

Indiana University-Purdue University Fort Wayne

2016-2017 Undergraduate Bulletin

Course descriptions are listed in alphabetical order.

Standard information for each course includes the number, title, and credits (sometimes called credit hours or semester hours). For some courses, you will find information on the hours of class, laboratory, or studio for which the course is scheduled in each week of a regular semester; these weekly hours are expanded during summer sessions. Fees for courses are assessed on the basis of credits and other factors.

The course-numbering system generally suggests levels of difficulty and appropriateness. Courses at the 100 and 200 levels comprise introductory offerings and those are most commonly taken by freshmen and sophomores. Courses at the 300 and 400 levels are primarily for juniors and seniors. In some Purdue programs, undergraduates take courses at the 500 level, but generally courses numbered 500 and above are for graduate students.

Preparation for courses is indicated as follows:

P: indicates a prerequisite that must precede your enrollment in the course described. You may find one or more specific course numbers, the number of credits you should already have in a subject, a placement-test level, or other conditions.

C: indicates a corequisite that must be taken no later than the same semester in which you take the course described.

R: indicates a recommendation concerning conditions to be met for enrollment in the course.

When no subject code is shown for prerequisites, corequisites, and recommended courses, they are in the same subject area as the course being described. If you lack a prerequisite or corequisite, or if you wish to take a course numbered at a higher level than your present status, you should seek the department's or instructor's consent to enroll in the course.

V.T. means Variable Title and is shown for courses for which the title may be changed to specify the topic or other special focus of each offering.

Session indicators (fall, spring, summer) suggest the times at which courses are generally offered. Scheduling patterns may, however, vary.

IPFW reserves the right to add, withdraw, or change courses without notice.

AST A100 – The Solar System

Celestial sphere, measurement of time, earth as a planet, moon, eclipses, planets and their satellites, comets, meteors, theories on origin of solar system.

BIOL 10000 - Introduction to the Biological World

Principles of biological organization from molecules through ecosystems. Emphasis on processes common to all organisms and on concepts related to problems of current importance. No credit towards a degree in IU Allied Health. Credit given for only one of the following: BIOL 10000, BIOL 25000, or BIOL N200. Cr. 3. Indiana Core Transfer Library course.

BIOL 10001 - Introduction to the Biological World Laboratory

Laboratory exercises and experiments that illustrate selected principles of biology. **Preparation for Course P or C:** BIOL 10000. Cr. 1. **Hours** Lab. 2. Indiana Core Transfer Library course.

BIOL 14000 - Marine Biology

Introduction to the science of marine biology. Topics include a coverage of the following marine groups: plant, invertebrates and vertebrates. Additional lecture are provided in marine ecosystems, oceanography and marine resources. Includes a field trip to a marine biological station in Costa Rica. Field trip costs are the responsibility of the student. Available as a free elective. Cannot be used to satisfy Group A or B elective requirements for biology majors. **Preparation for Course P:** BIOL 10000 or equivalent. Cr. 3. **Hours** Class 2, Lab 1.

BUS F260 - Personal Finance

Financial problems encountered in managing individual affairs: family budgeting, installment buying, insurance, and home ownership. No credit toward B.S. in business if taken during junior or senior year. Cr. 3. Enrollment in business (BUS) courses numbered 301 and above is restricted to students who meet established criteria (see business degrees section of Part 4). Students enrolled in programs other than business and economics may not enroll in business and economics courses that would encompass more than 25 percent of their degree programs.

BUS M201 - Marketing for the Small Business

Overview of marketing management as it applies to the small business. Gain an understanding of traditional and non-traditional marketing techniques. Determine best marketing plan for different types of ventures. Cr. 3. This course is required for the Certificate in Small Business Management. No credit toward a B.S. in business.

BUS W100 - Principles of Business Administration

An introduction to functional areas of business, tracing the evolution of business, business forms, the role of government and society, relationships between administrators and employees, ethical issues, and the globalization of world markets. Ideal for prebusiness students or students of any major desiring a basic understanding of business. Cr. 3. Indiana Core Transfer Library course.

