: A course providing reading and discussion of selected texts by post-war authors. Oral and written literary analysis. Prerequisite: Two years of college German or placement in 300 level German. (U)(3). Annually, term varies.

GR315, German for Business: This course offers an introduction to the structures, institutions, procedures, and terminology of the German business world. Current business news is explored through a variety of media, such as print, television, and Internet. Prerequisite: Two years of college German or placement on the 300-level. (U)(3).

GR320, Contemporary German Authors: An introduction to literary studies in German through close readings and critical analysis of selected texts by post-war authors such as Grass, Durrenmatt, and Wolf. Prerequisite: Two years of college German or placement at the 300-level. (U)(3).

GR335, Germany Studies I: Tradition and Innovation: A survey of the evolution of Germany from the Middle Ages to the Enlightenment through the study of literature, art, and other cultural material. Prerequisite: Two years of college German or placement at the 300-level. (U)(3).

GR340, German Studies II: Nation and Identity: A survey of the evolution of Germany from Storm and Stress to Realism through the study of literature, art, and other cultural material. Prerequisite: Two years of college German or placement at the 300 level. (U)(3).

GR341, Romanticism to the Modern Period: Representative works of authors and artists of the 19th century up to Nietzsche's time. Prerequisite: Two years of college German or placement on the 300-level. (U)(3). Occasionally.

GR342, German Studies III: Modernity and Tyranny: A survey of the evolution of Germany from Naturalism to the present through the study of literature, art, and other cultural material. Prerequisite: Two years of college German or placement on the 300-level. (U)(3).

GR351, German Civilization: Investigation of German literature and culture in a historical context. Course may focus on a specific theme or time period. Prerequisite: Two years of college German or placement in German at the 300-level. (U)(3). Occasionally.

GR360, German Film: Analysis and discussion of German films within their cultural, historical, political, and social contexts. Prerequisite: Two years of college German or equivalent or placement on the 300-level. (U)(3). Occasionally.

GR390, Topics in Literature and Culture: Study of a selected topic in German literature or culture. Course may be repeated with each different topic. Prerequisite: Two years of college German or placement at the 300-level. (U)(3). Occasionally.

GR400, Internship: A supervised work experience in business, government, media, or other institutions. Primary language must be German. May be complete abroad or in the U.S. Prerequisite: Acceptance into the program and permission of the department chair. (U/G)(3). Occasionally.

GR430, German Drama after 1945: An in-depth study of selected dramas by authors such as Brecht, Borchert, Durrenmatt, and Jelinek. Discussion in German. Prerequisite: Three years of college German or equivalent. (U)(3). Occasionally.

GR467, Topics in German Studies: Age of Goethe: Study of select writers, genres, or themes within the context of German culture from Enlightenment to Romanticism. Topics may include the Faust theme in literature, art, and music, the rebel and the genius, Goethe and Schiller. Prerequisite: Three years of college German or equivalent. (U)(3).

GR470, Topics in German Studies: The 19th Century: Study of select writers, genres, or themes within the context of nineteenth-century German culture. Topics may include the German Nation, fairy tales and fantastical literature, the novella. Prerequisite: Three years of college German or equivalent. (U)(3).

GR475, Topics in German Studies: The 20th Century: Study of select writers, genres, or themes within the context of the twentieth-century German culture. Topics may include fin-de-siècle literature, Kafka, GDR literature, multicultural Germany. Prerequisite: Three years of college German or equivalent. (U)(3).

GR490, Seminar: Investigation of a selected topic in German such as a genre, time period, writer, artist, or historical figure in its historical and social context. Course may be repeated with each different topic. Prerequisite: Three years of college German or equivalent. (U/G)(3). Occasionally.

GR491, Independent Study: An opportunity for qualified students to pursue a topic of special interest. Open to majors and minors in German, by permission of the instructor and department chair. Prerequisite: Three years of college German or equivalent. (U/G)(1). Annually, term varies.

GR492, Independent Study: An opportunity for qualified students to pursue a topic of special interest. Open to majors and minors in German, by permission of the instructor and department chair. Prerequisite: Three years of college German or equivalent. (U/G)(2). Annually, term varies.

GR493, Independent Study: An opportunity for qualified students to pursue a topic of special interest. Open to majors and minors in German, by permission of the instructor and department chair. Prerequisite: Three years of college German or equivalent. (U/G)(3). Annually, term varies.

GR499, Honors Thesis: (U)(3). Annually, term varies.

Spanish Courses

SP101, Beginning Spanish I: The first course in Spanish. Focus is on developing the four skills of language acquisition: listening, speaking, reading, and writing production. Although learning grammar is an important part of the process, it will be used around everyday situations and cultural topics. Prerequisites: No previous Spanish instruction. Permission granted upon personal interview with the department chair. (U)(4). Annually, term varies.

SP102, Beginning Spanish II: This is the second course in the basic Spanish language sequence. The course continues to develop basic communication skills in listening, speaking, reading, and writing at a more complex level. Prerequisites: SP101 or placement test authorization. (U)(4). Annually, term varies.

SP201, Spanish Conversation and Pronunciation: Development of oral proficiency. Concentration on pronunciation and practical vocabulary. Review of basic structures. Practice of speaking skills in class discussions. Use of audiovisual materials to increase accuracy and fluency. Prerequisite: one year of college Spanish or placement test authorization. (U)(3). Annually, term varies.

SP203, Intermediate Spanish I: First course in intermediate Spanish. Review of fundamentals, develop intermediate skills in reading, writing, speaking, and listening; building communicative competence and enhancing social and cultural awareness of Spanish-speaking world. Prerequisite: one year of college Spanish or SP102, or placement exam results. (U)(3). Annually, term varies.

SP204, Intermediate Spanish II: Second course in intermediate Spanish. Further review of fundamentals; continue developing competence and enhance social and cultural awareness of the Spanish-speaking world. Prerequisite: SP203, or placement exam results. (U)(3). Annually, term varies.

SP300, Grammar in Context: Study of grammatical structures to master language at intermed/adv. level. Students review, reinforce, and practice grammar within contextual framework so as to build vocabulary, read

cultural texts, and create written material to see the interaction of language skills. Prerequisite: SP204/Placement test at 300 level. (U)(3). Annually, term varies.

SP305, Spanish for Oral Communication: Practice in oral Spanish to increase fluency through activities and discussion. Intensive controlled conversation and the facilitation of debates and group discussions in relation to audiovisual materials and cultural readings. Prerequisite: Two years of college Spanish or placement on the 300 level. (U)(3). Annually, term varies.

SP310, Spanish for Written Communication: Writing in Spanish; facilitate expression of ideas; review of grammatical structures. Analysis: writing styles and writing process; guided correction to enhance self-evaluation and improvement of writing skills; developing a good thesis; adapting content to reader. Prerequisite: Two years of college Spanish or placement on the 300-level. (U)(3). Annually, term varies.

SP315, Spanish for Business: Introduction to the Hispanic business world and examination of its structures, institutions, procedures, and terminology. Prerequisite: two years of college Spanish or placement on the 300 level. (U)(3). Occasionally.

SP 320S, Service Learning in Spanish: Increase students' fluency in Spanish; encourage them to frame their community experience in meaningful ways. Class components: supervised volunteer tutoring (24 hours/semester) and weekly class meetings to discuss Latino Immigration. Writing intensive. Prerequisites: 300-level placement, or 305 and 310 preferred. (U)(3). Annually, term varies.

SP325, Intro to Hispanic Linguistics: Overview of the History, Phonetics, Syntax, Acquisition, and Language Variation of the Spanish language (theories, analysis, and application). Prerequisite: Two years of college Spanish or placement on the 300-level. The department faculty strongly advise students enrolling in this course to have completed one 300-level skills course. (U)(3). Annually, term varies.

SP330, Themes in Hispanic Studies: Selected themes within the literature and culture of one or more Spanish-speaking countries. Course

may be repeated with each different topic. Prerequisites: Two years of college Spanish or equivalent or placement on the 300-level. The department faculty strongly advise students enrolling in this course to have completed one 300-level skills course. (U)(3). Occasionally.

SP335, Spain: Middle Ages to 1700: Use of selected reading and audio-visual materials to study the history, literature, and arts of Spain from the Middle Ages through the seventeenth century. Prerequisite: two years of college Spanish or placement on the 300 level. The department faculty strongly advise students enrolling in this course to have completed one 300-level skills course. (U)(3). Occasionally.

SP340, Spain:1700 to present: Use of selected reading and audio-visual materials to study the history, literature, and arts of Spain from the eighteenth century to the present. Prerequisite: two years of college Spanish or placement on the 300 level. The department faculty strongly advise students enrolling in this course to have completed one 300-level skills course. (U)(3). Occasionally.

SP345, Analysis of Literary Genres: Panoramic view of major and minor literary works of various genres across different time periods and geographical areas of the Hispanic World. Prerequisite: two years of college Spanish or placement on the 300 level. The department faculty strongly advise students enrolling in this course to have completed one 300-level skills course. (U)(3). Occasionally.

SP350, Spanish Amer Culture: Mexico, C America, Caribbean: Geographically oriented approach to the study of the historical events, literary and cultural artifacts, and individual figures which have shaped and defined the countries of Spanish Mexico and selected countries from Central America and the Caribbean. Prerequisite: two years of college Spanish or placement on the 300 level. (U)(3). Occasionally.

SP355, Spanish American Culture: The study of historical events, and the literary and cultural productions of the Southern Cone and Andean countries. Prerequisite: two years of college Spanish or placement on the 300 level. The department faculty strongly advise students enrolling in this course to have completed one 300-level skills course. (U)(3). Occasionally.

SP360, Hispanic Film: Approach to Hispanic cultures through film and visual representations. Themes for analyses, discussions, and papers vary according to films chosen. Prerequisite: two years of college Spanish or equivalent or placement on the 300 level. The department faculty strongly advise students enrolling in this course to have completed one 300-level skills course. (U)(3). Occasionally.

SP365, Hispanic Short Story: Study of selected stories by Spanish and Latin American authors. Prerequisite: two years of college Spanish or placement at the 300 level. The department faculty strongly advise students enrolling in this course to have completed one 300-level skills course. (U)(3). Occasionally.

SP370, Topics: Contemporary Hispanic Societies: A study of the contemporary societies of one or more countries of Latin America, of Spain, and/or the Latino society of the United States. This course may be repeated with each different area studied. Prerequisite: two years of college Spanish or equivalent or placement on the 300 level. The department faculty strongly advise students enrolling in this course to have completed one 300-level skills course. (U)(3). Occasionally.

SP375, Spanish Pronunciation: This course introduces the sounds of Spanish in order to achieve a near native-like pronunciation. It covers theory and practice. Prerequisite: three years of Spanish or equivalent. The department faculty strongly advise students enrolling in this course to have completed one 300-level skills course. (U)(3). Occasionally.

SP380, Spanish Morphosyntax: The study of Spanish words and their internal structure as well as an overview of perspectives gained from the X bar theory to study Spanish word order, semantic roles, constituents, clause structure, grammaticality judgments, and so on. The department faculty strongly advise students enrolling in this course to have completed one 300-level skills course. (U)(3). Occasionally.

SP400, Internship: A supervised work experience in business, government, media or other institutions in a Spanish-speaking country as a part of a year or semester study abroad program or in bilingual settings in this country. Prerequisite: acceptance into the program and

permission of the department chair. (U/G)(3). Occasionally.

SP410, Topics: Communication Skills in Spanish: Communications Skills in Spanish: Practice in communication in Spanish. Topics vary. Course may be repeated with a different topic. Prerequisite: three years of college Spanish or equivalent. (U/G)(3). Occasionally.

SP420, Topics: Golden Age of Spain: Exploration of the 16th and 17th centuries through literature, history, and/or artistic expression. Course may be repeated with each different topic. Prerequisite: three years of college Spanish or equivalent. (U/G)(3). Occasionally.

SP425, Phonetics of the Spanish Language: Introduction to the sounds of Spanish, native speaker pronunciation, recognition of Spanish main dialects and Spanish-English phonetic contrasts. Prerequisite: three years of college Spanish or equivalent. (U/G)(3). Occasionally.

SP430, Topics: 18th and 19th Century Spain: 18th- and 19th-Century Spain: Study of historical, literary, and/or artistic aspects of the period. Course may be repeated with each different topic. Prerequisite: three years of college Spanish or equivalent. (U/G)(3). Occasionally.

SP435, Spanish Dialectology: The geography of Spanish in terms of origin, change, dialects, society, contact with other languages, slang, etc. Prerequisite: three years of Spanish or equivalent. (U)(3). Occasionally.

SP440, Topics: Contemporary Spanish Studies: Analysis of aspects of 20th- and 21st century Spain through study of literary, historical, artistic works, and/or the media, offering such topics as the transition from dictatorship to democracy or the roles of women and men in contemporary society. Course may be repeated with each different topic. Prerequisite: three years of college Spanish or equivalent. (U/G)(3). Occasionally.

SP445, Topics in Hispanic Linguistics: Study of a selected topic in the field of linguistics (the study of language) from the perspective of Spanish. Themes may deal with phonetics, syntax, morphology, history, semantics, pragmatics, sociolinguistics, Spanish in contact, etc. Prerequisite: three years of Spanish or equivalent. (U)(3). Occasionally.

SP450, Topics: Spanish-American Studies: Literary, historical, social, and/or artistic aspects of Spanish-American culture and civilization. Topics will focus on a historical period, literary genre, social theme, or other cultural phenomenon. Course may be repeated with each different topic. Prerequisite: three years of college Spanish or equivalent. (U/G)(3). Occasionally.

SP460, Topics: 20th Cent Span-Amer Studies: Emphasis on the contemporary cultures of the nations of Spanish-America. Through the use of literary texts, historical and social documents, movies, and other audiovisual media, topics will focus on the dynamics of this rapidly developing cultural region. Course may be repeated with each different topic. Prerequisite: three years of college Spanish or equivalent. (U/G)(3). Occasionally.

SP490, Seminar: Study of a selected topic in the cultures of Spain and/or Latin America. Themes may deal with literary, social, political, and/or esthetic concerns of these countries, one nation or a region. Prerequisite: three years of college Spanish or the equivalent. (U/G)(3). Occasionally.

SP491, Independent Study: An opportunity for qualified students to pursue a topic of special interest. Open to majors and minors in Spanish, by permission of the instructor and department chair. Prerequisite: three years of college Spanish or equivalent. (U/G)(1).(3). Annually, term varies.

SP492, Independent Study: An opportunity for qualified students to pursue a topic of special interest. Open to majors and minors in Spanish, by permission of the instructor and department chair. Prerequisite: three years of college Spanish or equivalent. (U/G)(2). Annually, term varies.

SP493, Independent Study: An opportunity for qualified students to pursue a topic of special interest. Open to majors and minors in Spanish, by permission of the instructor and department chair. Prerequisite: three years of college Spanish or equivalent. (U/G)(3). Annually, term varies.

SP499, Honors Thesis: (U)(3). Annually, term varies.

