

Degree Description

The scientific study of human society, including ways in which groups, social institutions, and individuals affect each other. Causes of social stability and social change are explored through the application of various theoretical perspectives, key concepts, and related research methods of sociology. Analysis of social issues in their institutional context may include topics such as social stratification, gender, race/ethnicity, and deviance.

Semester I	Hours
PSYC 1100 Learning Framework <i>or</i> PSYC 1300 Learning Framework ¹	1-3 hours
ENGL 1301 Composition I	3-3 hours
HIST 1301 United States History I	3-3 hours
Mathematics (college-level) ²	3-3 hours
SOCl 1301 Introduction to Sociology	3-3 hours
	13-15 hours

Semester II	Hours
ENGL 1302 Composition II	3-3 hours
HIST 1302 United States History II	3-3 hours
SPCH 1311 Introduction to Speech Communication <i>or</i> SPCH 1315 Public Speaking <i>or</i> SPCH 1321 Business & Professional Communication	3-3 hours
Biology (college-level) <i>or</i> Chemistry (college-level) <i>or</i> Geology (college-level) <i>or</i> Physics (college-level) ³	4-4 hours
SOCl 1306 Social Problems	3-3 hours
	16 hours

Semester III	Hours
GOVT 2305 Federal Government	3-3 hours
ENGL 2321 British Literature <i>or</i> ENGL 2322 British Literature I <i>or</i> ENGL 2326 American Literature <i>or</i> ENGL 2328 American Literature II <i>or</i> ENGL 2341 Forms of Literature ⁴	3-3 hours
French (college-level) <i>or</i> German (college-level) <i>or</i> Spanish (college-level) ⁵	3-4 hours
Art (college-level) ⁶	3-3 hours
SOCl 2319 Minorities Studies	3-3 hours
	15-16 hours

Semester IV	Hours
French (college-level) <i>or</i> German (college-level) <i>or</i> Spanish (college-level) ⁷	3-4 hours
GOVT 2306 Texas Government	3-3 hours
Biology (college-level) <i>or</i> Chemistry (college-level) <i>or</i> Geology (college-level) <i>or</i> Physics (college-level) ⁸	4-4 hours
SOCl 2301 Marriage & the Family	3-3 hours
PSYC 2319 Social Psychology <i>or</i> SOCl 2326 Social Psychology	3-3 hours
	16-17 hours

Total hours: 60-64 hours

- ¹ All first-time-in-college students are required to complete a Learning Framework course. Students who are TSI exempt or must complete one section of developmental education should enroll in PSYC 1100. All other first-time-in-college students should enroll in PSYC 1300. See your advisor for more information.
- ² Choose from MATH 1314, 1316, 1324, 1332, 1342.
- ³ Choose any science option with a lab credit.
- ⁴ Choose any Literature course.
- ⁵ Choose a foreign language course.
- ⁶ Choose a Creative Arts course.
- ⁷ Choose a second foreign language course.
- ⁸ Choose a second science option with a lab credit.

Electives/General Education Courses

Arts

ARTS 1301 Art Appreciation	3 hours
ARTS 1303 Art History I (Prehistoric to the 14th Century)	3 hours
ARTS 1304 Art History II (14th Century to the Present)	3 hours
ARTS 1311 Design I (2-Dimensional)	3 hours
ARTS 1312 Design II (3-Dimensional)	3 hours
ARTS 1316 Drawing I	3 hours
ARTS 1317 Drawing II	3 hours
ARTS 2316 Painting I	3 hours
ARTS 2317 Painting II	3 hours
ARTS 2323 Life Drawing	3 hours
ARTS 2326 Sculpture	3 hours
ARTS 2346 Ceramics I	3 hours
ARTS 2347 Ceramics II	3 hours
ARTS 2348 Digital Media	3 hours
ARTS 2356 Photography I (Fine Arts Emphasis)	3 hours
ARTS 2357 Photography II (Fine Arts Emphasis)	3 hours
ARTS 2389 Academic Cooperative	3 hours