CHM 11100 - General Chemistry

A basic introduction to the principles of chemistry including matter and energy, nomenclature, measurement, atomic structure, nuclear chemistry, chemical bonding, stoichiometry, classification of chemical reactions, kinetics, equilibria, gas laws, liquids, and solids. **Preparation for Course P:** MA 12401 with a grade of C- or better or placement by exam at the level of MA 11100 or higher. Cr. 3. **Hours** Class 2, Lab. 3.

CHM 11500 - General Chemistry

Required of all students majoring in biology, chemistry, geology (B.S.), medical technology, physics, chemical and metallurgical engineering, pre dentistry, premedicine, and prepharmacy. Introduction to fundamental laws and principles of chemistry, including unit systems and unit conversions; precision evaluation; atomic theory; stoichiometry; symbols; formulas; equations; mass, mole, gas volume relationships; ideal gas law; thermochemistry; atomic structure; chemical periodicity; chemical bonds and their relation to physical properties; properties of the liquid and solid states. Numerical problems and relationships are introduced wherever quantitative treatment is possible. **Preparation for Course P:** one year of high school chemistry within the previous 5 years or CHM 11100 with a grade of C or better within the past 5 years; P or C: MA 15400 or MA 22700, or MA 22900. Cr. 4. **Hours** Class 3, Lab. 3.

COM 11400 - Fundamentals of Speech Communication

A study of communication theories as applied to speech; practical communicative experiences ranging from interpersonal communication and small-group process through problem identification and solution in discussion to informative and persuasive speaking in standard speaker-audience situations. Cr. 3. Indiana Core Transfer Library course.

CS 11200 - Survey of Computer Science

This course is designed to provide a broad and realistic idea of what computer professionals do and how they do it. It will prepare students for later computing courses, including software development courses, by providing both individual and

team hands-on lab experiences with Web design, markup languages (HTML) and JavaScript. Students will be introduced to various professional opportunities and work environments. Current topics in computer science as they relate to society will be covered. Students will gain sufficient programming experience to enable a smooth transition to CS 160 Java programming. Cr. 3.

CS 11400 - Introduction to Visual Basic

This course provides an introduction to programming using the Visual Basic language and its integrated development environment. Topics to be covered include the syntax and structure of the VB language; controls, dialog boxes, and other interface tools; menu design; multiple forms; error-trapping; and arrays. Other topics that may be covered include object linking and embedding (OLE); VB for applications; database development using record sets and databound controls; data handling; grids; validation and election; drag and drop; and graphics, and new revisions for interoperability with other languages. **Preparation for Course C:** MA 14900 or 15300. Cr. 3.

CS 16000 - Introduction to Computer Science I

An introduction to the fundamental concepts and techniques of Computer Science. Students will learn to program using an object-oriented language. They will learn how to translate a real problem into a program description, and how to write and test a program to implement their description. The emphasis will be on developing a professional style at an elementary level. CS 160 will carry syntax as far as interacting classes, arrays of one dimension, and simple file i/o. Students with no programming background should instead consider CS 112. **Preparation for Course P:** MA 15300. Cr. 4.

CS 16100 - Introduction to Computer Science II

This course continues CS 160. Students will design larger programs to solve more complicated problems. The emphasis is on deepening students' abilities to deal with abstraction, problem decomposition, and the interaction between program components. Students will develop their professional practice through analysis of more general problems, debugging and testing of their programs, and written presentation of their solutions. Topics include multidimensional arrays, event-driven programs, GUI's, class inheritance and interfaces, and libraries. **Preparation for Course P:** CS16000; C: MA 17500. Cr. 4.

ECON E200 - Fundamentals of Economics

Study of the basic institutions of market economy and the role they play in defining and pursuing economic goals in the U.S. economy. Emphasis is placed

upon the effects of existing economic institutions, current economic policy alternatives as they affect both the individual and the society. No credit toward B.S. in business; no credit for both E200 and E201. Cr. 3. Indiana Core Transfer Library course.

EDUC F200 - Examining Self as a Teacher

Designed to help a student make a career decision, better conceptualize the kind of teacher the student wishes to become, and reconcile any preliminary concerns that may be hampering a personal examination of self as teacher. Students design a major portion of their work. Cr. 3.