Neuroscience Minor

Administration

Tara T. Lineweaver, Ph.D., program director
Jordan Hall, Room 286, (317) 940-9848

Neuroscience, an interdisciplinary approach to understanding the nervous system and its impact on behavior, cognition and emotion, is a relatively new and rapidly expanding scientific field. Neuroscientific research describes the normal functioning of the nervous system, examines how the nervous system develops across the life span, and investigates the consequences of and potential interventions for neurological dysfunction due to abnormal development, disease, or injury. However, the implications of neuroscience stretch well beyond this scope and provide both a cornerstone and important tools for understanding all human behavior. The neuroscience minor at Butler University introduces students to an interdisciplinary viewpoint of the science and the philosophy of the mind. Students from any major may elect to complete a neuroscience minor by taking courses in the fields of biological science, psychology, and philosophy.

Requirements:

21 semester hours including:

Biology: 12 hours

- BI202 Cellular and Molecular Biology—Fundamentals
- BI203 Genetics—Fundamentals
- BI460 Cellular and Molecular Neurobiology

Psychology: 6 hours

- PS235 Biological Bases of Behavior
- PS412 Advanced Applied Neuroscience

Philosophy: 3 hours

- PL346 Philosophy of Mind

Peace Studies Program

Administration

Craig W. Auchter, Ph.D., director

The Peace and Conflict Studies Program seeks to promote a critical understanding of the nature and dynamics of conflict, violence, and the conditions and practice of peace. It provides a structured program of study for students who wish to make issues of violence and conflict (interpersonal, intergroup and interstate), social justice, human rights, ecological integrity, and peace at multiple levels more central to their

university education. Contemporary peace studies is an arena of interdisciplinary research, study, dialogue, reflection, and action that is supported by a broad disciplinary base drawing on all of the social sciences and courses in the arts and humanities, sciences, education, and business. Through multi- and interdisciplinary study and practice, students in peace studies prepare for graduate study and a wide variety of careers in policy analysis, government, nongovernmental organizations, journalism, teaching, law, and business.

Peace and Conflict Studies Student Learning Objectives

- Acquire a complex understanding of the nature and origins of violence, its dynamics, and different manifestations and modes of expression.
- Better understand why conflict occurs, when and how conflicts become violent, and constructive methods of approaching and processing distinct types of conflicts that occur along a continuum from interpersonal to global settings.
- Critically evaluate and devise strategies for peace through reflection on ethical, religious, philosophical, and cultural approaches to peace, the work of leading thinkers and activists in the field, and public policy.
- Develop knowledge, analytical skills, and practical training through:
 - Analysis of theories and theoretical models, case studies, language and value systems, and historical precedents and trends.
 - Service learning, practical training in conflict mediation skills, selected internships, and study abroad experiences.

Peace and Conflict Studies Major Requirements

The major in Peace and Conflict Studies (PACS) consists of 36 hours of courses, including six hours of internship or service learning.

Required Peace and Conflict Studies Courses

A PACS major must complete 21 hours of Peace and Conflict Studies courses. The following courses are required:

1. PACS/PO102: Introduction to Peace and Conflict Studies
2. PACS/PO220: Community Mediation

3. PACS/PO322: International Conflict and Peace Building
4. PACS: One theory or methods class in a relevant discipline (consult with PACS advisor).*
5. PACS: One 400-level class or thesis (consult with PACS advisor)**
6. PACS: Internship and/or service learning (6 hrs)

Internship and service learning requirements are fulfilled at locations in Indianapolis such as Exodus Refugee Center, Peace Learning Center, Kaleidoscope Youth Center, the Julian Center, or through SP300 Service Learning in Spanish. Students may also fulfill this requirement through Washington, D.C. semester internships or as a component of study abroad.

*Students may fulfill this requirement with a research methods or theory class in, for example, political science, sociology, anthropology, or rhetorical criticism.

**Students may opt to take the PO490 Senior Seminar as their capstone course for PACS or another 400-level seminar class in anthropology or international studies that addresses issues of conflict, peace, and justice.

Electives

Students in the major are required to complete 15 hours of Peace and Conflict Studies electives at the 300 level or above.

Elective options are listed below and in the schedule of classes each semester. Relevant courses taken during study abroad may be counted toward the major with permission of the PACS director.

Peace and Conflict Studies Minor Requirements

The minor in Peace and Conflict Studies (PACS) consists of 18 hours of courses.

Required Courses (12 hours)

A minor in Peace and Conflict Studies must complete 12 hours of required courses. The following courses are required:

1. PACS/PO102: Introduction to Peace Studies
2. One of the following:
 - PACS/PO220: Community Mediation
 - PACS/PO322: International Conflict and Peace Building
3. PACS Internship or Service Learning (3 hrs): Internship and service learning

requirements are fulfilled at locations in Indianapolis such as Exodus Refugee Center, Peace Learning Center, Kaleidoscope Youth Center, the Julian Center, or through SP300 Service Learning in Spanish. Students may also fulfill this requirement through Washington, D.C., semester internships or as a component of study abroad.

4. PACS/PO490: Senior Seminar: Special Topics in Peace Studies (such as Cultures of Peace in Latin America; Youth, Violence, and Peace; War in Iraq).

Electives (6 Hours)

The remaining six hours are fulfilled by electives.

Elective options are listed below and in the schedule of classes each semester. Relevant courses taken during study abroad may be counted toward the major with permission of the PACS director.

Peace and Conflict Studies electives include, but are not limited to, the following:

History and Anthropology

- AN368 Peoples and Cultures of the Muslim World: Coming of Age in the Middle East
- AN380 Selected Topics: Youth and Conflict in Global Cinema
- AN380 Selected Topics: Conflict Resolution Through the Arts: Anthropological Inquiry
- AN380 Selected Topics: Trespassing: An Anthropology of Our Segmented Lives
- AN320 Gender and Cross-Cultural Perspective
- AN389 Topics: New Social Movements
- HS340 The Civil War
- HS390 Topics in History: The Cinema of War
- HS390 Topics: War and Peace in the Middle Ages
- HS390 History of Human Rights.
- HS390 1968
- HS344 Jim and Jane Crow

Modern Foreign Languages

- SP320S 01W Service Learning in Spanish

Philosophy and Religious Studies

- RL354 Islam: Religion, Culture, Society
- RL363 Religion, Politics, and Conflict in South Asia
- RL391 Topics in Religion: CFV Seminar (e.g. Jerusalem and Religious Peacemaking)
- PL364 Ethics and International Relations

- PL375 Ethics of War and Peace

Political Science

- PO220 Community Mediation
- PO322 International Conflict and Peace Building
- PO350 African Politics
- PO355 US Foreign Policy
- PO362 Popular Participation in Latin America
- PO372 Role of Protest in US Politics
- PO380 Understanding the Israel-Palestine Conflict
- PO380 Understanding Conflict: Northern Ireland
- PO380 The Earth Charter
- PO380 Environmental Justice
- PO380 Youth and Conflict

Sociology

- SO349 Social Movements
- SO339 Violence, Media, Culture

Communications

- COM481 Topics Communication Studies: Social Movements
- JR417 International Communication Systems
- COM353 Interpersonal Communication
- COM412 Advocacy

Other

- SW240 Gender and Generations in War and Peace
- IS390 01 The UN and Other International Organizations
- GWS202 1 Resistance for Social Change in US
- TI262 Self and Service

Philosophy and Religion

Administration

Chad Bauman, Ph.D., department chair

Professors

Katharina Dulckeit, Ph.D.; Stuart Glennan, Ph.D.; Paul Valliere, Ph.D.; Harry van der Linden, Ph.D.

Associate Professors

Chad Bauman, Ph.D.; James F. McGrath, Ph.D.; Tiberiu Popa, Ph.D.

Instructor

Brent Hege, Ph.D.

Philosophy

Why Study Philosophy?

Philosophy can help you hone some very practical skills. As a philosopher you learn to distinguish between sound reasoning and

empty rhetoric. Philosophy majors learn how to communicate clearly both in speech and in writing. Philosophy helps you to think carefully about ethical decisions. Collectively, these are skills that will help you in future graduate and professional education. They will also help you to live your life well, and what could be a more practical skill than that?

Philosophy majors regularly outscore other majors on standardized tests such as the LSAT and MCAT, because they do equally well on both the verbal and analytic/quantitative sections. Philosophy is the only liberal arts major that specifically teaches both verbal and logic skills. In addition, the most basic assumptions in law, the sciences, and other disciplines are studied not in those disciplines but in philosophy of law, philosophy of science, etc.

Why Study Philosophy at Butler?

Our philosophy classes are fairly small, which further encourages students to participate in class discussion and allows the faculty to devote considerable attention to each of our students. The enrollment limit in our introductory classes is generally 25, and the number of students enrolled in our upper-level classes is roughly between 10 and 20. All classes are taught by professors; there are no teaching assistants at Butler. Many students engage in independent study and write honors theses under the supervision of professors. Additional learning opportunities include the Philosophy Club, which meets regularly for discussion, film viewing, speakers, and social activities. The reasoning skills of our majors are valued by graduate and professional schools as well as by employers. For example, a growing number of our majors have been accepted into reputable medical schools and very prestigious law schools.

PL Program Student Learning

Outcomes

Students majoring in philosophy at Butler University will learn about a wide range of philosophical ideas and outlooks, and will become acquainted with some of the most influential thinkers in western philosophy. Besides exploring fundamental questions pertaining to knowledge and reality, students will be able to discern and respond to philosophical issues that arise in areas as diverse

as religion, science, politics, the arts, and the law. While critical thinking is encouraged and emphasized throughout the liberal arts, it is especially at home in philosophy; our majors are able to read and write clearly, to critically evaluate evidence and arguments, and to determine the quality of their sources of information.

Philosophical training helps deepen our students' reflection on issues in the here and now. Our professors encourage engagement in the community, including internships or research projects in which students' work can inform and be informed by their philosophical study.

More generally, philosophy majors' ability to examine and question their own and others' values and convictions puts them in a position to make wise choices that will affect the quality and course of their lives and those of the people with whom they interact.

Degrees

- Major in Philosophy
- Minor in Philosophy
- Ethics Minor
- Combined Major in Philosophy and Religion
- Combined Major in Philosophy and Psychology

Requirements for the Major

One course in logic:

- PL310, Logic
- or any course so designated

Two courses in history sequence:

- PL311, History of Ancient Philosophy
- PL313, History of Modern Philosophy

One course in analytic philosophy:

- PL320, Theory of Knowledge
- PL323, Introduction to Analytic Philosophy
- PL343, Philosophy of Science
- PL346, Philosophy of Mind
- or any course designated analytic philosophy

One course in value theory (normative philosophy):

- PL345, Contemporary Social and Political Philosophy
- PL360, Ethics
- or any course designated value theory

Two offerings (6 hours) of PL410—Seminar in Philosophy:

- Students may request a substitute for three hours of this seminar requirement if PL410

is offered when they are studying abroad.

Students may also substitute PL499,

Honors Thesis for three hours of PL410.

Plus 12 hours of additional philosophy courses for a total of 33 hours. No more than 12 hours of 100- or 200-level courses may be applied to the 33 hours required for the major.

Requirements for the Combined Philosophy and Religion Major

A combined major in philosophy and religion consists of 42 hours. Detailed requirements are posted at the department website, www.butler.edu/philosophy-religion/philosophy/program-requirements, or can be obtained at the department's office.

Requirements for the Combined Philosophy and Psychology Major

A combined major in psychology and philosophy consists of 51 hours. Detailed requirements are posted at the department website, www.butler.edu/philosophy-religion/philosophy/program-requirements, or can be obtained at the department's office.

Requirements for the Minor

A minor in philosophy consists of 18 hours in philosophy, nine of which should be at the 300- or 400-level. Minors will be strongly advised to create a suitable package of courses in consultation with a philosophy professor appointed by the chair.

Requirements for the Ethics Minor

The Ethics Minor consists of 18 credit hours, 12 of which should be philosophy (PL) courses and nine of which should be at the 300- or 400-level. Specifically:

- A foundational PL course in ethics covering basic moral theories and concepts (3 credit hours).
- Two additional PL courses to be chosen from a wide variety of courses in normative philosophy (6 credit hours).
- A course in applied ethics showing how moral deliberation is pivotal to some specific profession or field of human activity (3 credit hours).
- Two electives, to be selected from PL courses or courses with an ethical focus from other disciplines (6 credit hours).

For more details, contact the director of the program, Dr. Harry van der Linden, or visit www.butler.edu/philosophy-religion.

Core Courses Offered by Philosophy

AR231-PL, Principles of Reasoning: A survey of principles of reasoning used in a variety of disciplines, including philosophy, mathematics, statistics, the natural and social sciences, and law. Attention also will be paid to how to recognize and avoid fallacies. (U)(3). Fall and spring.

T1240-PL, Ethics of War and Peace: This course will focus on two normative approaches to war, just war theory, and pacifism. We will first examine how soldiers learn to kill and how killing impacts them psychologically and morally. Next, we will explore just-war principles for justly starting and executing war on basis of case studies, such as the terror bombing in the Second World War, the Gulf War, the Kosovo intervention, the Afghanistan war, and the second Iraq War. Special attention will be paid to humanitarian intervention, terrorism, and the doctrine of preventive war. During the final weeks of the semester we will discuss the philosophy of nonviolence and antiwar pacifism. (U)(3). Occasionally.

T1241-PL, Classics of Soc and Pol Thought:

A critical study of major texts of the history of Western social and political thought, such as Plato's Republic, Aristotle's Politics, Machiavelli's The Prince, Hobbes' Leviathan, and Marx's Communist Manifesto. Attention will be given to both the historical and contemporary relevance of the texts. (U)(3). Occasionally.

T1242-PL, Marginalized in America:

Marginalized in America: Gender at the Intersection of Race and Class. This course introduces the student to the philosophical method and skills of thinking out problems and issues that confront women in contemporary American society, viewed from the intersection of gender, race, and class. (U)(3). Fall and spring.

T1243-PL, Knowledge and Reality:

Fundamental philosophical questions about knowledge and reality will be studied through the analysis of classical and contemporary texts. Topics may include skepticism, the relationship between faith and reason, the nature of mind, free will, the nature and existence of the external world, and the nature and existence of God. (U)(3). Fall and spring.

T1244-PL, Ethics, The Good Life, and Society: Fundamental philosophical questions about right conduct, virtues and vices, the good life, and social policy will be examined on basis of classical and contemporary texts. Topics include issues of personal and social ethics, such as forgiveness, tolerance and hate speech, abortion, animal rights, and world poverty. Theories of justice, human rights, and meta-ethical topics may also be covered. (U)(3). Fall and spring.

Philosophy Courses

PL245, Classics of Social and Political

Philosophy: A critical study of major texts of the history of Western social and political thought, such as Plato's Republic, Aristotle's Politics, Machiavelli's The Prince, Hobbes' Leviathan, and Marx's Communist Manifesto. Attention will be given to both the historical and contemporary relevance of the texts. (U)(3). Occasionally.

0.2083 inPL310, Symbolic Logic: An introduction to symbolic logic. Topics will include systems for proving logical propositions, the interpretation of symbolic systems, and the relationship between symbolic and natural languages. Consideration will be given to the applications of symbolical logic to problems in philosophy, mathematics, computer science, and the natural sciences. (U)(3). Occasionally.

PL311, History of Ancient Philosophy:

A study of important figures of ancient philosophy, with particular emphasis on Plato and Aristotle. Prerequisite: one philosophy course or permission of instructor. (U/G)(3). Occasionally.