Biology

BIOL 1322 Nutrition & Diet Therapy	3 hours
BIOL 1406 Biology for Science Majors I	4 hours
BIOL 1407 Biology for Science Majors II	4 hours
BIOL 1408 Biology for Non-Science Majors I	4 hours
BIOL 1409 Biology for Non-Science Majors II	4 hours
BIOL 1411 General Botany	4 hours
BIOL 1413 General Zoology	4 hours
BIOL 2389 Academic Cooperative	3 hours
BIOL 2401 Anatomy & Physiology I	4 hours
BIOL 2402 Anatomy & Physiology II	4 hours
BIOL 2404 Anatomy & Physiology (specialized)	4 hours
BIOL 2420 Microbiology for Non-Science Majors	4 hours

Chemistry

CHEM 1405 Introductory Chemistry I	4 hours
CHEM 1409 General Chemistry for Engineering Majors	4 hours
CHEM 1411 General Chemistry I	4 hours
CHEM 1412 General Chemistry II	4 hours
CHEM 2389 Academic Cooperative	3 hours
CHEM 2423 Organic Chemistry I	4 hours
CHEM 2425 Organic Chemistry II	4 hours

French

FREN 1411 Beginning French I	4 hours
FREN 1412 Beginning French II	4 hours
FREN 2311 Intermediate French I	3 hours
FREN 2312 Intermediate French II	3 hours

Geology

GEOL 1101 Earth Sciences I for Non-Science Majors (lab)	1 hours
GEOL 1102 Earth Sciences II for Non-Science Majors (lab)	1 hours
GEOL 1103 Physical Geology Laboratory	1 hours
GEOL 1104 Historical Geology Laboratory	1 hours
GEOL 1301 Earth Sciences I for Non-Science Majors (lecture)	3 hours
GEOL 1302 Earth Sciences II for Non-Science Majors (lecture)	3 hours
GEOL 1303 Physical Geology (lecture)	3 hours
GEOL 1304 Historical Geology (lecture)	3 hours
GEOL 1401 Earth Sciences for Non-Science Majors I (lecture + lab)	4 hours
GEOL 1402 Earth Sciences for Non-Science Majors II (lecture + lab)	4 hours
GEOL 1403 Physical Geology (lecture + lab)	4 hours
GEOL 1404 Historical Geology (lecture + lab)	4 hours
GEOL 2389 Academic Cooperative	3 hours

German

GERM 1411 Beginning German I	4 hours
GERM 1412 Beginning German II	4 hours
GERM 2311 Intermediate German I	3 hours
GERM 2312 Intermediate German II	3 hours

Math

MATH 1314 College Algebra	3 hours
MATH 1316 Plane Trigonometry	3 hours
MATH 1324 Mathematics for Business & Social Sciences	3 hours
MATH 1325 Calculus for Business & Social Sciences	3 hours
MATH 1332 Contemporary Mathematics (Quantitative Reasoning)	3 hours
MATH 1342 Elementary Statistical Methods	3 hours
MATH 1350 Mathematics for Teachers I (Fundamentals of Mathematics I)	3 hours
MATH 1351 Mathematics for Teachers II (Fundamentals of Mathematics II)	3 hours
MATH 1414 College Algebra (Stem Intensive)	4 hours
MATH 2305 Discrete Mathematics	3 hours
MATH 2318 Linear Algebra	3 hours
MATH 2320 Differential Equations	3 hours
MATH 2412 Pre-Calculus Mathematics	4 hours
MATH 2413 Calculus I	4 hours
MATH 2414 Calculus II	4 hours
MATH 2415 Calculus III	4 hours

Physics

PHYS 1401 College Physics I	4 hours
PHYS 1402 College Physics II	4 hours
PHYS 1403 Stars and Galaxies	4 hours
PHYS 1404 Solar System	4 hours
PHYS 1405 Elementary Physics I	4 hours
PHYS 2389 Academic Cooperative	3 hours
PHYS 2425 University Physics I	4 hours
PHYS 2426 University Physics II	4 hours

Spanish

SPAN 1300 Beginning Spanish Conversation	3 hours
SPAN 1411 Beginning Spanish I	4 hours
SPAN 1412 Beginning Spanish II	4 hours
SPAN 2311 Intermediate Spanish I	3 hours
SPAN 2312 Intermediate Spanish II	3 hours