ENG L102 - Modern World Literature

Plays, poems, and fiction from the 16th century to the present, including works by Shakespeare, Ibsen, Shaw, Wordsworth, Whitman, Yeats, Dostoevsky, Faulkner, Hemingway. **Preparation for Course P:** placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. Cr. 3. Approved by Arts and Sciences for the Cultural Studies (Western Tradition) requirement. Indiana Core Transfer Library course.

ENG W131 - Reading, Writing, and Inquiry I

This course teaches skills of critical reading, thinking, and writing to help students meaningfully engage artifacts, events, and issues in our world. The course builds students' abilities to read written and cultural texts critically; to analyze those texts in ways that engage both students' own experiences and the perspectives of others; and to write about those texts for a range of audiences and purposes as a means of participating in broader conversations. Assignments emphasize the analysis and synthesis of sources in making and developing claims. **Preparation for Course P:** self-placement in ENG W131, or completion of ENG W129 with a grade of C or better, or completion of the ESL composition sequence and recommendation of the ESL instructor. Cr. 2-3. Indiana Core Transfer Library course.

FINA H101 - Art Appreciation

Objectives: to acquaint students with outstanding works of art and to provide an approach to appreciation through knowledge of purposes, techniques, form, and content. No credit toward a fine arts degree. Cr. 3. Indiana Core Transfer Library course.

FINA N108 - Introduction to Drawing for Nonmajors

Introduces the student to the basic elements of drawing. Line, shape, value, and perspectives will be studied before moving on to the more complex use of color.

Landscape and still life will be the source of subject matter for the semester. Cr. 3.
Hours Class 3, Studio 3

FINA P133 - Metalsmithing Fundamentals for Non-Art Majors

Students will learn various basic fabricating techniques using non-Ferris metals (copper, brass, silver) on a small object/jewelry scale. Processes studied will include silver brazing with acetylene gas torches, metal stretching and forming by hand using polished hammers, wax working, and silver lost-wax casting. Cr. 3.

FINA S165 - Ceramics for Nonmajors

Introduction to ceramics is a creative art course in which students use handbuilding techniques to create tile, pottery form, and ceramic sculpture. Various lowfire surfaces and firing atmospheres will be explored. Slide lectures will accompany projects, exposing students to the work of various cultures and ceramic artists. Classroom projects and discussions will promote a greater understanding of form and creative processes. Cr. 3. **Hours** Class 3, Lab. 3

FINA S239 - Painting for Nonmajors

Introduction to painting in oil. Study of the spatial and expressive qualities of color, with an emphasis on composition and pictorial design. Development of technical skills in image making through exploration of traditional and modern methods of paint application. Introduction to surface preparation, framing, and display of paintings. (Will not count toward a major in Fine Arts.) Cr. 3. **Hours** Studio 6

FREN F203 - Second-Year French I

Intensive review of grammar and development of vocabulary, reading, conversation, and writing skills. Reading and discussion of modern French fiction and nonfiction, some composition. **Preparation for Course P:** FREN F112 or F113. Cr. 3. **Hours** Class 3-3, Lab. 0-0. Weekly attendance in audio laboratory required. Indiana Core Transfer Library course.

FREN F204 - Second-Year French II

Intensive review of grammar, and development of vocabulary, reading, conversation, and writing skills. Reading and discussion of modern French fiction and nonfiction, some composition. Weekly attendance in audio laboratory required. **Preparation for Course P:** FREN F203. Cr. 3. Weekly attendance in audio laboratory required. Indiana Core Transfer Library course.

GEOG G109 - Weather and Climate

What causes tornadoes, hurricanes, and other extreme weather? What is climate change and why is it occurring? Learn about weather, climate, and how they interact. Cr. 3.

GEOL G103 - Earth Science: Materials and Processes

Introduction to origin and classification of minerals and rocks. Relationships among rock types, rock structures, surficial geological processes of running water, sub-surface water, glaciation, wind, waves, tides, and landform evolution.

Geologic time. Internal processes, vulcanism, plutonism. Plate tectonics. Two lectures and a laboratory each week. Credit given for only one of the following: G100, S100, G103. Cr. 3. **Hours**

Class 2, Lab. 2. Indiana Core Transfer Library course.