PL313, History of Modern Philosophy:

A study of important figures of modern philosophy, including Descartes, Hume, and Kant. Prerequisite: one philosophy course or permission of instructor. (U/G)(3). Occasionally.

PL320, Theory of Knowledge: A study of some fundamental problems of epistemology: the nature of knowledge and certainty, the relation of knowledge to belief, evidence and the justification of beliefs, and the problem of skepticism. Prerequisite: one philosophy course or permission of instructor. (U/G)(3). Occasionally.

PL323, Intro to Analytic Philosophy: A survey of some of the important themes in analytic philosophy from the late 19th century to the present, focusing on such figures as Russell and Wittgenstein. Prerequisite: one philosophy course or permission of instructor. (U/G)(3). Occasionally.

PL339, Philosophy and Literature: This course will explore philosophical problems (ethical dilemmas, self and society, the nature of time, the idea of God, etc.) as they are formulated or suggested in texts belonging to various literary genres. A segment of this course will also analyze the nature of literature itself from a philosophical perspective. (U)(3). Occasionally.

PL340, Philosophy of Art: A study of some of the major topics in the philosophy of art, including the essential nature of artistic representation, the problems entailed by aesthetic perception, and the relation between interpretation and the artist's intention. (U)(3). Occasionally.

PL342, Philosophy of Religion: A study of the logic and function of religious language with special reference to the problem of religious knowledge and the validity of religious claims. Prerequisite: one philosophy course or sophomore standing. (U/G)(3). Occasionally.

PL343, Philosophy of Science: An analysis of some philosophical questions about the natural sciences, including the problem of distinguishing science from pseudoscience, the nature of scientific explanation, the structure and confirmation of scientific theories, scientific revolutions, and the relationship between science and reality. Prerequisite: one philosophy course or permission of instructor. (U/G)(3). Occasionally.

PL344, Philosophy of Law: Consideration of general theories of law and justice; nature of judicial reasoning; topics such as relation of law and morality, punishment, legal rights, and legal liabilities. Prerequisite: one philosophy course or sophomore standing. (U/G)(3). Occasionally.

PL345, Contemporary Social and Political Philosophy: A critical study of major contemporary social and political philosophies, such as welfare liberalism, libertarianism, communitarianism, democratic socialism,

and feminism. Topics include economic justice within the state, global justice, rights, equality, the family, and workplace democracy. Prerequisite: one philosophy course or permission of instructor. (U/G)(3). Occasionally.

PL346, Philosophy of Mind: A study of philosophical questions concerning the mind: the nature of mind, the mind-body problem, the problem of free will and methodological approaches to the study of mind. Discussion of the power and limits of contemporary cognitive science. Prerequisite: one philosophy course or permission of instructor. (U/G)(3). Occasionally.

PL347, Existentialism: A study of existentialism, one of the most important philosophical movements of the twentieth century, focusing on the philosophical essays, novels, and plays of Jean-Paul Sartre, Albert Camus, and Simone de Beauvoir. Prerequisite: one philosophy course or permission of instructor. (U/G)(3). Occasionally.

PL348, Philosophy of Feminism: A study of cultural values, social practices, and policies that shape women's lives, and the philosophical responses to these. Topics include the workplace, the legal system, pornography, art and popular culture, abortion, reproductive rights, sexual practice, alternative families, militarism, and ecofeminism. Prerequisite: one philosophy course or one Gender, Women's and Sexuality Studies course. (U/G)(3). Occasionally.

PL349, Philosophy of Biology: A study of philosophical problems in biology. The course explores both theoretical problems within biology, like the evolution of altruism and problems of taxonomy, and philosophical problems that are influenced by biological theory, including the nature of morality and the status of religious belief. Prerequisite: BI110 or permission of instructor. (U/G)(3). Occasionally.

PL360, Ethics: An examination of the fundamental concepts and problems of morality, facts and values, duty and self-interest, and the logic and justification of moral judgments. Attention to major figures in history of ethical theory such as Aristotle, Butler, Kant, and Mill. Prerequisite: one philosophy course or permission of instructor. (U/G)(3). Occasionally.

PL363, Biomedical Ethics: A study of fundamental ethical problems in medical practice, health policy, and biomedical research. Topics include patients' rights and professional responsibilities, abortion, physician-assisted suicide, surrogate motherhood, justice in the allocation of medical resources, human genetics, and experimentation on human subjects and animals. Prerequisite: one philosophy course or sophomore standing. (U/G)(3). Annually, term varies.

PL364, Ethics and Int. Relations: A study of foundational and contemporary writings on the ethics of international relations. Key concepts and issues include realism, nationalism, cosmopolitanism, sovereignty, global poverty, immigration, humanitarian intervention, and global warming. Prerequisites: sophomore standing; IS101 or one PL course. (U)(3). Occasionally.

PL375, Topics in Philosophy: Treats a specific subject area of philosophy that is not the major subject of a regularly scheduled course. (U/G)(3). Occasionally.

PL380, Topics of Ethics: Treats a topic in normative philosophy that is not the major subject of a regularly scheduled course. (U)(3). Occasionally.

PL401, Independent Study: Individual study of a specific topic in philosophy under supervision of a member of the department. Assigned readings, papers, and tutorials. Obtain permission from department chair before enrolling. (U/G)(1). Occasionally.

PL402, Independent Study: Individual study of a specific topic in philosophy under supervision of a member of the department. Assigned readings, papers, and tutorials. Obtain permission from department chair before enrolling. (U/G)(2). Occasionally.

PL403, Independent Study: Individual study of a specific topic in philosophy under supervision of a member of the department. Assigned readings, papers, and tutorials. Obtain permission from department chair before enrolling. (U/G)(3). Occasionally.

PL405, Internship in Philosophy: Offers the qualified student the opportunity for supervised work experience in a setting pertinent to their area of study and their career goals. Contact department chair if interested. Open to

juniors and senior philosophy majors. (U)(3). Occasionally.

PL406, Internship in Philosophy: Offers the qualified student the opportunity for supervised work experience in a setting pertinent to their area of study and their career goals. Contact department chair if interested. Open to juniors and senior philosophy majors. (U)(6). Occasionally.

PL407, Internship in Ethics: Offers students the opportunity for supervised work experience relevant to the study of application of normative philosophy. Open to minors in ethics and philosophy majors. (U)(3). Occasionally.

PL410, Seminar in Philosophy: Advanced course in a major philosophical figure or issue. Non-majors need permission of the instructor. May be repeated for credit. Prerequisite: two philosophy courses and junior standing. (U/G)(3). Spring.

PL499, Honors Thesis: Undergraduate honors thesis in philosophy. (U)(3). Occasionally.

Religion

Why Study Religion?

For some, the academic study of religion is a way of exploring their own commitment to a particular religious tradition. For others, it is a way of trying to learn about and understand the perspectives, values, and traditions of others. Whatever the student's motivation, the religion major offers the opportunity to engage in a critical and sympathetic study of various religious traditions; to study religious literatures, practices and beliefs; and to investigate general questions regarding the nature of religion and the scholarly study thereof. A major in religion is a liberal arts major, and as such, exposes students to a wide spectrum of subjects and skills in order to produce broadly educated, sophisticated, and flexible leaders. What can one do with a religion major? Just about anything. Recent graduates of the program have gone on to study religion, law, public policy, medicine, and creative writing at the graduate level. Others have entered the nonprofit sector or religious ministries. Still others have found employment in a range of professions, like teaching, acting, and politics.

Why Study Religion at *Butler*?

- **Vocational discernment**—Butler’s religion program offers a close mentoring process designed—through careful advising, experiential learning, and internship opportunities, and in collaboration with Butler’s Center for Faith and Vocation—to connect theory and practice and help students discern their vocational direction, integrating who they are (in terms of the values they hold most dear) and what they want to do
- **A big “back yard”**—Within a few minutes of the campus are numerous churches, synagogues, mosques, temples, and meditation centers representing all of the world’s largest religious traditions. Butler’s urban location therefore allows students to explore both traditional and emerging American religious phenomena, and the ways in which these are increasingly intertwined with and inseparable from global religious trends. Butler religion majors also often study abroad through Butler’s Center for Global Education, sometimes with support from departmental awards.
- **Close contact with top-notch faculty**—Butler’s religion program offers small classes and boasts an unparalleled faculty-to-student ratio. Students therefore get to work closely (whether in class, through independent studies, or as research assistants) with professors who are active, widely recognized scholars.
- **Empathetic approach**—Whereas religion programs in religiously affiliated colleges and universities sometimes teach religion from a specific doctrinal perspective, Butler’s religion major is designed to expose students more broadly to the world’s major religious traditions. This approach challenges students to hone their skills of critical thinking, develops the ability to appreciate multiple religious perspectives, and provides an excellent preparation for many professions, including for those who intend to enter seminary or graduate work in religious ministry.
- **An education both sound and savvy**—The religion program at Butler University grounds its students in the classically broad tradition of the liberal arts, while at the same time providing them with the skills that are most crucial in the digital age.

Religion Student Learning

Outcomes

Students majoring in religion are expected to gain a basic core of factual knowledge about the world’s major religious traditions, acquire skills in critical thinking and textual analysis, develop the ability to identify and deploy credible sources of information (digital, print, or otherwise), cultivate understanding of and empathy for people of other faiths (in Indianapolis and beyond), and nurture a collaborative and civil disposition, that is, to work critically, openly, and with humility in the context of academic discussion and dispute.

Degrees

- Major in Religion
- Minor in Religion
- Combined Major in Philosophy and Religion

Requirements for Major

Majors must fulfill each of the following six requirements.

(Courses may fulfill more than one distribution requirement if they appear in more than one category below.)

1. Jewish and Christian Traditions (6 credit hours required from the list below):
 - RL307, The Historical Jesus
 - RL308, Paul and the Early Church
 - RL346, Heresy
 - RL347, History of Christianity
 - RL350, Topics in Judaism
 - RL366, Topics in Jewish and Christian Traditions (e.g., Theology from the Margins)
 - RL370, Modern Religious Thought
 - RL372, Mysticism
 - RL374, Faith and Doubt
 - Any approved three-credit internship, field study or study-abroad opportunity
2. Islam and the Asian Faiths (6 credit hours required from the list below):
 - RL353, Buddhism: Past and Present
 - RL354, Islam: Religion, Culture, Society
 - RL358, Hinduism: Past and Present
 - RL363, Religion, Politics, and Conflict in South Asia
 - RL367, Topics in Islam/Asian Faiths
 - RL377, Religion, Gender, and the Goddess in Asia
 - Any approved three-credit internship, field study, or study-abroad opportunity

3. Texts and Textual Interpretation (3 credit hours required from the list below):
 - TI251-RL, The Bible (formerly RL202)
 - RL213, Biblical Hebrew*
 - RL304, Psalms
 - RL308, Paul and the Early Church
 - RL309, The Gospel of John
 - RL375, Topics in Texts/Textual Interpretations
4. RL391, 392, Seminar on Religion and World Civilization (3 total credit hours)
5. RL405, Internship (3 credit hours)
6. RL381W, Theory and Method (3 credit hours)

Plus 33 total hours in religion, including (*not* in addition to) credits for courses fulfilling distributional requirements

In addition to the course requirements above, majors will complete the following two requirements:

1. Oral Expression Development—Majors will give an oral presentation in their junior or senior year (ask departmental faculty for details).
2. Butler Seminar on Religion and World Civilization—Majors not enrolled in RL391, 392 are expected, each year, to attend all quarterly dinners/lectures associated with this annual seminar series.

*Both RL213 and RL214 (Biblical Hebrew, second year) can count as elective religion credit. But only RL213 may be used to fulfill a distribution requirement. (RL214 can only be used as elective credit.)

Requirements for the combined Philosophy and Religion Major

A combined major in philosophy and religion consists of 42 hours. Detailed requirements are posted at the department website, www.butler.edu/philosophy-religion/philosophy/program-requirements, or can be obtained at the department's office.

Requirements for the Minor

A minor in religion consists of 18 hours in religion, 12 of which must be at the 300- or 400-level, and three of which must be RL381W (Theory and Method in the Study of Religion). Minors should create a suitable package of courses in consultation with a religion professor appointed by the chair.

Core Courses Offered by Religion

SW 260-RL, Sects in the City: A basic introduction to the religions and religious communities of Indianapolis, and an exploration of prominent issues and themes related to our city's (and our country's) increasing religious diversity. (U)(3). Occasionally.

TI 250-RL, Religions of the World: An introduction to the texts, practices, and ideas of the world's major religious traditions, including Hinduism, Buddhism, Confucianism, Taoism, Shintoism, Judaism, Christianity, Islam, and the indigenous traditions of Africa and the Americas. (U)(3). Fall and spring.

TI 251-RL, The Bible: Introduction to the content, historical context, methods of study, religious ideas, and cultural influence of the Jewish and Christian scriptures. (U)(3). Fall and spring.

TI 220-MU, Music and Religion: This course introduces students to two universals of human culture: music and religion. We will explore the complex, contradictory, and often symbiotic relationship of these two major cultural products in comparative and global perspective. We will look for connections between ritual, culture, and doctrine through an examination of several major religious and musical traditions, including the praise songs of the modern-day American evangelical movement, the spirituals of the nineteenth-century African American church, the chants and mystery plays of medieval European nuns, Indonesian cremation rituals, and the epic sacred stories of Turkic Siberia. Students will be encouraged to learn not only through readings on theology, ritual, and music (texts), but experientially through attendance at worship events in the Indianapolis community, and participation in ethnographic research and live performances (ideas). We will reflect upon our experiences analytically and descriptively through writing and discussion. (U)(3).

Religion Courses

RL304, The Book of Psalms: Study of the book of Psalms, the most frequently read and recited book of the Bible. Topics include the origin and composition of the Psalms in ancient Israel, the ethical and religious significance of the Psalms, and the impact of the Psalms on

world literature and music. Prerequisite: One religion course of sophomore standing. (U)(3). Occasionally.

RL307, The Historical Jesus: A close look at Jesus of Nazareth focused on sources and methods of knowledge about Jesus as a historical figure. Attention will also be paid to historical and cultural context, and to beliefs about and depictions of Jesus in early Christian literature. Prerequisite: One religion course or sophomore standing. (U)(3). Occasionally.

RL308, Paul and the Early Church: The New Testament Epistles: Focus on the New Testament letters, especially of Paul, with attention to the emergence and growth of the Christian movement in the Graeco-Roman world from the death of Jesus to the middle of the second century A.D. Prerequisite: One religion course or sophomore standing. (U)(3). Occasionally.

RL309, The Gospel of John: This course will study the Gospel of John both as literature and in relation to its historical setting. (U)(3). Occasionally.

RL346, Heresy: This course focuses on the study of primary texts that didn't make it into the Bible, and in the process explores how various definitions of what is orthodox and what is heretical came about. In addition to the so-called Gnostic Gospels, students will also learn about Gnostic group that has survived from the ancient world down to the present day. (U)(3). Occasionally.

RL347, History of Christianity: Historical development of Christianity from the first century to the present. Special attention to the selected topics, such as Eastern Orthodox worship and icons, Benedictine monasticism, the Roman Papacy, Luther and the Protestant Reformation, African Christianity, and the challenges to Christian belief in modern times. Prerequisite: One religion course or sophomore standing. (U)(3). Occasionally.