Course Descriptions

PSYC 1100 Learning Framework

A study of the 1) research and theory in the psychology of learning, cognition, and motivation, 2) factors that impact learning, and 3) application of learning strategies. Theoretical models of strategic learning, cognition, and motivation serve as the conceptual basis for the introduction of college-level student academic strategies. Students use assessment instruments (e.g., learning inventories) to help them identify their own strengths and weaknesses as strategic learners. Students are ultimately expected to integrate and apply the learning skills discussed across their own academic programs and become effective and efficient learners. Students developing these skills should be able to continually draw from the theoretical models they have learned. (Cross-listed as EDUC 1100.) Semester Hour 1 (1 lec)

PSYC 1300 Learning Framework

A study of the 1) research and theory in the psychology of learning, cognition, and motivation; 2) factors that impact learning; and 3) application of learning strategies. Theoretical models of strategic learning, cognition, and motivation serve as the conceptual basis for the introduction of college-level student academic strategies. Students use assessment instruments (e.g., learning inventories) to help them identify their own strengths and weaknesses as strategic learners. Students are ultimately expected to integrate and apply the learning skills discussed across their own academic programs and become effective and efficient learners. Students developing these skills should be able to continually draw from the theoretical models they have learned. Prerequisites: Must have passed the reading portion of the TSI Assessment or concurrent enrollment in INRW 0402. Semester Hours 3 (3 lec)

ENGL 1301 Composition I

Intensive study of and practice in writing processes, from invention and researching to drafting, revising, and editing, both individually and collaboratively. Emphasis is on effective rhetorical choices, including audience, purpose, arrangement, and style. Focus is on writing the academic essay as a vehicle for learning, communication, and critical analysis. Note: ENGL 1301 is a pre-requisite for all 2000-level literature courses. Prerequisite: TSI complete in Writing or the equivalent. Semester Hours 3 (3 lec)

HIST 1301 United States History I

A survey of the social, political, economic, cultural, and intellectual history of the United States from the pre-Columbian era to the Civil War/Reconstruction period. United States History I includes the study of pre-Columbian, colonial, revolutionary, early national, slavery and sectionalism, and the Civil War/Reconstruction eras. Themes that may be addressed in United States History I include: American settlement and diversity, American culture, religion, civil and human rights, technological change, economic change, immigration and migration, and creation of the federal government. NOTE: Must have passed the reading portion of the TSI Assessment or have credit for INRW 0302 or INRW 0402. Semester Hours 3 (3 lec)

SOCI 1301 Introduction to Sociology

The scientific study of human society, including ways in which groups, social institutions, and individuals affect each other. Causes of social stability and social change are explored through the application of various theoretical perspectives, key concepts, and related research methods of sociology. Analysis of social issues in their institutional context may include topics such as social stratification, gender, race/ethnicity, and deviance. Semester Hours 3 (3 lec)

ENGL 1302 Composition II

Intensive study of and practice in the strategies and techniques for developing research-based expository and persuasive texts. Emphasis is on effective and ethical rhetorical inquiry, including primary and secondary research methods; critical reading of verbal, visual and multimedia texts; systematic evaluation, synthesis, and documentation of information sources; and critical thinking about evidence and conclusions. Prerequisite: ENGL 1301 or its equivalent with a grade of C or better or consent of division chair. Semester Hours 3 (3 lec)

HIST 1302 United States History II

A survey of the social, political, economic, cultural, and intellectual history of the United States from the Civil War/Reconstruction era to the present. United States History II examines industrialization, immigration, world wars, the Great Depression, Cold War and post-Cold War eras. Themes that may be addressed in United States History II include: American culture, religion, civil and human rights, technological change, economic change, immigration and migration, urbanization and suburbanization, the expansion of the federal government, and the study of U.S. foreign policy. NOTE: Must have passed the reading portion of the TSI Assessment or have credit for INRW 0302 or INRW 0402. Semester Hours 3 (3 lec)

SPCH 1311 Introduction to Speech Communication

Introduces basic human communication principles and theories embedded in a variety of contexts, including interpersonal, small group, and public speaking. Semester Hours 3 (3 lec)