GEOL G121 - Meteorites and Planets

Geological processes operative on earth-like bodies and asteroids; evidence from current meteorite, lunar, Martian, and space research; quantitative and deductive exercises. Typically offered fall and spring. Cr. 3.

GER G111 - Elementary German I

Introduction to German language as well as to cultures of German-speaking countries. Emphasis on development of communicative competence in speaking, listening, reading, and writing. Cr. 4. **Hours** Class 4, Lab. 0. Weekly attendance

HIST H105 - American History I

Colonial period, revolution, Confederation and Constitution, National period to 1877. Cr. 3. **Variable Title** (V.T.) Indiana Core Transfer Library course.

HIST H106 - American History II

1877 to present. Political history forms framework with economic, social, cultural, and intellectual history interwoven. Introductions to historical literature, source material, and criticism. H105 is not a prerequisite for H106. Cr. 3. **Variable Title** (V.T.) Indiana Core Transfer Library course.

MA 14000 - Practical Quantitative Reasoning

A course for liberal arts students that shows mathematics as the language of modern problem solving. The course is designed around problems concerning management science, statistics, social choice, size and shape, and computer science. Applications in quality control, consumer affairs, wildlife management, human decision making, architectural design, political practices, urban planning, space exploration, and more may be included in the course. Typically offered Fall

Spring. **Preparation for Course P:** MA 11300 or 12401 with a grade of C- or better, or placement exam. Cr. 3. MA 14000 is the new course number for MA 16800. Course content and required textbook have not changed. MA 14000 satisfies the General Education Quantitative Reasoning requirement. Students who are not required to take MA 15300 would likely be better off taking MA 14000 or STAT 12500.

MA 15300 - Algebra and Trigonometry I

Review of algebraic operations, factoring, exponents, radicals and rational exponents, and fractional expressions. Linear and quadratic equations and modeling, problem solving, and inequalities. Graphs of functions and transformations, including polynomial, rational, exponential, and logarithmic functions with applications. **Preparation for Course P:** MA 11100 or MA 11300 with a grade of C- or better or placement by departmental exam. Cr. 3. Indiana Core Transfer Library course.

MA 15400 - Algebra and Trigonometry II

Trigonometric functions and graphs, vectors, complex numbers, conic sections, matrices, and sequences. **Preparation for Course P:** MA 14900 or 15300 with a grade of C- or better or placement by departmental exam. Cr. 3. Indiana Core Transfer Library course.

MA 16500 - Analytic Geometry and Calculus I

Introduction to differential and integral calculus of one variable, with applications. Conic sections. **Preparation for Course P:** MA 15400 or 15900 with a grade of C- or better or placement by departmental exam. Cr. 4. Indiana Core Transfer Library course.

MA 16600 - Analytic Geometry and Calculus II

Continuation of MA 165. Vectors in two and three dimensions. Techniques of integration, infinite series, polar coordinates, surfaces in three dimensions. **Preparation for Course P:** MA 16500 with a grade of C- or better. Cr. 4. Indiana Core Transfer Library course.

MA 21300 - Finite Mathematics I

Basic logic, set theory. Elementary probability, Markov chains. Vectors, matrices, linear systems, elementary graph theory. Applications to finite models in the managerial, social, and life sciences; and computer science. **Preparation for Course P:** MA 14900 or 15300 with a grade of C- or better or placement by departmental exam. Cr. 3. Indiana Core Transfer Library course.

MUS T109 - Rudiments of Music I

Fundamentals of notation, ear training, music reading. Cr. 2-4. Grade of B or better required for admission into T113 and T115.

MUS Z101 - Music for the Listener

Introduction to the elements of music through the mode of listening and a historical survey of the way those elements have been used in various types of musical compositions. For non-music majors. Cr. 3. Indiana Core Transfer Library course.

PHIL 11000 - Introduction to Philosophy

An introduction to basic problems and types of philosophy, with special emphasis on the problem of knowledge and nature of reality. Cr. 3. Approved by Arts and Sciences for the Cultural Studies (Western Tradition) requirement. Indiana Core Transfer Library course.