RL350, Topics in Judaism: Study of some central area of Jewish studies such as introduction to Judaism, American Judaism, Jewish religious thought and philosophy, and Jewish-Christian relations. May be repeated with a different topic. Prerequisite: One religion course of sophomore standing. (U)(3). Occasionally.

RL353, Buddhism: Past and Present:

Introduction to the basic concepts, philosophies, and practices of Buddhism in South Asia and East Asia from antiquity to the present. Prerequisite: One religion course or sophomore standing. (U)(3). Occasionally.

RL354, Islam: Religion, Culture, Society:

An introduction to Islam: origins, sacred texts, world view, culture and society, history and expansion, and Islam in the modern world. Origins and sacred texts are emphasized; relative emphasis on other topics varies. Prerequisite: One religion course or sophomore standing. (U)(3). Occasionally.

RL358, Hinduism: Past and Present: This course will examine Hinduism's practices and beliefs as depicted in its foundational scriptures as well as in the lives of modern Hindus.

Topics may include the following: Meditation practices, Indian medicine, male and female saints, Hinduism as portrayed in literature/film, Hinduism and modern South Asian politics. (U)(3). Occasionally.

RL363, Religion, Politics, and Conflict in South Asia:

Investigation of the interaction of South Asia's many religious communities, especially Hinduism, Islam, Christianity, Sikhism, and Buddhism, paying particular attention to how religious ideas, practices, and demographics have affected communal relations at various points in the Subcontinent's history. The course will focus on moments of conflict and movements of peace. (U/G)(3). Occasionally.

RL366, Topics in Jewish and Christian:

Treats a specific subject area of Judaism or Christianity which is not the major subject of a regularly scheduled course. (U)(3). Occasionally.

RL367, Topics in Islam/Asian Faiths: Treats a specific subject area of Islam or the Asian faiths which is not the major subject of a regularly scheduled course. (U)(3). Occasionally.

RL368, Topics in Religion and Society: Treats a specific subject area of religion and society which is not the major subject of a regularly scheduled course. (U)(3). Occasionally.

RL369, Topics in Religious Studies: Treats a specific subject area of religion that is not the major subject of a regularly scheduled course. (U)(3). Occasionally.

RL370, Modern Religious Thought: A survey of important religious thinkers and theological issues of the 19th and 20th centuries (e.g., Buber, Tillich, Weil, liberation theology, feminism). Emphasis is on the Christian and Jewish traditions and how they relate to earlier theological developments and to contemporary philosophical and cultural movements. Prerequisite: One religion course or sophomore standing. (U)(3). Occasionally.

RL371, Religion and Science: Surveys some main issues in the interaction between science and religion: a comparison of the tasks of scientific and theological research; models of interaction between science and religion; the Big Bang, evolution and creation; contemporary ideas of God. Prerequisite: One religion course or sophomore standing. (U)(3). Occasionally.

RL372, Mysticism: Study of the varieties of mysticism in world religion, with emphasis on Christian and Jewish mysticism. Readings drawn from the Bible, spiritual writings, autobiographies of mystics, letters, poems, and philosophical sources. Prerequisite: One religion course or sophomore standing. (U)(3). Occasionally.

RL375, Topics in Texts/ Textual Interpretations: Treats a topic related to religious scriptures, their history, and/or their interpretation. (U)(3). Occasionally.

RL377, Religion, Gender, and the Goddess in Asia: A study at the intersection of religion and gender studies. Course will begin with a discussion of feminist and theoretical perspectives on religion, and will then apply the knowledge gained therein to various goddess-oriented communities, past and present, with a focus on Asia. (U)(3). Occasionally.

RL378, Religion and Science Fiction: This course will explore and critically reflect on religious themes, motifs, concepts, and allusions in science fiction (including television and film as well as classic and more recent literature). Philosophical and ethical issues with a religious component will also be considered. (U)(3). Occasionally.

RL 381W, Theory and Method in the Study of Religion: Introduction to theories and methods used in the academic study of religion with some attention to the history of the discipline. Readings in James, Weber,

Durkheim, Otto, Eliade, Turner, Daly, Freud, Geertz, and others Prerequisite: Two religion courses or junior standing. (U)(3). Occasionally.

RL391, Seminar on Religion and World: Course is based on attendance at four public evening seminars and four Saturday morning workshops during the academic year. Theme varies annually. Students enrolled in RL391 are expected to take RL392 the following semester. (U)(1). Fall.

RL392, Seminar on Religion and World: Continuation of RL391. Course is based on attendance at four public evening seminars and four Saturday morning workshops during the academic year. Theme varies annually. Prerequisite: RL391 or instructor permission. (U)(2). Spring.

RL397, Field Seminar Abroad: The Field Seminar Abroad provides an opportunity to observe and enter into dialogue with religious communities abroad. Each seminar consists of preparatory study, a trip of one week in the field, and an assessment process including a paper. (U)(1). Occasionally.

RL398, Field Seminar Abroad: The Field Seminar Abroad provides an opportunity to observe and enter into dialogue with religious communities abroad. Each seminar consists of preparatory study, a trip of two to three weeks in the field, and an assessment process including a paper. (U)(2). Occasionally.

RL399, Field Seminar Abroad: The Field Seminar Abroad provides an opportunity to observe and enter into dialogue with religious communities abroad. Each seminar consists of preparatory study, a trip of two to three weeks in the field, and an assessment process including a paper. (U)(3). Occasionally.

RL401, Independent Study: Individual study of a specific topic in religion under supervision of a member of the department. Assigned readings, papers, and tutorials. Obtain permission from department chair before enrolling. (U/G)(1). Occasionally.

RL402, Independent Study: Individual study of a specific topic in religion under supervision of a member of the department. Assigned readings, papers, and tutorials. Obtain permission from department chair before enrolling. (U/G)(2). Occasionally.

RL403, Independent Study: Individual study of a specific topic in religion under supervision of a member of the department. Assigned readings, papers, and tutorials. Obtain permission from department chair before enrolling. (U/G)(3). Occasionally.

RL405, Internship: Offers the qualified student the opportunity for supervised work experience in a setting pertinent to their area of study and their career goals. Contact department chair if interested. Open to junior and senior religion majors. (U)(3). Occasionally.

RL406, Internship: Offers the qualified student the opportunity for supervised work experience in a setting pertinent to their area of study and their career goals. Contact department chair if interested. Open to junior and senior religion majors. (U)(3). Occasionally.

RL499, Honors Thesis: Undergraduate honors thesis in religion. (U)(3). Occasionally.

Physics and Astronomy

Administration

Xianming L. Han, Ph.D., department chair

Professors

Xianming Han, Ph.D.; Brian W. Murphy, Ph.D., director, J. I. Holcomb Observatory and Planetarium

Associate Professor

Dan W. Kosik, Ph.D.

Assistant Professor

Gonzalo Ordóñez, Ph.D.

Instructor

Jennifer L. Poor, Ph.D.

Associate Director, J. I. Holcomb Observatory and Planetarium

Richard B. Brown, M.S.

Why Study Physics?

Physicists seek to understand the fundamental workings of the physical world from the tiniest particles known to the entire universe. Majors develop mathematical, computer, and problem-solving skills to solve problems in areas such as classical mechanics, electricity, magnetism, thermodynamics, relativity, optics, and quantum mechanics. The skills mastered by physics majors are an excellent foundation for many professions in science, engineering, medicine, business

and law. Graduates find opportunities for employment in education, industry, and research. A bachelor's degree in physics is also excellent preparation for pursuit of an advanced degree not only in physics but also in other fields such as computer science, engineering, medicine, and law.

Why Study Physics at *Butler*?

- Majors participate in research experiences at about twice the national rate.
- Our students have 100 percent placement for those who seek undergraduate research/internship positions.
- Our student-to-faculty ratio is small: 7 to 1.
- Faculty members have expertise in atomic physics, geophysics, astrophysics, nuclear physics, computational physics, and condensed matter, allowing students a number of choices for on-campus research.
- The department belongs to the Southeastern Association for Research in Astronomy, a consortium with telescopes in Chile and Arizona, allowing research through remote observing as well as on-site visitation.
- Students have the opportunity to work in our Laboratory for Laser and Quantum Physics, which houses a YAG laser pumped tunable dye-laser to study interactions between light and matter.
- The department directs the Holcomb Observatory and Planetarium, which is home to a robotic 1-meter class telescope. Butler University is a member of the SARA consortium, which operates two remotely operated telescopes located at Kitt Peak National Observatory in Arizona and Cerro Tololo Inter-American Observatory in Chile. These three telescopes are available for our faculty and students for learning and research.
- Butler recently acquired Big Dawg, a super-computer with 384 compute cores, which we use for departmental research.
- Students can earn a degree in mechanical engineering, electrical engineering, computer engineering, biomedical engineering, energy engineering, or motorsports engineering concurrently through our Engineering Dual Degree Program (see Engineering Dual Degree Program).

Physics Program Student Learning Objectives

Students majoring in physics at Butler will gain a working knowledge of the basic concepts and theories of physics, which they will demonstrate by applying them to novel situations. They will learn to make inferences and deductions about physical systems using critical thinking, problem-solving techniques, mathematical and computer modeling, and laboratory experiments. They will gain the skills to conduct lab or modeling experiments, to analyze measurements, to evaluate uncertainty, and they will learn to communicate their findings both through speaking and through writing.

Degrees

- Major in Physics
- Minor in Astronomy
- Minor in Physics
- Major in Physics with Engineering Dual Degree Program (See Engineering Dual Degree Program.)

Requirements for the Major

- PH201, 202, Introduction to Analytical Physics
- PH301, Modern Physics
- PH303, Electromagnetic Waves and Optics
- PH311, Experimental Modern Physics
- PH321, Intermediate Classical Mechanics
- PH325, Thermodynamics and Statistical Physics*
- PH331 and PH332, Electromagnetic Theory I and II**
- PH495, Senior Seminar

** Mechanical engineering students in the Engineering Dual Degree Program may substitute an appropriate engineering mechanics course.

** Electrical engineering students in the Engineering Dual Degree Program may substitute appropriate engineering electronics courses.

A student who intends to pursue graduate studies in physics also should complete at least PH315, 421, and 422. Other electives may be advised by the department in consideration of a student's individual career plans. Consideration should be given to the requisites for each course in both math and physics. MA106, 107, and 208 are prerequisites for most 300-level physics courses. Students wishing to pursue a career in

astronomy and astrophysics should combine the physics degree with the astronomy minor.

Requirements for the Physics Minor

- PH201 and PH202, Introduction to Analytical Physics
- PH301, Modern Physics
- PH303, Electromagnetic Waves and Optics
- PH311, Experimental Modern Physics
- PH321, Intermediate Classical Mechanics

Requirements for the Astronomy Minor

- AS102, Modern Astronomy with Laboratory
- PH201, 202, Introduction to Analytical Physics
- AS301, Modern Astronomical Techniques
- AS311, Astrophysics I
- AS312, Astrophysics II

Note that MA106 and MA107 are prerequisites to the upper-division astronomy courses.

Core Courses Offered by Physics

NW262-PH, The Physical World: A one-semester study of selected topics in physics, astronomy, chemistry, and other related fields, and the mathematical analysis of physical problems. Some mathematical tools will be introduced as needed. Four lecture periods and two hours of laboratory per week. (U)(5). Fall, spring, and summer.

Physics Courses

PH105, Concepts of Physical Science: A one-semester study of selected topics in physics and the mathematical analysis of physical problems. The student should be already competent with algebra; a few additional mathematical tools will be introduced as needed. Four class periods and two hours of laboratory per week. (U)(5). Occasionally.

PH107, Elementary Physics 1: A two-semester course based on algebra and elementary trigonometry. This course is suitable preparation to meet the entrance requirements of most dental, medical, and pharmacy schools. Three class periods and two hours of laboratory per week. PH108 must be preceded by PH107. (U)(4). Fall.

PH108, Elementary Physics 2: A two-semester course based on algebra and elementary trigonometry. This course is suitable

preparation to meet the entrance requirements of most dental, medical, and pharmacy schools. Three class periods and two hours of laboratory per week. PH108 must be preceded by PH107. (U)(4). Spring.

PH152, Preparatory Analytical Physics:

A course in physical-problem analysis and solution using calculus and other mathematical tools required for PH201. Recommended for science and mathematics majors who need/wish to study PH201, but whose mathematical and physical-problem solving experience is limited. Prerequisite or corequisite: MA106. (U)(4).

PH200, Physics for the Health Sciences:

A survey of topics in physics applied to the human body and to medical diagnostic and treatment devices. (U)(3).

PH201, Introduction to Analytical Physics:

An introduction to Newtonian mechanics, thermal physics, waves, electromagnetism, and optics using calculus. Familiarity with algebra, trigonometry, and calculus is assumed. Four lectures and two hours of laboratory per week, plus one hour of recitation per week. PH202 must be preceded by PH201. Prerequisite: MA106 (may be concurrent) or permission of instructor. (U)(5). Fall.

PH202, Introduction to Analytical Physics:

An introduction to Newtonian mechanics, thermal physics, waves, electromagnetism, and optics using calculus. Familiarity with algebra, trigonometry, and calculus is assumed. Four lectures and two hours of laboratory per week, plus one hour of recitation per week. PH202 must be preceded by PH201. Prerequisite: MA106 (may be concurrent) or permission of instructor. (U)(5). Spring.

PH301, Modern Physics:

An introduction to special relativity and quantum mechanics emphasizing fundamental principles. Topics include Lorentz transformations, relativity, blackbody radiation, photoelectric effect, Compton effect, Schrödinger equation, quantum statistics, lasers, superconductivity, nuclear properties and reactions, and elementary particle properties. Prerequisites: MA208 (may be concurrent) and PH202 or permission of instructor. (U)(4). Fall.

PH303, Electromagnetic Waves and Optics:

A study of geometric and wave optics, interference, diffraction, and polarization of

electromagnetic waves. Two lectures and two hours of laboratory per week. Prerequisites: MA208 (may be concurrent) and PH202 or permission of instructor. (U)(3). Fall.

PH311, Experimental Modern Physics:

The student performs a series of experiments to explore and verify experimental implications of relativity and quantum mechanics. Experiments include determination of Planck's constant, speed of light, charge-to-mass ratio of electron, Franck-Hertz experiment, Bragg scattering, Rutherford scattering, and radioactive decay processes. Prerequisite: PH 301 or permission of instructor. (U) Spring.

PH315, Mathematical Methods for Physics:

Differential equations; coordinate systems and differential geometry; special functions; linear operators, groups and representation theory; complex analysis; Fourier series and integral transforms. Applications to problems in electromagnetic theory, classical mechanics, and quantum mechanics will be presented. Four lectures per week. Prerequisite: MA208, PH201, and PH202. (U)(4). Occasionally.

PH316, Mathematical Methods for Physics:

Differential equations; coordinate systems and differential geometry; special functions; linear operators, groups and representation theory; complex analysis; Fourier series and integral transforms. Applications to problems in electromagnetic theory, classical mechanics, and quantum mechanics will be presented. Four lectures per week. Prerequisite: MA208, PH201, and PH202. (U)(4). Occasionally.

PH321, Intermediate Classical Mechanics:

A study of the classical dynamics of oscillators, gravitational systems, calculus of variations, Lagrangian and Hamiltonian formalisms, dynamics of many-particle systems, and continuous media, including noninertial motion, rotational motion, normal modes, and wave theory. Prerequisites: PH202 and MA208 or permission of instructor. (U)(4). Fall.