SPCH 1315 Public Speaking

Application of communication theory and practice to the public speaking context, with emphasis on audience analysis, speaker delivery, ethics of communication, cultural diversity, and speech organizational techniques to develop students' speaking abilities, as well as ability to effectively evaluate oral presentations. Semester Hours 3 (3 lec)

SPCH 1321 Business & Professional Communication

Study and application of communication within the business and professional context. Special emphasis will be given to communication competencies in presentations, dyads, teams, and technologically mediated formats. Semester Hours 3 (3 lec)

SOCI 1306 Social Problems

Application of sociological principles and theoretical perspectives to major social problems in contemporary society such as inequality, crime and violence, substance abuse, environmental issues, deviance, or family problems. Semester Hours 3 (3 lec)

GOVT 2305 Federal Government

Origin and development of the U.S. Constitution; structure and powers of the national government including the legislative, executive, and judicial branches; federalism; political participation; the national election process; public policy; civil liberties; and civil rights. NOTE: Must have passed the reading portion of the TSI Assessment or have credit for INRW 0302 or INRW 0402. Semester Hours 3 (3 lec)

ENGL 2321 British Literature

A survey of the development of British literature from the Anglo-Saxon period to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical, linguistic, and cultural contexts. Texts will be selected from a diverse group of authors and traditions. Prerequisite: ENGL 1301 or ENGL 2311. Semester Hours 3 (3 lec)

ENGL 2322 British Literature I

A survey of the development of British literature from the Anglo-Saxon period to the Eighteenth Century. Students will study works of prose, poetry, drama, and fiction in relation to their historical, linguistic, and cultural contexts. Texts will be selected from a diverse group of authors and traditions. Prerequisite: ENGL 1301 or ENGL 2311. Semester Hours 3 (3 lec)

ENGL 2326 American Literature

A survey of American literature from the period of exploration and settlement to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from among a diverse group of authors for what they reflect and reveal about the evolving American experience and character. Prerequisite: ENGL 1301 or ENGL 2311. Semester Hours 3 (3 lec)

ENGL 2328 American Literature II

A survey of American literature from the Civil War to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from among a diverse group of authors for what they reflect and reveal about the evolving American experience and character. Prerequisite: ENGL 1301 or ENGL 2311. Semester Hours 3 (3 lec)

ENGL 2341 Forms of Literature

The study of one or more literary genres including, but not limited to, poetry, fiction, drama, and film. Prerequisite: ENGL 1301 or ENGL 2311. Semester Hours 3 (3 lec)

SOCI 2319 Minorities Studies

This course studies minority-majority group relations, addressing their historical, cultural, social, economic, and institutional development in the United States. Both sociological and social psychological levels of analysis will be employed to discuss issues including experiences of minority groups within the context of their cultural heritage and tradition, as well as that of the dominant culture. Core concepts to be examined include (but are not limited to) social inequality, dominance/subordination, prejudice, and discrimination. Particular minority groups discussed may include those based on poverty, race/ethnicity, gender, sexual orientation, age, disability, or religion. Prerequisite: Must have passed the reading portion of the TSI Assessment or have credit for INRW 0302 or INRW 0402. Semester Hours 3 (3 lec)

GOVT 2306 Texas Government

Origin and development of the Texas constitution, structure and powers of state and local government, federalism and inter-governmental relations, political participation, the election process, public policy, and the political culture of Texas. NOTE: Must have passed the reading portion of the TSI Assessment or have credit for INRW 0302 or INRW 0402. Semester Hours 3 (3 lec)

SOCI 2301 Marriage & the Family

Sociological and theoretical analysis of the structures and functions of the family, the varied cultural patterns of the American family, and the relationships that exist among the individuals within the family, as well as the relationships that exist between the family and other institutions in society. Semester Hours 3 (3 lec)

PSYC 2319 Social Psychology

Study of individual behavior within the social environment. May include topics such as the socio-psychological process, attitude formation and change, interpersonal relations, and group processes. Cross-listed as SOCI 2326. NOTE: Credit will not be given for both PSYC 2319 and SOCI 2326. Prerequisite: PSYC 2301 or SOCI 1301. Semester Hours 3 (3 lec)