PHIL 11100 - Ethics

A study of the nature of moral value and obligation. Topics such as the following will be considered: different conceptions of the good life and standards of right conduct; the relation of nonmoral and moral goodness; determinism, free will, and the problem of moral responsibility; the political and social dimensions of ethics; the principles and methods of moral judgment. Readings will be drawn from both contemporary and classical sources. Cr. 3. Indiana Core Transfer Library course.

PHYS 22000 - General Physics

Mechanics, heat, and sound, for students not specializing in physics. **Preparation for Course P:** MA 15300. Cr. 4. **Hours** Class 3, Lab. 2. Indiana Core Transfer Library course.

PHYS 22100 - General Physics

Electricity, light and modern physics, for students not specializing in physics. **Preparation for Course P:** PHYS 22000 with a grade of C or better. Cr. 4. **Hours** Class 3, Lab. 2. Indiana Core Transfer Library course.

POLS Y103 - Introduction to American Politics

Introduction to the nature of government and the dynamics of American politics. Origin and nature of the American federal system and its present political party base. (fall, spring, summer) Cr. 3. Indiana Core Transfer Library course. **Subject Area** [PSAM] American Politics

SOC S161 - Principles of Sociology

Nature of interpersonal relationships, societies, groups, communities, and institutional areas such as the family, politics, education, the economy, and religion. Includes social process operating within these areas; significance for problems of social change, and social stratification. Cr. 3. Indiana Core Transfer Library course.

SPAN S203 - Second-Year Spanish I

Meets three hours a week. Continuation of S111-S112/S113 with grammar review and increased emphasis on communication skills. Reading and discussion in Spanish of contemporary literature, essays, and/or cultural readings. Practice in composition. **Preparation for Course P:** SPAN S112 or S113. Cr. 3. Indiana Core Transfer Library course.

SPAN S204 - Second-Year Spanish II

Meets three hours a week. Continuation of S111-S112/S113 with grammar review and increased emphasis on communication skills. Reading and discussion in Spanish of contemporary literature, essays, and/or cultural readings. Practice in composition. **Preparation for Course P** for S203: SPAN S112 or S113; P for S204: S203. Cr. 3. Indiana Core Transfer Library course.

STAT 12500 - Communicating with Statistics

An introduction to the basic concepts and methods in statistical reasoning that are commonly referenced in the print media. Topics include data collection methods, descriptive statistics, basic techniques of estimation, and theory testing. Students will analyze and interpret statistics relating to contemporary problems in politics, business, science and social issues. **Preparation for Course P:** MA 12401 with a grade of C- or higher, or MA 10900 with a grade of C or higher, or by placement exam. Cr. 3.

STAT 30100 - Elementary Statistical Methods I

Not open to majors in mathematics or engineering. Credit should be allowed in no more than one of STAT 301 or 511. Introduction to statistical methods with applications to diverse fields. Emphasis on understanding and interpreting standard techniques. Data analysis for one and several variables, design of samples and experiments, basic probability, sampling distributions, confidence intervals and significance tests for means and proportions, correlation and regression. Software is used throughout. **Preparation for Course P:** MA 149 or MA 153 or MA 168 with a grade of C or higher. Cr. 3.

THTR 13400 - Fundamentals of Performance

An introduction to the art of acting as practiced in the world today. Cr. 3. Indiana Core Transfer Library course.

THTR 20100 - Theatre Appreciation

Understanding and appreciation of the theatre's role in the modern world. Includes a seminar approach in discussion of the nature of theatre, critical analysis of drama, the actor, the director, design, and careers in the theatre. Also deals with professional, regional, community, and educational theatre. All discussions and work are related to current stage productions that students are required to attend. Cr. 3. Indiana Core Transfer Library course.

VCD P105 - Digital Imaging

Knowledge in digital imaging software is useful in graphic and web design, image manipulation, photo restoration, digital illustration, and even in creating textures, and lighting maps for 3D modeling and animation. This is a course that introduces basic skills and functions of digital imaging. Cr. 3. **Hours** Lab. 6.

VCD P202 - Introduction to Photography

This course introduces the student to the basic elements and principles of design as they apply to the field of photography and imaging. Through lectures, demonstrations, projects, and exercises, students will develop a body of work that will demonstrate their understanding of the fundamentals of photography.

Preparation for Course P: VCD P105. Cr. 3. **Hours** Lab. 6.