PH325, Thermodynamics and Statistical

Physics: A study of the theory and applications of the first and second laws of thermodynamics; thermodynamic potentials; kinetic theory; classical and quantum statistical mechanics; and ensemble theory to thermodynamic systems. Four lecture hours per week. Prerequisites: PH202 and MA107 or permission of instructor. (U/G) Spring.

PH331, Electromagnetic Theory 1: A study of classical electric and magnetic fields, boundary value problems, dielectric and magnetic materials, Maxwell's equations, radiation, and special relativity. Three hours of lecture per week. Prerequisites: PH202 and MA208 or permission of instructor. (U/G) Fall.

PH332, Electromagnetic Theory 2: A study of classical electric and magnetic fields, boundary value problems, dielectric and magnetic materials, Maxwell's equations, radiation, and special relativity. Three hours of lecture per week. Prerequisites: PH202 and MA208 or permission of instructor. (U/G) Spring.

PH351, Analog Electronics I: Survey of electronic devices. Measurement of continuously varying quantities in time and frequency domains. Rectifiers, amplifiers, feedback, with emphasis on operational amplifiers and their uses. Three lectures and three hours of laboratory per week. Prerequisite: PH202 or permission of instructor. Fee. (U) (4). Fall.

PH352, Digital Electronics: Logic design, Karnaugh maps, state diagrams. Arithmetic and logic functions. Flip-flops, counters, and shift registers. Introduction to design with MSA and LSI devices. Two lectures and three hours of laboratory per week. Prerequisite: PH351 or permission of instructor. Fee. (U)(3).

PH411, Theoretical Physics: A study of mathematical methods of physics, including boundary-value problems, special functions, linear operators, and group theory, with applications to problems in electromagnetic theory, classical and quantum mechanics. Three lectures per week. Prerequisites: PH331 and MA334 or permission of instructor. (U/G) Occasionally.

PH412, Theoretical Physics: A study of mathematical methods of physics, including boundary-value problems, special functions, linear operators, and group theory, with applications to problems in electromagnetic theory, classical and quantum mechanics. Three lectures per week. Prerequisites: PH331 and MA334 or permission of instructor. (U/G)

PH413, Independent Study in Physics: (U) (1).

PH414, Independent Study in Physics: (U) (1-3)

PH421, Quantum Theory 1: A study of the Schrodinger and Heisenberg pictures of simple systems including the harmonic oscillator and inverse- r potential, approximation methods, and the theory of angular momentum. Four hours of lecture per week. Prerequisites: PH301 and PH331 or permission of instructor. (U/G) (4). Occasionally.

PH422, Quantum Theory 2: A study of applications of quantum theory to atoms and molecules, time-dependent theory, second quantization and scattering theory, and relativistic quantum theory. Four lectures per week. Prerequisite: PH421 or permission of instructor. (U/G)(4). Occasionally.

PH427, General Relativity and Gravity I: Tensor analysis in classical field theory, Einstein's field equations, the Schwarzschild solution, linearized field equations, experimental gravitation, cosmological models, and gravitational collapse. Prerequisites: PH321 and PH332 or permission of instructor. (U/G) (3).

PH428, General Relativity and Gravity II: Tensor analysis in classical field theory, Einstein's field equations, the Schwarzschild solution, linearized field equations, experimental gravitation, cosmological models, and gravitational collapse. Prerequisites: PH427 or permission of instructor. (U/G)(3).

PH461, Computational Physics: An introduction to numerical methods frequently used in physics for solving problems that cannot be solved analytically in a closed mathematical form. Topics include numerical solution of problems dealing with oscillatory motion, gravitation, electrical fields, fluid dynamics, heat conduction, Schrödinger equation, and elastic wave motion. Prerequisites: PH321, PH331, or permission of the instructor. (U)(3). Occasionally.

PH480, Special Topics: By arrangement with appropriate staff. (U/G)(3).

PH491, Undergraduate Tutorial and Research: (U)(3).

PH492, Undergraduate Tutorial and Research: (U)(6)

PH493, Undergraduate Tutorial and Research: (U)(9)

PH495, Senior Seminar: This seminar, for junior and senior physics majors, features student presentations on special research projects and selected readings in scientific current literature. A comprehensive physics exam covering all areas of physics in the curriculum will be given to all senior physics majors in the course. (U)(1). Fall.

PH499, Honors Thesis: (U)(3).

Core Courses Offered by Astronomy

NW263-AS, The Astronomical Universe: A one-semester survey of astronomy including ancient Greek astronomy, the motions of the night sky, the solar system, other solar systems, the lives of stars including the Sun, and the origin and fate of the universe. This will be a four lecture hour/two hour lab course. (U)(5). Fall, spring, and summer.

Astronomy Courses

AS100, The Astronomical Universe: A descriptive study of basic astronomy including the planets and the apparent motions of celestial objects, the seasons, constellations, comets and meteors, stars, galaxies and large-scale structure of the universe, plus current events in space exploration. There will be planetarium demonstrations and telescope observations. Some hands-on lab experiences are provided. (U)(3). Fall, spring, and summer.

AS301, Modern Astronomical Techniques:

Introduction to techniques and equipment used in modern astronomy with emphasis on detection and analysis of electromagnetic radiation and the fundamental properties of telescopes and detectors. Lectures and laboratory. Laboratories focus on observational techniques and data reduction. Prerequisites: AS102 and PH202. (U)(3). Spring.

AS311, Astrophysics 1: The first semester of an introductory course on stellar astrophysics using nearly every branch of physics. Emphasis is on the underlying physical principles; including the nature of stars, stellar energy generation, stellar structure and evolution, astrophysical neutrinos, binary stars, white dwarfs, neutron stars and pulsars, and novae and supernovae. Prerequisites: AS102 and PH202. (U)(3). Fall.

AS312, Astrophysics 2: A continuation of AS311. The course covers the application of physical principles to the inter-stellar medium,

the kinematics and dynamics of stars and stellar systems, galactic structure, formation and evolution of galaxies, relativity, Big Bang and inflationary models of the origin of the universe, and the large-scale structure and ultimate fate of the universe. Prerequisite: AS311. (U)(3). Spring.

Political Science Department

Administration

Siobhán McEvoy-Levy, Ph.D., department chair

Professors

Margaret A. Brabant, Ph.D.

Associate Professors

Craig W. Auchter, Ph.D.; Terri R. Jett, Ph.D.; Siobhán McEvoy-Levy, Ph.D.

Assistant Professor

Robin Turner, Ph.D.; Su-Mei Ooi, Ph.D.

Professor Emeritus

Dave Mason, Ph.D.

Why Study Political Science?

The faculty members of the Political Science Department at Butler University see our discipline as connected to liberal arts, which are about studying and understanding ourselves, other peoples, different ways of being and knowing, of developing tolerance and empathy, and learning to use evidence and think critically. As political scientists, we seek to understand the causes of wars, social injustices, economic disparities, and uneven technological growth for the purpose of alleviating suffering. Because a liberal arts education encourages an activist disposition, we look for ways to address problems such as world poverty, inadequate health care, educational disparities between neighboring communities and environmental degradation, and seek nonviolent solutions to human rights violations worldwide. The department deliberately challenges systems, institutions, and leaders that dehumanize, marginalize, and oppress any persons and other living beings. We seek to engage in intellectual practices that provide sustainable solutions for the betterment of all.

Why Study Political Science at Butler?

The department is committed to teaching students how to effect positive social change. In practicing citizenship skills that include empathetic listening, moral reasoning, personal responsibility, and a greater awareness of one's

responsibility to the human polity, our students develop as active and engaged citizens at the local, national, and international levels. We offer courses that include service-learning and community-based research, encourage students to accept responsibility for their learning, and recognize that knowledge may be obtained from a variety of different people and situations.

Political Science Program Student Learning Outcomes

1. Analyze and differentiate various political movements, structures, and institutions in the United States and other countries.
2. Differentiate and make connections between theory and practice, between global and local events, and between political science and other disciplines.
3. Demonstrate an awareness of different cultures and their effect on domestic and international affairs.
4. Demonstrate leadership and collaborative skills through active engagement in service learning and internships.
5. Apply research and communication techniques effectively.
6. Value the fundamental importance of one's membership in the human polity, emphasizing citizenship and political community.

Degrees

- Major in political science
- Minor in political science

Requirements for Political Science Major

33 hours of PO courses, of which at least 20 hours must be in courses numbered above 299. Majors must take PO201, plus three of the other introductory courses (PO101, PO102, PO131, PO141, PO151, PO210, or PO220) and at least one writing-intensive departmental seminar (PO490)

Requirements for Political Science Minor

18 hours of PO courses, including PO101 and PO201 and at least nine hours at the upper level (above 299). Undergraduates enrolled in any college or program are eligible to minor in the field.

Core Courses offered by Political Science

SW240-PO, Gender and Generations: War and Peace: This course is organized around the following inquiry: *When gender and generation are used as categories of analysis, what do we learn about the politics of violence and peace?* We are taking the lenses of gender and age and training them on different aspects of global politics, society, and culture. What forms of violence do we see? (U)(3). Annually, term varies. (U)(3). Annually, term varies.

TI 255-PO, The Politics of Alice Walker: This course will introduce students to the great works of Alice Walker who is accomplished in many literary areas—poetry, short stories, novels, and political/cultural essays. Infused in all of her works is her personal and evolving political worldview, of which so many diverse people identify and yet her voice is distinctly African American female. We will read an array of her texts and develop an understanding of what drives her political identity. (U)(3). Spring.

Political Science Courses

PO101, Introduction to Politics: The ideas and practice of politics, with consideration of the political systems and foreign policies of the United States and countries in Europe and the Third World. (U) Occasionally.

PO101SL, Introduction to Politics: The ideas and practice of politics, with consideration of the political systems and foreign policies of the United States and countries in Europe and the Third World. (U)(3). Occasionally.

PO102, Introduction to Peace Studies: This course provides a basic introduction to the study of Peace Studies. It begins with an examination of the history of the field and its major theoretical and philosophical currents. The second part of the course deals with structural, cultural, and direct violence and issues such as social justice, human rights, and peace building with reference to contemporary cases. (U)(3). Annually, term varies.

PO131, Introduction to US Politics: The contemporary political system with emphasis on the functioning of the institutions of the national government in the context of the political culture and the political economy of the United States. (U)(3). Annually, term varies.

PO141, Introduction to International Politics: An analysis of patterns in international politics with emphasis on conflict and cooperation, the international economy, resource scarcity, and the foreign policies of major powers. (U)(3). Annually, term varies.

PO151, Intro to Comparative Politics: Study of several political systems in Europe, Asia, Africa, and Latin America examining similarities, differences, and factors involved in stability, change, or revolution. (U)(3). Annually, term varies.

PO201, Research and Analysis: This course, required of all majors, will introduce students to the process of designing and executing research projects (large and small) in political science; to library, archival, and web-based resources for political research; to quantitative and qualitative methods of analysis; and to writing research reports for various audiences. (U)(3). Fall and spring.

PO210, Basic Political Thought: Structured around certain perennial topics of politics, this course introduces students to the philosophical ideas that form the foundation of political institutions. (U)(3). Annually, term varies.

PO220, Community Mediation: This course focuses on conflicts experienced by human communities and ways in which these conflicts can be understood as opportunities for constructive change through the cultivation of multiple perspectives, identification of underlying shared needs and interests, and collaborative approaches to forging agreements amidst challenging circumstances. (U)(3). Annually, term varies.

PO320, International Relations: Problems in world politics since 1900 with particular attention to the efforts at peaceful settlement of international conflicts. (U/G)(3). Occasionally.

PO322, International Conflict and Peace Building: The course examines theories of conflict and peace building and analyzes, in depth, specific cases of inter-state and intra-state warfare and post-war reconstruction. Students participate in simulated peace negotiations. (Prerequisite: PO141 or PO220, or consent of the instructor.) (U/G)(3). Annually, term varies.

PO332, State and Local Govt and Politics: American state and local government activities and electoral politics, emphasizing the issues of political management and policy analysis. (U)(3). Occasionally.

PO335, Racial and Ethnic Politics: The course will examine racial and ethnic group efforts to gain political power within American society, mostly as a result of access to and representation within the formal structures of American politics. Particular attention will be given to the increasing political competition between these groups and to strategies for cooperation. (U)(3). Occasionally.

PO337, Politics of the Urban Experience: Students develop a comprehensive understanding of political processes and problem solving in the urban environment. Through service-learning, students learn how the urban community is transformed, analyze contemporary challenges that drive its development of stagnation, and anticipate the importance of the urban community to our survival as a nation. (U/G)(3).

PO350, African Politics: A study of the problems and policies of African states regarding nationalism, national integration, ideologies of development, democratization, and stability. Focus on sub-Saharan Africa, although a continent-wide consideration for some topics. Prerequisite: PO151 or junior standing. (U)(3). Annually, term varies.

PO355, United States Foreign Policy: Evolution of U.S. foreign policy since World War II and the processes and institutions involved in shaping and implementing that policy. (U/G)(3). Occasionally.

PO358, Foreign Policy Making in Washington: This course focuses on foreign policy-making as practiced in Washington, D.C.; it examines how politicians, lobbyists, citizens, and diplomats interact in and around Washington's corridors of power to determine international policy outcomes. Firsthand insights gained through dialogue with those who make and implement policy and close scrutiny of key international issues provide students with a "laboratory" for understanding the politics of foreign policy-making in the U.S. capitol, how these policies are shaped, and why they succeed or fail to achieve their stated objectives. (U)(3). Occasionally.

PO360, Political Regimes Latin America:

Comparative study of the politics of development in Latin America with particular attention given to the interdependence of economic, social, cultural, and external influences upon political regimes as well as the efficacy and legitimacy of the regimes themselves. Prerequisite: PO101, PO151, or permission of the instructor. (U/G)(3). Annually, term varies.

PO362, Popular Participation in Latin America:

This course focuses upon the efforts of peasants, urban workers, neighborhoods, church groups, and students to organize and mobilize in politically efficacious ways. The themes of social class, gender, ethnicity, and the informal sector are interwoven in an analysis of the successes and failures of these attempts at popular participation in the political process. Prerequisite: PO101, PO151, or permission of the instructor. (U/G)(3). Annually, term varies.

PO364, United States-Latin American Relations:

Historical orientation to the evolving context, institutions, and central concerns of United States-Latin American relations with particular focus upon divergent perspectives of definitions of interests and responsibilities, as well as a search for viable solutions to common problems in the Western Hemisphere. Prerequisite: PO101, PO141, or permission of the instructor. (U/G)(3).

PO371, U.S. Parties and Politics:

Examination of interplay between the main components of our two major parties, party organization, party-in-government, and party-in-the-electorate. Emphasis on recent trends, particularly in the process of presidential selection. (U/G)(3). Occasionally.

PO372, Role of Protest in U.S. Politics:

Protest movements in U.S. politics. An examination of the historical context of protest movements and a consideration of theoretical approaches to understanding them. Includes the Civil Rights and anti-war movements of the 1960s. Prerequisite: (one of the following) PO101, PO131, PO141, or consent of instructor. (U/G)(3). Occasionally.