SOCI 2326 Social Psychology

Study of individual behavior within the social environment. May include topics such as the socio-psychological process, attitude formation and change, interpersonal relations, and group processes. Cross-listed as PSYC 2319. NOTE: Credit will not be given for both PSYC 2319 and SOCI 2326. Prerequisite: PSYC 2301 or SOCI 1301. Semester Hours 3 (3 lec)

ARTS 1301 Art Appreciation

A general introduction to the visual arts designed to create an appreciation of the vocabulary, media, techniques, and purposes of the creative process. Students will critically interpret and evaluate works of art within formal, cultural, and historical contexts. Semester Hours 3 (3 lec)

ARTS 1303 Art History I (Prehistoric to the 14th Century)

A chronological analysis of the historical and cultural contexts of the visual arts from prehistoric times to the 14th century. Semester Hours 3 (3 lec)

ARTS 1304 Art History II (14th Century to the Present)

A chronological analysis of the historical and cultural contexts of the visual arts from the 14th century to the present day. Semester Hours 3 (3 lec)

ARTS 1311 Design I (2-Dimensional)

An introduction to the fundamental terminology, concepts, theory, and application of two-dimensional design. Semester Hours 3 (6 lec/studio plus 3 hours minimum out of class)

ARTS 1312 Design II (3-Dimensional)

An introduction to the fundamental terminology, concepts, theory, and application of three-dimensional design. Prerequisite: ARTS 1311. Semester Hours 3 (6 lec/studio plus 3 hours minimum out of class)

ARTS 1316 Drawing I

A foundation studio course exploring drawing with emphasis on descriptive, expressive and conceptual approaches. Students will learn to see and interpret a variety of subjects while using diverse materials and techniques. Course work will facilitate a dialogue in which students will engage in critical analysis and begin to develop their understanding of drawing as a discipline. Semester Hours 3 (6 lec/studio plus 3 hours minimum out of class)

ARTS 1317 Drawing II

A studio course exploring drawing with continued emphasis on descriptive, expressive and conceptual approaches. Students will further develop the ability to see and interpret a variety of subjects while using diverse materials and techniques. Course work will facilitate a dialogue in which students will employ critical analysis to broaden their understanding of drawing as a discipline. Prerequisite: ARTS 1316 or consent of the instructor. Semester Hours 3 (6 lec/studio plus 3 hours minimum out of class)

ARTS 2316 Painting I

Studio art course that introduces the fundamental principles, materials, and techniques of painting. Exploration of ideas using painting media and techniques with emphasis on color and composition. Includes practice in illusionism (using media to make images appear real) and creative development. Prerequisites (for art majors only): ARTS 1312 and 1317 or consent of the instructor. Semester Hours 3 (6 lec/studio plus 3 hours minimum out of class).

ARTS 2317 Painting II

Studio art course that furthers the study of the principles, materials, and techniques of painting. Exploration of ideas using painting media and techniques with emphasis on color and composition. Includes practice in illusionism (using media to make images appear real) and creative development. Prerequisites (for art majors only): ARTS 2316 or consent of the instructor. Semester Hours 3 (6 lec/studio plus 3 hours minimum out of class)

ARTS 2323 Life Drawing

Studio art course that introduces the analytic study of the human form and the figure's potential for compositional and expressive use in drawing. Basic study of the human form. Anatomical study includes drawing muscles, bones and the nude model. Prerequisites: ARTS 1312 and 1317 or consent of the instructor. Semester Hours 3 (6 lec/studio plus 3 hours minimum out of class)

ARTS 2326 Sculpture

A studio art course that introduces the materials, processes, and issues pertaining to the making of three-dimensional objects and environments. The course explores the use of varied materials and techniques along with the formal and conceptual principles that form the basis of contemporary sculpture. Exploration of ideas using sculpture media and techniques, including additive and subtractive techniques. Prerequisites (for art majors only): ARTS 1312 and 1317 or consent of the instructor. Semester Hours 3 (6 lec/studio plus 3 hours minimum out of class)

ARTS 2346 Ceramics I

A studio art course that introduces basic building, throwing, and other techniques as it relates to the design and production of ceramic sculpture and pottery. Exploration of ideas using basic ceramic processes, including hand-built pottery, wheel-thrown pottery and glazing techniques. Prerequisites (for art majors only): ARTS 1312 and 1317 or consent of instructor. Semester Hours 3 (6 lec/studio)

ARTS 2347 Ceramics II

A studio art course that furthers the study of building, throwing, and other techniques as it relates to the design and production of ceramic sculpture and pottery. Exploration of ideas using basic ceramic processes, including hand-built pottery, wheel-thrown pottery and glazing techniques. Prerequisites (for art majors only): ARTS 2346 or consent of instructor. Semester Hours 3 (6 lec/studio)

ARTS 2348 Digital Media

Studio art course that introduces the potential of basic digital media manipulation and graphic creation. The course emphasizes still and time-based media. Explores the potential of the computer hardware and software medium for visual, conceptual and practical uses in the visual arts. Prerequisites (for art majors): ARTS 1316 and 1317 (Drawing), ARTS 1311 and 1312 (Design), and ARTS 2356 (Photography). No prerequisite for non-majors. Semester Hours 3 (3 lec/3 lab)

ARTS 2356 Photography I (Fine Arts Emphasis)

A studio art course that introduces the technical and conceptual basics of photography as a creative medium. Introduction to the basics of photography. Includes camera operation, techniques, knowledge of chemistry, and presentation skills. Emphasis is on design, history, and contemporary trends as a means of developing an understanding of photographic aesthetics. Semester Hours 3 (3 lec/3 lab)

ARTS 2357 Photography II (Fine Arts Emphasis)

A studio art course that furthers the study of the technical and conceptual basics of photography as a creative medium. Extends the students' knowledge of technique and guides them in developing personal outlooks toward specific applications of the photographic process. Prerequisite: ARTS 2356 or consent of instructor. Semester Hours 3 (3 lec/3 lab)

ARTS 2389 Academic Cooperative

An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the student will set specific individual goals and objectives in the study of studio art and/or art history. Prerequisites: ARTS 1312 and 1317 and consent of instructor. Semester Hours: 3 (2 lec/3 lab)

BIOL 1322 Nutrition & Diet Therapy

This course introduces general nutritional concepts in health and disease and includes practical applications of that knowledge. Special emphasis is given to nutrients and nutritional processes including functions, food sources, digestion, absorption, and metabolism. Food safety, availability, and nutritional information including food labels, advertising, and nationally established guidelines are addressed. Semester Hours 3 (3 lec)

BIOL 1406 Biology for Science Majors I

Fundamental principles of living organisms will be studied, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Concepts of cytology, reproduction, genetics, and scientific reasoning are included. NOTE: Must have passed the reading and writing portion of the TSI Assessment or have credit for INRW 0302 or INRW 0402. Semester Hours 4 (3 lec/3 lab)

BIOL 1407 Biology for Science Majors II

The diversity and classification of life will be studied, including animals, plants, protists, fungi, and prokaryotes. Special emphasis will be given to anatomy, physiology, ecology, and evolution of plants and animals. Prerequisite: BIOL 1406 with a minimum grade of C. Semester Hours 4 (3 lec/3 lab)

BIOL 1408 Biology for Non-Science Majors I

Provides a survey of biological principles with an emphasis on humans, including chemistry of life, cells, structure, function, and reproduction. Semester Hours 4 (3 lec/3 lab)

BIOL 1409 Biology for Non-Science Majors II

This course will provide and reinforce a survey and of biological principles with an emphasis on humans, including evolution, ecology, plant and animal diversity, and physiology. Semester hours 4 (3 lec/3 lab)

BIOL 1411 General Botany

Fundamental biological concepts relevant to plant physiology, life cycle, growth and development, structure and function, and cellular and molecular metabolism. Includes the role of plants in the environment, evolution, and phylogeny of major plant groups, algae, and fungi. This course is intended for science majors. Semester Hours 4 (3 lec/3 lab)

BIOL 1413 General Zoology

Fundamental biological concepts relevant to animals, including systematics, evolution, structure and function, cellular and molecular metabolism, reproduction, development, diversity, phylogeny, and ecology. This course is intended for science majors. Semester Hours 4 (3 lec/3 lab)