PO373, Public Policy: An introduction to the study of how public policies are established in the United States. Emphasis on developing and applying analytical skills. Students are expected to research, in depth, a particular

policy issue such as housing, the environment, or the workplace. Prerequisite: (one of the following) PO101, PO131, PO151, or consent of instructor. (U/G)(3).

PO374, Public Administration: (U)(3).

PO375, Public Opinion: This course is an introduction to the design, implementation, use, and abuse of public opinion surveys for social and political research, news and policy analysis, and political campaigns. In the course of the semester, we will develop a survey instrument, conduct interviews with CATI (computer-assisted telephone interviewing) software, and do some basic analysis of the results. Prerequisite: One of the following: PO101, PO201, junior standing, or consent of instructor. (U/G)(3). Occasionally.

PO377, Constitutional Law: Examination of Supreme Court cases in areas such as freedom of speech, religion, criminal due process, government regulation of commerce, and racial discrimination. (U/G)(3). Occasionally.

PO379, The Presidency and the Congress:

The modern president's role as leader of public opinion, the executive branch, and Congress. Congressional leaders and their relationship with the president, each other, and Congress. (U/G)(3). Occasionally.

PO380, Topics in Political Science:

Selected topics of contemporary significance in scholarship in political science. Prerequisite: At least one political science class, junior standing, or permission of instructor. (U)(3). Fall and spring.

PO 381S, Ancient and Medieval Political Thought:

This course examines the foundation of Western political thought and considers the ways in which the successors of a tradition simultaneously criticize and incorporate the work of their predecessors as they seek to construct new theories of politics. Prerequisite: PO101, PO210, or permission of instructor. (U/G)(3). Occasionally.

PO382, Modern Political Thought:

Study of several leading political writers from Hobbes through Marx, with attention to certain basic similarities in addition to pronounced differences. Prerequisite: Junior standing or permission of the instructor. (U/G)(3). Occasionally.

PO 383S, U. S. Political Thought: Selected writings of U.S. authors focusing on four periods: founding of the republic, slavery, suffrage, and the civil rights movement. Prerequisite: PO131, PO210, or permission of the instructor. (U/G)(3). Occasionally.

PO384, Politics Through Film: Post-war Hollywood films as they reflect and help to create the persuasive political culture of the United States. Draws on analytical, historical, aesthetic, and political economy approaches. Prerequisite: PO101, PO131, or consent of instructor. (U/G)(3). Occasionally.

PO 385SL, The Enduring Quest for Community Service Learning: This course examines various ideas of the meaning and purpose of communities throughout the history of western political thought. Beginning with Greek conceptions of what it means to live together, we will consider how the definition and purpose of community evolves to the contemporary period. Consideration of contemporary efforts to recover idyllic communities will also be considered as part of the continuing effort on the part of human beings to link personal and political practices. The course includes a service-learning component. (U)(3). Occasionally.

PO386, Black Political Thought: Students will develop a historical understanding of political thought that is reflective of the black experience. We will explore black political theorists of Africa, America, and other contexts of the African diaspora. (U)(3). Occasionally.

PO400, Independent Study: Offers the qualified student of political science the opportunity to pursue a topic of individual interest. Open only to seniors, by permission of the instructor. (U)(1). Fall and spring.

PO401, Independent Study: Offers the qualified student of political science the opportunity to pursue a topic of individual interest. Open only to seniors, by permission of the instructor. (U)(2). Fall and spring.

PO402, Independent Study: Offers the qualified student of political science the opportunity to pursue a topic of individual interest. Open only to seniors, by permission of the instructor. (U)(3). Fall and spring.

PO403, Internship: Offers the qualified student the opportunity for supervised work

experience in a setting pertinent to political science. Prerequisite: permission of the department chairman. (U)(2). Fall and spring.

PO404, Internship: Offers the qualified student the opportunity for supervised work experience in a setting pertinent to political science. Prerequisite: permission of the department chairman. (U)(3). Fall and spring.

PO405, Internship: Offers the qualified student the opportunity for supervised work experience in a setting pertinent to political science. Prerequisite: permission of the department chairman. (U)(6) Fall and spring.

PO406, Internship: Offers the qualified student the opportunity for supervised work experience in a setting pertinent to political science. Prerequisite: permission of the department chairman. (U)(9) Fall and spring.

PO407, Student Apprenticeship in Political Science: Students work with faculty mentors on their teaching or their research. In teaching apprenticeships, students work with the professor in the development and discussion of the classroom experience. In research apprenticeships, students work with a faculty mentor on his or her current research. Prerequisites: Junior standing, two courses in political science. By application only. (U)(1). Fall and spring.

PO408, Student Apprenticeship in Political Science: Students work with faculty mentors on their teaching or their research. In teaching apprenticeships, students work with the professor in the development and discussion of the classroom experience. In research apprenticeships, students work with a faculty mentor on his or her current research. Prerequisites: Junior standing, two courses in political science. By application only. (U)(2). Fall and spring.

PO409, Student Apprenticeship in Political Science: Students work with faculty mentors on their teaching or their research. In teaching apprenticeships, students work with the professor in the development and discussion of the classroom experience. In research apprenticeships, students work with a faculty mentor on his or her current research. Prerequisites: Junior standing, two courses in political science. By application only. (U)(3).

PO490, Seminar in Political Science: A particular subject in political science will be studied each semester. Writing Intensive. Prerequisite: Junior standing or permission of the instructor. (U/G)(3).

PO499, Honors Thesis: (U) Occasionally.

Psychology Department

Administration

Robert H. I. Dale, Ph.D., department chair

Professors

John Neil Bohannon III, Ph.D.; Robert H. I. Dale, Ph.D.; Kathryn A. Morris, Ph.D.

Associate Professors

R. Brian Giesler, Ph.D.; Tara T. Lineweaver, Ph.D.; Joel Martin, Ph.D.; Robert J. Padgett, Ph.D.

Assistant Professors

Amanda C. Gingerich, Ph.D.; Alison L. O'Malley, Ph.D.

Visiting Assistant Professor

Andrew J. Butler, Ph.D.

Why Study Psychology?

The goal of an undergraduate psychology program is to introduce students to knowledge of the principles of emotion, behavior, and cognition as established by scientific methods. Students majoring in psychology study the core content areas of psychology in preparation for graduate study and later professional pursuits in psychology or related fields.

Why Study Psychology at *Butler*?

Students in our program develop an understanding of psychological science through instruction in the classroom and hands-on participation in research projects. The classroom portion of the curriculum is structured so that students first receive a general overview of the topics and methods in psychology, followed by a more thorough exploration of specific content areas. We emphasize a broad and stable base of content; every psychology major studies the same basic core of subject matter and methods in psychology. Further, each psychology student has the opportunity to add depth to that knowledge by studying particular content areas more specific to his or her interests.

Participation in student-faculty collaborative research is the hallmark of our program. We encourage students to become involved in research projects with one or more professors

during their undergraduate years. Research involvement is structured so that students evolve from apprentices to collaborators by taking progressively greater responsibility for the design and execution of psychological research projects. Some students complete an Honors Thesis, a year-long research project. They routinely make presentations at the Butler Undergraduate Research Conference and at national professional meetings such as the annual convention of the Association for Psychological Science. Approximately 80 percent of our graduates have participated in at least one research project.

Students benefit from participating in student-faculty collaborative research in several ways. They have the opportunity to apply the concepts, theories, and ideas learned in the classroom. They also learn how to think like psychologists and how to conduct scientific research. No amount of reading about psychology or listening to instructors can replace the experience of conducting research in behavioral science.

Because a career as a professional psychologist requires a graduate degree, the knowledge and skills students acquire through coursework and research experience in our program prepare them for graduate study. About one-third of our students attend graduate school immediately after completing our program. Another third enter graduate school after working for one to five years in a field related to psychology. Most of these students enter graduate programs in psychology, social work, and counseling. Some attend medical or law school. The remaining students begin careers in a wide range of fields, most of which are health care or service related (pharmaceutical companies, nonprofit organizations, health care services, management, computer services, human resources, sales, education, and advertising, to name a few).

Psychology Student Learning Outcomes

Psychology students will not only master the core content areas of psychology, but will also value an empirical approach to the study of behavior. In doing so, students will develop the skills to analyze behavior within a theoretical context, design studies to address research questions, and evaluate the validity of scientific claims.

Degrees

- Major in psychology
- Minor in psychology
- Combined major in psychology and sociology/criminology (see combined majors)
- Combined major in psychology and sociology/social work (see combined majors)
- Combined major in psychology and anthropology (see combined majors)
- Combined major in psychology and philosophy (see combined majors)
- Combined major in psychology and political Science (see combined majors)
- The department participates in the neuroscience minor (an interdisciplinary program)

Requirements for the Major

The major in psychology (39 or 41 credit hours) sets three goals for student development: to master a central core of psychological knowledge, to acquire basic methodological and computer skills, and to attain a sophisticated knowledge of at least one area within psychology. Students must take the following courses:

Content Core:

- SW250-PS, Psychological Inquiry or equivalent, or NW220-PS, Behavioral Science
- PS202, Learning
- PS235, Biological Bases of Behavior
- PS320, Life Span Developmental Psychology
- PS350, Social Psychology
- PS385, Cognitive Processes
- PS440, Psychology of Personality

Methodological Core:

- PS210, Research Methods/Statistics I
- PS211, Research Methods/Statistics II
- PS310, Advanced Statistics in Psychology

Specialized Courses:

- One additional psychology elective at the 300-400 level
- One additional psychology elective at the 400-level
- One 400-level seminar (from the list of five special-topics seminars)

Psychology majors are encouraged to include courses in anthropology, the biological sciences, chemistry, computer science, mathematics,

philosophy, physics, and sociology as they plan their undergraduate career.

Requirements for the Minor

A minor in psychology (21-23 credit hours) consists of: SW250 or equivalent, or NW220; PS210 and PS211; any three of PS202, PS235, PS320, PS350, PS385, or PS440; and any psychology course at the 300-400 level (including courses in the previous list).

Core Courses Offered by Psychology SW225-PS, Humans and the Natural

Environment: Understanding how people think about and interact with nature is crucial for promoting both human well-being and environmental sustainability. We will apply psychological research on human cognitive, emotional, and behavioral responses to nature in hopes of fostering interaction with nature and encouraging conservation-oriented behavior at both individual and societal levels. This course fulfills the ICR requirement and this entails engaging with local sustainability initiatives. (U)(3). Annually, term varies.

SW 250-PS, Psychological Inquiry: An introduction to the general principles and facts of behavior, cognition, and emotion as established by the methods of social science. (U)(3). Fall and spring.

NW 220-PS, Behavioral Science: Students will learn the core theories in psychology and the methods used to derive and test the adequacy of those theories. Included in this are concepts of behavioral measurement and statistics, operational definitions used to assess theoretical concepts/mechanisms, hypothesis testing, and scientific report writing according to APA guidelines. Each content area will be covered through current and past theories and their methods of testing theoretical adequacy. (U)(5). Occasionally.

NW 221-PS, Human Behavioral

Measurement: An introduction to the philosophy and nature of science and scientific reasoning as applied to the problem of measuring human cognition and behavior. Topics include the development of surveys, tests, time, and event sampling, reaction time measures, signal detection methods, as well as physiological measures of human behavior. (U)(5). Occasionally.

Psychology Courses

PS105, Careers in Psychology: Overview of major's program. Discussions of potential career options and credentials required for each. Outside speakers. Development of statement of career objectives. (P/F) (U)(1). Spring.

PS202, Learning: A survey of various types of learning, including classical conditioning, instrumental conditioning, and observational learning. The course introduces behaviorist theories of learning for both humans and animals, and includes discussion of theoretical and methodological issues. Prerequisite: C- or better in SW250-PS or NW220-PS, or permission of instructor. (U)(3). Fall and spring.

PS210, Research Methods/Statistics I: This course is the first in a two-course sequence designed to introduce students to research methods and statistics commonly used in psychology. Prerequisite: Prerequisite: C- or better in SW250-PS or NW220-PS, or permission of instructor. (U)(3). Fall and spring.

PS211, Research Methods/Statistics II: A continuation of Research Methods/Statistics I. This semester focuses on more advanced research and statistical techniques commonly used in psychology. Prerequisite: C- or better in Research Methods/Statistics I or permission of instructor. (U)(3). Fall and spring.

PS235, Biological Bases of Behavior: Relations between the anatomy and physiology of the organism and its behavior. Prerequisite: C- or better in SW250-PS or NW220-PS, or permission of instructor. (U)(3). Fall and spring.

PS305, Psychology of Gender: This course emphasizes the biological, cognitive, social, and cultural factors that produce, enhance, and maintain similarities and /or differences in men's and women's behavior and psychological functioning. Applied topics related to gender will also be covered. Introductory psychology is strongly recommended. (U)(3). Occasionally

PS320, Life Span Developmental Psychology: Behavioral, cognitive, and developmental principles and theories of human psychological development. Special emphasis is placed on the development of intellectual, emotional, perceptual, linguistic,

and social behavior. Prerequisite: C- or better in SW250-PS or NW220-PS, or permission of instructor. (U)(3). Fall and spring.

PS333, Human Sexuality: This survey course is intended to provide an introduction to the scientific study of human sexuality. Although psychological approaches to sexuality will be emphasized, the course will be grounded in the biopsychosocial model and will incorporate perspectives from a variety of disciplines. Prerequisite: C- or better in SW250-PS or NW220-PS, or permission of instructor. (U)(3). Occasionally.

PS350, Social Psychology: A study of variables in a social context, which may help determine the cognition, perception, and behavior of the individual. Special emphasis is placed on the current theory and research of social psychology. Prerequisite: C- or better in SW250-PS or NW220-PS, or permission of instructor. (U)(3). Fall and spring.

PS360, Industrial/Organizational Psych: Psychology's methods and principles are applied to both 'industrial' topics associated with human resources management such as employee selection and training as well as 'organizational' topics such as motivation, leadership, and stress. Prerequisite: C- or better in SW250-PS or NW220-PS, or permission of instructor. (U)(3). Occasionally.

PS385, Cognitive Processes: A compare and contrast theory course, covering basic issues in memory, information processing, problem solving, psycholinguistics, artificial intelligence, and expert systems as they reflect memory abilities and thought processes in people. Prerequisite: C- or better in SW250-PS or NW220-PS, or permission of instructor. (U)(3). Fall and spring.

PS391S, Internship: An opportunity for the qualified student to participate in a supervised work experience in a setting pertinent to the major area of study. Open to junior and senior majors with permission of instructor. May be repeated up to 6 hours. (U)(1). Fall, spring, and summer.

PS396, Directed Research: Students working on faculty research can earn research credit. Students will help run experiments, read relevant literature, and write papers on related topics. Students gain hands-on

research experience. Prerequisite: permission of instructor. May be repeated up to six hours. (U) (1). Fall, spring, and summer.

PS412, Advanced Applied Neuroscience:

This course provides an advanced overview of the principles and methods of neuroscience as applied to understanding brain systems and dysfunction. Prerequisite: C- or better in PS235, PS385 or permission of instructor. (U) (3). Occasionally.

PS415, Psychological Testing: An

introduction to the theory and problems involved in the measurement of psychological variables leading to critical discussion and analysis of tests of ability and personality. Prerequisite: 10 hours or permission of instructor. (U/G)(3). Annually, term varies.

PS420CW, History of Psychology: The historical antecedents of psychology leading to discussion of the events and trends of the recent past and their impact on modern psychology. Prerequisite: 10 hours or permission of instructor. (U/G)(3). Annually, term varies.

PS440W, Psychology of Personality: An intensive study of the more important theories regarding the nature and determinants of personality. Prerequisites: 10 hours or permission of instructor. (U/G)(3). Fall and spring.

PS441, Abnormal Psychology: Current research relating to description, classification, and dynamics of the varieties of deviant behavior including elementary consideration of diagnostic and therapeutic techniques. Prerequisite: 10 hours or permission of instructor. (U/G)(3). Fall.

PS443, Intervention in the Community/ Psychotherapy: An advanced examination and critique of the concepts and methods of psychological intervention in dealing with individuals facing psychological stress. Special attention is given to the heritage, assumptions, and success in application of psychotherapeutic techniques. Prerequisites: 10 hours or permission of instructor. (U/G)(3). Occasionally.

PS475, Advanced Seminar in Cognitive Psychology: This is a capstone course for learning and cognition. The topics will vary across semesters. They may include neural networks and connectionism, comparative

cognition, theories of learning, eyewitness testimony, or other specialty areas in learning and cognition. Prerequisites: C- or better in PS385 or permission of instructor. (U/G)(3). Occasionally.

PS476, Advanced Seminar in Biopsychology:

Continued exploration within an area of biological psychology. The topic of each advanced seminar will be announced in the class schedule. Prerequisites: C- or better in PS235 or permission of instructor. (U/G)(3). Occasionally.

PS477, Advanced Seminar in Social Psychology: A focused and in-depth

examination of a specialized topic in the field of social psychology. Examples of such topics include: Small group processes, self-perception and disclosure, attribution, interpersonal attraction, altruistic behavior, social influence, attitude formation and change, and leadership. Prerequisite: C- or better in PS350 or permission of instructor. (U/G)(3). Occasionally.

PS478, Advanced Seminar in Developmental Psychology:

Continued coverage of an area within developmental psychology. The topic of each advanced seminar will be announced in the class schedule and will consist of an in-depth exploration of research and theory. Prerequisite: C- or better in PS210, PS211, PS320, or permission of instructor. (U/G)(3). Occasionally.

PS479, Advanced Seminar in Applied Psychology:

Continued coverage of an area within applied psychology. The topic of each advanced seminar will be announced in the class schedule and will consist of an in-depth exploration of research and theory. Prerequisite: 10 hours or permission of instructor. (U/G)(3). Occasionally.

PS496, Independent Study: This course provides the student with academic credit for the completion of projects not usually included in an academic program. Prerequisite: 10 hours and permission of instructor. (U/G)(1-6). Fall, spring, and summer.

PS499, Honors Thesis: (U)(3).

Science, Technology and Society Administration

Carmen Salisbury, Ph.D., director

Is there any part of our world that is not transformed and challenged by science and technology? Our health, our families and communities, and our environment are all impacted by developments in science and technology. Science and technology are also driven by society. Economics, ethical principles, cultural practices, and politics all influence the funding, progress, implications, and the public's overall understanding of science and technology. The Science Technology and Society (STS) major is designed to prepare you for a number of career paths in health, environment, education, law, public policy, communications, and many other fields.

The STS program integrates the natural sciences (biology, chemistry, physics, and computer science), humanities (history, philosophy, and English), and social sciences (anthropology, political science, sociology, and psychology). Service learning and hands-on community experience are emphasized in several of these classes. STS internships with local health, environmental, and technological agencies and companies allow students to apply their academic learning to community problems and to network with employers.

Student Learning Objectives

Students majoring in STS will:

- understand that science and technology influence, and are influenced by, politics, sociology, economics, and other elements of the social sciences.
- understand that science and technology influence, and are influenced by, religion, the various branches of philosophy, ethics, and other elements of the humanities.
- understand that science and technology influence, and are influenced by, language, communication, public translation and transmission, and other elements of rhetoric.
- research, write, and speak about issues concerning science and technology as they relate to society.
- value the interdisciplinary nature of pressing problems related to health, technology, and the environment, and also recognize the necessity of interdisciplinary solutions to those problems.

Degrees

Major in STS

Minor in STS

Requirements for the Major

STS core courses (6 hours):

ST200, Introduction to Science Studies

One of these:

ST320, Philosophy of Science

ST330, The Social and Rhetorical Study of Science and Technology

Twenty-four (24) hours of STS elective courses from various departments for a total of 30 hours. Of these, 18 hours must be at the 300-400 level. A total of no more than three hours of independent study (ST401, ST402, or ST403) and/or internship credit (ST405 or ST406) can be used to satisfy this requirement.

Fifteen (15) hours in the natural sciences and/or technology (engineering or computer science). One course from the Natural World requirement of the core curriculum can be used to satisfy part of this requirement. The 15 hours of science and/or technology courses are not understood to be part of the STS major, and as such, they may be counted toward a minor or major in a science and technology discipline.

Co-curricular requirements: STS majors must participate in at least six (6) designated co-curricular activities—typically public lectures or other events concerned with STS issues. The program publishes a calendar of events that can be used to meet this requirement. Students must submit a report describing their impression of the event to the director of the STS program.

Requirements for the minor

STS core courses (6 hours):

ST200, Introduction to Science Studies

One of these:

ST320, Philosophy of Science

ST330, The Social and Rhetorical Study of Science and Technology

Twelve (12) hours of STS elective courses from various departments for a total of 18 hours. Of these, nine (9) hours must be at the 300-400 level. A total of no more than three hours of independent study (ST401, ST402, or ST403) and/or internship credit (ST405 or ST406) can be used to satisfy this requirement.

Ten (10) hours in the natural sciences or technology (engineering or computer science). One course from the Natural World requirement of the core curriculum can be used to satisfy part of this requirement. The 10

hours of science or technology courses are not understood to be part of the STS minor, and as such, they may be counted toward a minor or major in a science and technology discipline.

Co-curricular requirements: STS minors must participate in at least three (3) designated co-curricular activities—typically public lectures or other events concerned with STS issues. The program publishes a calendar of events that can be used to meet this requirement. Students must submit a report describing their impression of the event to the director of the STS program.

Core Courses offered by Science, Technology, and Society

TI 261-STS, Science and Society:

Introduction to key social, historical, rhetorical, and societal dimensions of a scientific field or discovery. Instructors will select the field or discovery but follow the same pedagogical model. (U)(3). Summer.

Science, Technology, and Society Courses

ST200, Intro to Science and Tech Studies: An introductory survey of the variety of humanistic and social scientific approaches to the study of science and technology. Topics include the social, political, cultural, and economic structure of science and technology, scientific objectivity, scientific communication and rhetoric, science education. (U)(3). Spring.

ST320, Philosophy of Science: An analysis of some philosophical questions about the natural sciences, including the problem of distinguishing science from pseudoscience, the nature of scientific explanation, the structure and confirmation of scientific theories, the relationship between theories in different scientific domains, scientific revolutions, and the relationship between science and reality. (U/G)(3). Occasionally.

ST330, The Social and Rhetorical Study of Science and Technology: This course investigates the social and rhetorical processes that participate in the production of scientific and technological knowledge. We investigate the language of science, its development and its conventions, and its use and misuse. We also explore social, economic, and political influences on science. (U)(3). Annually, term varies.

ST390, Topics in Science, Technology and Society: An investigation of a topic in the study of science, technology, and society. (U/G)(3). Occasionally.

ST391, Topics in Science, Technology, and Society: An investigation of a topic in the study of science, technology, and society. (U/G)(1). Occasionally.

ST392, Topics in Science, Technology, and Society: An investigation of a topic in the study of science, technology and society. (U/G)(2). Occasionally.

ST401, Independent Study: Offers the qualified student of Science, Technology, and Society the opportunity to pursue a topic of individual interest. Open only to juniors and seniors with the permission of the instructor and of the director of the STS program. (U/G)(1). Occasionally.

ST402, Independent Study: Offers the qualified student of Science, Technology, and Society the opportunity to pursue a topic of individual interest. Open only to juniors and seniors with the permission of the instructor and of the director of the STS program. (U/G)(2). Occasionally.

ST403, Independent Study: Offers the qualified student of Science, Technology, and Society the opportunity to pursue a topic of individual interest. Open only to juniors and seniors with the permission of the instructor and of the director of the STS program. (U/G)(3). Occasionally.

ST405, Internship: Offers the qualified student of Science, Technology, and Society the opportunity to participate in a supervised work experience in a position that will enhance their understanding of STS issues. Open only to juniors and seniors with the permission of the director of the STS program. (U)(3). Occasionally.

ST406, Internship: Offers the qualified student of Science, Technology, and Society the opportunity to participate in a supervised work experience in a position that will enhance their understanding of STS issues. Open only to juniors and seniors with the permission of the director of the STS program. (U)(6). Occasionally.

ST499, Honors Thesis: (U)(3). Fall and spring.

STS elective courses

Courses counting for STS elective credit come from various departments within the College of Liberal Arts and Sciences, as well as the College of Business, College of Communication, and College of Pharmacy and Health Sciences. A complete list of STS elective courses will be published on the STS website, www.butler.edu/science-technology, each semester in advance of the advising and registration period.

Sociology and Criminology

Administration

Katherine B. Novak, Ph.D., department chair

Professors

Kenneth D. Colburn Jr., Ph.D.; Antonio V. Menendez, Ph.D.; Katherine B. Novak, Ph.D.; Marvin B. Scott, Ph.D.

Assistant Professor

Krista M. C. Cline, Ph.D.

Why Study Sociology and Criminology?

Sociology and Criminology majors are taught the basics of human interaction and relationships and acquire an understanding of social life, social change, and the social causes and consequences of social behavior. As all human behavior is primarily social, sociology promotes an awareness and understanding of a wide range of social and cultural issues from the study of crime and deviance; to the study of social inequality and social welfare; to the study of racial, gender, and sexual diversity; to the study of globalization and multiculturalism. With an understanding of society and how the social context and social forces shape behaviors and an emphasis on strong critical thinking and research skills, majors in sociology and criminology are well-prepared for a wide range of opportunities after graduation.

Why Study Sociology and Criminology at Butler?

The Department of Sociology and Criminology aspires to be a cornerstone program in the social sciences, emphasizing writing and critical thinking, analytical skills, experiential learning, and an in-depth understanding of the changing world, including

multicultural and global issues. The department provides comprehensive, sociology-based coursework in sociology, sociology with a specialization in social work and social policy, and criminology. Our program is distinguished by:

- **A curriculum that emphasizes the connection between theory and practice.** Students have numerous opportunities to apply what they have learned in the classroom to “real world” settings and to everyday life. .
- **Majors that culminate in a capstone experience.** Students undertake and complete an independent empirical research project in their senior year that demonstrates their mastery of sociology or criminology. Students present their research findings at the Butler Undergraduate Research Conference or a professional meeting.
- **An emphasis on multicultural and global issues.** Our curriculum introduces students to other cultures and societies and prepares them for participation in an increasingly diverse and multicultural world.
- **Student participation in internships and service-learning courses.** Internships in criminal justice, human services, businesses, and community contexts provide students with practical experience and career opportunities. Service learning courses promote learning through the active participation of students in the local community.
- **Student engagement in the research process.** Students have many opportunities to engage in the research process and to collaborate with faculty on research projects.
- **A curriculum that prepares students for the job market and for advanced study.** Graduates of the department work in a wide range of employment fields including human services, social policy agencies, the criminal justice system, health care, and business. Majors also pursue advanced professional degrees in law and social work, as well as degrees in sociology, criminology, and other related fields.
- **Numerous student opportunities beyond the classroom.** The department sponsors a chapter of Alpha Kappa Delta, an international honor society for sociology. The Student Sociology Association

conducts community service projects such as tutoring disadvantaged youths and collecting food and blankets for the homeless. The association also sponsors speakers and a career panel each year

- **A diverse faculty of dedicated teachers and researchers.** Faculty work closely with students and encourage student learning through hands-on experiences in and out of the classroom.

Sociology and Criminology Student Learning Outcomes

The core values of the Sociology and Criminology Department are placed squarely within a liberal arts tradition that strives to foster critical reflection, social awareness and responsibility, socio-cultural diversity, and a global perspective. The department's central mission is to (a) foster a knowledge of social and cultural issues, theories, and research methods; (b) cultivate students' abilities to succinctly and clearly express this knowledge in oral and written form; (c) provide opportunities for students to utilize these acquired skills in an applied context; and (d) develop an awareness of global and multicultural issues. Students will develop a perspective that emphasizes critical inquiry and reasoning to address challenging social problems. Ultimately, our program and curriculum cultivates values that will shape students into life-long, active, responsible, and informed members of the greater community.

Degrees

- Major in sociology
- Minor in sociology
- Major in sociology with a specialization in social work and social policy
- Major in criminology
- Minor in criminology
- Combined major in sociology and criminology (see "combined majors")
- Combined major in sociology with a specialization in social work and criminology (see "combined majors")
- Combined major in criminology and psychology (see "combined majors")
- Combined major in sociology with a specialization in social work and psychology (see "combined majors")

Requirements for Sociology (39 credit hours + Internship or Service Learning Course)

Major Core Requirements

(15 credit hours)

- SW200SO, Understanding Society
- SO205, Contemporary Social Issues
- SO391W, Social Theory Seminar
- SO393, Research Methods Seminar
- SO486, Senior Research Seminar I
- SO487, Senior Research Seminar II

NOTE: SO499, Honors Thesis may be completed in place of SO486 and 487.

Additional Area Requirements

(24 credit hours)

At least one course from each of the following four areas:

Socio-Cultural Institutions

- SO301, Families and Gender Roles
- SO303, Political Behavior, Polity, and Society
- SO311, Law and Society
- SO315, Film, Media, and Society
- SO319, Mental Illness, Culture, and Society
- SO351, Punishment and Society
- SO353, Juvenile Justice and Delinquency

Social Structure and Differentiation

- SO317, Gender and Society
- SO321, Crime and Society
- SO323, Racial and Ethnic Relations
- SO325, Class, Status, and Power
- SO326, Gender, Race, and Crime
- SO329, The Sociology of Racism

Socio-Cultural Process and Integration

- SO339, Violence, Media, and Culture
- SO341, Self and Society
- SO343, Popular Culture
- SO345, Deviance and Social Control
- SO347, Urban Community
- SO349, Social Movements

Global and Comparative Studies

- SO331, Latin American Societies
- SO333, European Societies
- SO335, Global Society
- SO355, International Crime

An internship or service-learning course is required.

Requirements for Sociology Minor

(21 credit hours)

Minor Core Requirements

(9 credit hours)

- SW200SO, Understanding Society
- SO391W, Social Theory Seminar
- SO393, Research Methods Seminar

Additional Area Requirements (12 credit hours)

At least one course from each of the four concentration areas in Sociology (see Sociology Major).

Requirements for Sociology with a specialization in Social Work and Social Policy (39 credit hours + Internship or Service Learning Course)

Major Core Requirements (15 credit hours)

- SW200SO, Understanding Society
- SO205, Contemporary Social Issues
- SO391W, Social Theory Seminar
- SO393, Research Methods Seminar
- SO486, Senior Research Seminar I
- SO487, Senior Research Seminar II

NOTE: SO499 Honors Thesis may be completed in place of SO486 and SO487.