BIOL 2389 Academic Cooperative

An instructional program designed to integrate on-campus study with practical hands-on work experience in the biological sciences/life sciences. In conjunction with class seminars, the student will set specific individual goals and objectives in the study of living organisms and their systems. Prerequisite: BIOL 1406, 1407, 1411, 1413, 2401, 2402 or 2420. Semester Hours 3 (2 lec/3 lab)

BIOL 2401 Anatomy & Physiology I

Anatomy and Physiology I is the first part of a two-course sequence. It is a study of the structure and function of the human body including cells, tissues and organs of the following systems: integumentary, skeletal, muscular, and nervous and special senses. Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis. NOTE: Must have passed the reading and writing portion of the TSI Assessment or have credit for INRW 0302 or INRW 0402. Semester Hours 4 (3 lec/3 lab)

BIOL 2402 Anatomy & Physiology II

Anatomy and Physiology II is the second part of a two-course sequence. It is a study of the structure and function of the human body including the following systems: endocrine, cardiovascular, immune, lymphatic, respiratory, digestive (including nutrition), urinary (including fluid and electrolyte balance), and reproductive (including human development and genetics). Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis. Prerequisite: BIOL 2401 with a grade of C or better. Semester Hours 4(3 lec/3 lab)

BIOL 2404 Anatomy & Physiology (specialized)

Study of the structure and function of human anatomy, including the neuroendocrine, integumentary, musculoskeletal, digestive, urinary, reproductive, respiratory, and circulatory systems. Content may be either integrated or specialized. Semester Hours 4 (3 lec/3 lab)

BIOL 2420 Microbiology for Non-Science Majors

This course covers basic microbiology and immunology and is primarily directed at pre-nursing, pre-allied health, and non-science majors. It provides an introduction to historical concepts of the nature of microorganisms, microbial diversity, the importance of microorganisms and acellular agents in the biosphere, and their roles in human and animal diseases. Major topics include bacterial structure as well as growth, physiology, genetics, and biochemistry of microorganisms. Emphasis is on medical microbiology, infectious diseases, and public health. Prerequisite: BIOL 1406, 1408, 1409, 2401 or 2404 with a grade of C or better. Semester Hours 4 (3 lec/3 lab)

CHEM 1405 Introductory Chemistry I

Survey course introducing chemistry. Topics may include inorganic, organic, biochemistry, food/physiological chemistry, and environmental/consumer chemistry. Designed for allied health students and for students who are not science majors. Semester Hours 4 (3 lec/3 lab)

CHEM 1409 General Chemistry for Engineering Majors

Fundamental principles of chemistry for engineering majors; topics include measurements, fundamental properties of matter, states of matter, chemical reactions, acid-base concepts, chemical stoichiometry, periodicity of elemental properties, atomic structure, chemical bonding, molecular structure, solutions, properties of gases, phase-diagrams, introduction to chemical equilibrium, chemical thermodynamics, electrochemistry, and an introduction to descriptive inorganic chemistry and organic chemistry. Basic laboratory experiments supporting theoretical principles presented in CHEM 1309; introduction of the scientific method, experimental design, chemical instrumentation, data collection and analysis, and preparation of laboratory reports. Prerequisites: MATH 1314 with a minimum grade of C or equivalent preparation. Semester Hours 4 (3 lec/4 lab)

CHEM 1411 General Chemistry I

Fundamental principles of chemistry for majors in the sciences, health sciences, and engineering; topics include measurements, fundamental properties of matter, states of matter, chemical reactions, chemical stoichiometry, periodicity of elemental properties, atomic structure, chemical bonding, molecular structure, solutions, properties of gases, and an introduction to thermodynamics and descriptive chemistry. Includes basic laboratory experiments supporting theoretical principles presented in CHEM 1411, as well as an introduction of the scientific method, experimental design, data collection and analysis, and preparation of laboratory reports. Prerequisite: MATH 1314 with a minimum grade of C, passing score on non-credit equivalency exam for MATH 1314, or consent of division chair. High school chemistry is strongly recommended. Semester Hours 4 (3 lec/3 lab)