Social Work Practice Requirements (9 credit hours)

- SO381, Social Work and Social Policy
- SO383, Social Work Methods
- SO385, Practice Skills in Social Work

Additional Area Requirements (15 credit hours)

At least one course from each of the following four areas:

Socio-Cultural Institutions

- SO301, Families and Gender Roles
- SO303, Political Behavior, Polity, and Society
- SO311, Law and Society
- SO315, Film, Media, and Society
- SO319, Mental Illness, Culture, and Society
- SO351, Punishment and Society
- SO353, Juvenile Justice and Delinquency

Social Structure and Differentiation

- SO317, Gender and Society
- SO321, Crime and Society
- SO323, Racial and Ethnic Relations
- SO325, Class, Status, and Power
- SO326, Gender, Race, and Crime
- SO329, The Sociology of Racism

Socio-Cultural Process and Integration

- SO339, Violence, Media, and Culture
- SO341, Self and Society
- SO343, Popular Culture
- SO345, Deviance and Social Control
- SO347, Urban Community

- SO349, Social Movements
- ### **Global and Comparative Studies**
- SO331, Latin American Societies
 - SO333, European Societies
 - SO335, Global Society
 - SO355, International Crime

An internship or service-learning course is required.

Requirements for Criminology (39 credit hours + Internship or Service Learning Course)

Major Core Requirements (15 credit hours)

- SW200SO, Understanding Society
- SO205, Contemporary Social Issues
- SO391W, Social Theory Seminar
- SO393, Research Methods Seminar
- SO486, Senior Research Seminar I
- SO487, Senior Research Seminar II

NOTE: SO499 Honors Thesis may be completed in place of SO486 and SO487.

Additional Area Requirements (24 credit hours)

Law and Crime Area, Five Courses (15 credit hours)

- SO321, Crime and Society
- and**

Four of the following:

- SO311, Law and Society
- SO326, Gender, Race, and Crime
- SO339, Violence, Media, and Culture
- SO345, Deviance and Social Control
- SO351, Punishment and Society
- SO353, Juvenile Justice and Delinquency

Socio-Cultural Diversity, One Course (3 credit hours)

- SO317, Gender and Society
- SO323, Racial and Ethnic Relations
- SO325, Class, Status, and Power
- SO329, The Sociology of Racism

Global and Comparative Studies, One Course (3 credit hours)

- SO331, Latin American Societies
- SO333, European Societies
- SO335, Global Society
- SO355, International Crime

Sociology Elective, One Course (3 credit hours)

- Any other 300-level sociology course excluding SO381, SO383, or SO385.

An internship or service-learning course is required.

Requirements for Criminology Minor (21 credit hours)

Minor Core Requirements (9 credit hours)

- SW200SO, Understanding Society
- SO391W, Social Theory Seminar
- SO393, Research Methods Seminar

Additional Area Requirements (12 credit hours)

Crime and Law Area, Three Courses (9 credit hours)

- SO321, Crime and Society
and

Two of the following:

- SO311, Law and Society
- SO326, Gender, Race, and Crime
- SO339, Violence, Media, and Culture
- SO345, Deviance and Social Control
- SO351, Punishment and Society
- SO353, Juvenile Justice and Delinquency
- SO355, International Crime

Socio-Cultural Diversity, One course (3 credit hours)

- SO317, Gender and Society
- SO323, Racial and Ethnic Relations
- SO325, Class, Status, and Power
- SO329, The Sociology of Racism

Core Courses offered by Sociology

SW200-SO, Understanding Society: An exploration of key concepts, research methods, and theoretical perspectives in sociology applied to a specific topic, theme, or set of topics. Concepts covered include: culture, socialization, deviance, social structure, social stratification, inequality (inc. class, race, and gender), and social institutions. Prerequisite to all upper-level sociology courses. (U)(3). Fall and spring.

Sociology Courses

SO205, Contemporary Social Issues: Analysis of selected social problems in contemporary society using readings from both academic and popular sociological analysis. The emphasis of this course is on developing in the students the ability to identify social phenomena, to understand how these causes may influence social policy, and to develop an ability to conduct basic research on social issues using social science methodology; including

documentary and literature based search skills from bibliographical databases and online web-based materials. Prerequisite: SW200-SO or any introduction to social sciences course. (U)(3). Fall.

SO293, Statistics for Social Research:

An introduction to statistical techniques and their application to problems in social research. This course covers descriptive and inferential statistics including measures of central tendency and variability, correlation, cross-classification, sampling and statistical inference, and an introduction to multivariate analysis. An emphasis is placed on the sociological application of such techniques, and on developing an understanding of when they are appropriate, and the information that they yield. Students will also learn to use the computer in data analysis. Prerequisite: MA101 or equivalent. (U)(3). Spring.

SO301, Families and Gender Roles: The organization and functions of marriage and the family. Cross-cultural and historical perspectives provide background for analysis of contemporary family patterns. Prerequisite: SW200-SO. (U/G)(3). Occasionally.

SO303, Political Behavior, Polity and Society: An analysis of social power and decision-making in small groups, complex organizations, communities, and societies; social and personality factors, and political behavior; and political movements and social change. Prerequisite: SW200-SO. (U/G)(3). Occasionally.

SO311, Law and Society: An analysis of the legal system, legal doctrines, and legal institutions as social phenomena. The focus is on law in action as it reflects the relationship between law and society. (U/G)(3). Fall.

SO315, Film, Media, Society: This course examines how film and electronic media have impacted our cultural values and social institutions. Film and media will be studied sociologically both as a form of popular culture (symbolic analysis) and as a new social institution in its own right (structural analysis). Prerequisite: SW200 (U)(3). Occasionally.

SO317, Gender and Society: An examination of gender as a system of stratification and a social construction which changes over time and differs cross-culturally. Focus is on the

structural and interactional aspects of gender inequality and the intersection of gender, class, race, and sexuality. Prerequisite: SW200 (U)(3). Occasionally.

SO319, Mental Illness, Culture, and Society:

A sociological analysis of mental health and mental illness. This course examines the social, cultural, and political factors involved in the definition of mental illness and the control of mental illness in society. Emphasis is placed on labeling theory; on the impact of status characteristics (e.g. race, social class, and gender) and social relationships on levels of stress and social functioning; and on legal and ethical issues associated with current health care trends, including the deinstitutionalization of mental patients and the movement toward community-based care. Prerequisite: SW200-SO or permission of the instructor. (U/G)(3). Occasionally.

SO321, Crime and Society: An analysis of the definition and extent of crime; the impact of crime on society; and the theoretical explanations of crime, offending, and victimization. Prerequisite: SW200 and junior standing (U)(3). Occasionally.

SO323, Racial and Ethnic Relations: Analysis of the ethnic (including racial) composition of society, the minority group status of some ethnic groups, and the strains toward assimilation or cultural pluralism. Prerequisite: SW200-SO. (U/G)(3). Occasionally.

SO325, Class, Status, and Power: A study of the dynamics of class and caste, class mobility, power, authority, influence, and prestige in different kinds of communities. Prerequisite: SW200-SO. (U/G)(3). Occasionally.

SO326, Gender, Race, and Crime: Current sociological and criminological theories will be used to examine gender and crime, race and crime, and the intersection between the two. We will cover topics such as: men and women as offenders and as victims, domestic violence, child abuse, and juvenile delinquency. Prerequisite: SW 200 (U)(3). Occasionally.

SO329, The Sociology of Racism: This course is designed for students interested in understanding how racism affects our social institutions and interactions. We will take a close look at understanding prejudices and myths about race. A clear retrospective will

be explored in events that have influenced the establishment of racist institutions and behaviors. Prerequisite: SW200-SO. (U/G)(3). Occasionally.

SO331, Latin American Societies: This course introduces the student to the culture and social structures of Latin American societies and aims at undermining the traditional stereotypes that have long been a part of Latin American images circulating throughout the United States. It examines in particular Latin America in the context of the globalizing of social life. Prerequisite: SW200-SO or any Introduction to Social Studies course. (U/G)(3). Occasionally.

SO333, European Societies: Politics, Culture, Economics, and the process of European Integration: This course acquaints the student with the culture, economics, and politics of Western Europe and with the general process of European integration. First, it provides a general overview of contemporary Western Europe and then emphasizes the workings of the European Union, introducing the student to the organization and functioning of the different institutions of the European Union and interpreting the meaning of this process within the global context. (U/G)(3). Occasionally.

SO335, The Global Society: This course is about the constitution of the global system and the processes which are reproducing and transforming the structures of globalization. The course acquaints the student with the process of worldwide economic, cultural, and political flows and provides an introduction to the organization and functioning of the global society. Prerequisite: SW200-SO or any Introduction to Social Sciences course. (U/G)(3). Occasionally.

SO339, Violence, Media, and Culture: This course examines the topic of crime in popular culture: crime as portrayed in print and electronic media, film, and entertainment industries. We will study the “POpular” manifestation of crime as it exists in the stories reported by news media and in the cultural images produced for mass entertainment. (U)(3). Occasionally.

SO341, Self and Society: The socialization of the individual; the bearing of culture and social structure on the formation of personality; and group influences upon human response and

patterns of perception. Prerequisite: SW200-SO. (U/G)(3). Occasionally.

SO343, Popular Culture: An examination of the role and function of popular culture in generating and sustaining a common realm of meaning and values in contemporary society. Popular works of fiction, television, film, sporting events, parades, etc. will be considered. Prerequisite: SW200-SO. (U/G)(3). Occasionally.

SO345, Deviance and Social Control: The ways in which the discrepancies between social reality and the individual experience generate deviance, with emphasis on the roles of institutions and counter-institutions in maintaining or changing behavior patterns. Prerequisite: SW200. (U/G)(3). Occasionally.

SO347, Urban Community: Urban origins, the genesis of the modern city, and the metropolitan area and region—structure, ecology, problems, and programs for their control. Prerequisite: SW200. (U/G)(3). Occasionally.

SO349, Social Movements: Analysis of representative economic, political, religious, and other social movements, defining typical lines of genesis, objectives, structures, leadership, and methods of operation. Prerequisite: SW200-SO. (U/G)(3). Occasionally.

SO351, Punishment and Society: Analyzes the incidence of deviance and crime, and the different approaches to social control and prevention of crime. It offers an introduction to penology and corrections and explores public reaction to contemporary corrections. Prerequisite: SW200-SO. (U/G)(3). Spring.

SO353, Juvenile Justice and Delinquency: This course will focus on the topic of childhood and juvenile justice from a sociological perspective. We will examine how society provides a framework for how we understand, interact with, and pattern our relationships with children in general and with “delinquent” children in particular. Prerequisite: SW200. (U/G)(3). Occasionally.

SO355, International Crime: This course is intended to introduce students to the basic concepts and problems of international crime and international law. It will also address the definition, detection, prosecution, sentencing, and impact of international crime, including

terrorism. Special consideration is given to the role of international law, including international organizations and enforcement practices. The course will cover the major topics in the international legal system, such as the sources and subjects of international law, the jurisdiction of states (relationship between international law and the internal law of states), and the use of force. Prerequisite: SW200-SO or any Introduction to Social Sciences course. (U)(3). Occasionally.

SO360, Selected Topics in Criminology: Designed to give the advanced undergraduate student academic flexibility. Likely topics are Policing a Democratic society, Ethical Issues in Criminal Justice, Legal Aspects of Law Enforcement, History of the Criminal Justice System, and Crime in Comparative Perspective. Prerequisite: SW200-SO. (U/G)(3). Occasionally.

SO380, Selected Topics in Sociology: An in-depth analysis of the theory, methodology, and subject matter in an area not provided for in the current offerings of the department. Prerequisite: SW200-SO. (U/G)(3). Occasionally.

SO381, Social Work and Social Policy: Social Work and Social Policy: The history and types of public and private social work in the United States from early colonial times to the present. Prerequisites: SW200SO or permission. (U)(3). Fall.

SO383, Social Work Methods: Social Work Methods: An introduction to social work fields of practice and the methods used by social work professionals. Prerequisites: SO381 or permission. (U)(3). Spring.

SO385, Practice Skills in Social Work: This foundation practice course focuses on basic social work theories and skills that are necessary when working with a wide variety of client systems; individuals, families, small groups, communities, and organizations. Students will have opportunities to learn about themselves and will examine their personal values and any conflict between personal and professional values so they are able to practice with diverse populations in a confident and professional manner. Prerequisites: SO381 or permission. (U)(3). Spring.

SO391, Social Theory Seminar: An historical and analytical survey of major contributions

to social theory with major emphasis upon late 19th-century, 20th-century, and contemporary developments. Pre-requisites: SW200, two sociology courses and junior standing. (U)(3). Spring.

SO393, Research Methods Seminar: The principal methods of social research—formation of research problem concepts and hypotheses; measurement and data collection and analysis; and reporting of research. Prerequisites: SW200, SO293 or equivalent, and junior standing. (U/G)(3). Fall and spring.

SO461, Directed Research: An independent research experience in which students assist a faculty member on a research project. Activities may include library research, data collection, data entry, and data analysis. Prerequisites: permission of instructor, two courses in sociology, and junior standing. (U)(1). Fall and spring.

SO462, Directed Research: An independent research experience in which students assist a faculty member on a research project. Activities may include library research, data collection, data entry, and data analysis. Prerequisites: permission of instructor, two courses in sociology, and junior standing. (U)(2). Fall and spring.

SO463, Directed Research: An independent research experience in which students assist a faculty member on a research project. Activities may include library research, data collection, data entry, and data analysis. Prerequisites: permission of instructor, two courses in sociology, and junior standing. (U)(3). Fall and spring.

SO481, Independent Study: An opportunity for qualified students to pursue a topic of individual interest. Open to seniors and juniors with permission of department chair. (U/G)(1). Fall and spring.

SO482, Independent Study: An opportunity for qualified students to pursue a topic of individual interest. Open to seniors and juniors with permission of department chair. (U/G)(2). Fall and spring.

SO483, Independent Study: An opportunity for qualified students to pursue a topic of individual interest. Open to seniors and juniors with permission of department chair. (U/G)(3). Fall and spring.

SO484, Internship: A program offering the superior student the opportunity to participate in a closely supervised work experience in a setting pertinent to the major area of study. Majors are strongly encouraged to engage in the internship experience. Prerequisites: SW200-SO, 10 hours in sociology, and permission of the department chair. (U/G)(3). Fall and spring.

SO485, Internship: A program offering the superior student the opportunity to participate in a closely supervised work experience in a setting pertinent to the major area of study. Majors are strongly encouraged to engage in the internship experience. Prerequisites: SW200-SO, 10 hours in sociology, and permission of the department chair. (U/G)(6) Fall and spring.

SO486, Senior Research Seminar I: First of a two course sequence in the senior year. Capstone experience with emphasis on synthesis, integration, and application of theories and methods in completion of an independent student research project. Proposal, IRB approval, and data collection are expected. Prerequisites: SO391, SO393, senior. (U)(2). Fall.

SO487, Senior Research Seminar II: Second of a required two-course sequence. Capstone experience with emphasis on synthesis, integration, and application of theories and methods in completion of an independent student research project. Data collection and analysis, final paper, and URC presentation are expected. Prerequisite: SO486. (U)(1). Spring.

SO499, Honors Thesis: (U)(3). Fall.