CHEM 1412 General Chemistry II

Chemical equilibrium, phase diagrams and spectrometry, acid-base concepts, thermodynamics, kinetics, electrochemistry, nuclear chemistry, an introduction to organic chemistry and descriptive inorganic chemistry. Includes basic laboratory experiments supporting theoretical principles presented in CHEM 1412, as well as an introduction of the scientific method, experimental design, chemical instrumentation, data collection and analysis, and preparation of laboratory reports. Prerequisite: CHEM 1411 with a grade of C or better. Semester Hours 4 (3 lec/4 lab)

CHEM 2389 Academic Cooperative

An instructional program designed to integrate on-campus study with practical hands-on work experience in the physical sciences. In conjunction with class seminars, the students will set specific individual goals and objectives in the scientific study of inanimate objects, processes of matter and energy, and associated phenomena. Prerequisite: CHEM 2423. Semester Hours 3 (2 lec/3 lab)

CHEM 2423 Organic Chemistry I

Fundamental principles of organic chemistry will be studied, including the structure, bonding, properties, and reactivity of organic molecules, as well as properties and behavior of organic compounds and their derivatives. Emphasis is on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules. Methods of purification and identification of organic compounds will be examined. This course is intended for students in science or pre-professional programs. Prerequisite: CHEM 1411 and 1412 with a grade of C or better. Semester Hours 4 (3 lec/4 lab)

CHEM 2425 Organic Chemistry II

Advanced principles of organic chemistry will be studied, including the structure, properties, and reactivity of aliphatic and aromatic organic molecules, as well as properties and behavior of organic compounds and their derivatives. Emphasis is on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules. This course is intended for students in science or pre-professional programs. Prerequisite: CHEM 2423 with a grade of C or better. Semester Hours 4 (3 lec/4 lab)

FREN 1411 Beginning French I

Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture. Semester Hours 4 (3 lec/2 lab)

FREN 1412 Beginning French II

Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture. Prerequisite: FREN 1411, two years of high school French, or consent of instructor or division chair. Students with two years of high school French are encouraged to see a French instructor prior to enrolling. Semester Hours 4 (3 lec/2 lab)

FREN 2311 Intermediate French I

Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture. Prerequisite: FREN 1412, three years of high school French, or consent of instructor or division chair. Students with three years of high school French are encouraged to see a French instructor prior to enrolling. Semester Hours 3 (3 lec)

FREN 2312 Intermediate French II

Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture. Prerequisite: FREN 2311, four years of high school French, or consent of instructor or division chair. Students with four years of high school French are encouraged to see a French instructor prior to enrolling. Semester Hours 3 (3 lec)

GEOL 1101 Earth Sciences I for Non-Science Majors (lab)

This laboratory-based course accompanies GEOL 1301 Earth Sciences I. Activities will cover methods used to collect and analyze data in geology, meteorology, oceanography and astronomy. Prerequisite: GEOL 1301. Semester Hours 1 (3 lab)

GEOL 1102 Earth Sciences II for Non-Science Majors (lab)

This laboratory-based course accompanies GEOL 1302 Earth Sciences II. Activities will focus on methods used to collect and analyze data related to natural resources, hazards and climate variability. Prerequisite: Credit for or concurrent enrollment in GEOL 1302. Semester Hour 1 (3 lab)

GEOL 1103 Physical Geology Laboratory

This laboratory-based course accompanies GEOL 1303 Physical Geology. Laboratory activities will cover methods used to collect and analyze earth science data. Prerequisite: GEOL 1303 or concurrent enrollment. Semester Hour 1 (3 lab)

GEOL 1104 Historical Geology Laboratory

This laboratory-based course accompanies GEOL 1304 Historical Geology. Laboratory activities will introduce methods used by scientists to interpret the history of life and major events in the physical development of earth from rocks and fossils. Prerequisite: GEOL 1304. Semester Hour 1 (3 lab)

GEOL 1301 Earth Sciences I for Non-Science Majors (lecture)

Survey of geology, meteorology, oceanography and astronomy. Semester Hours 3 (3 lec)

GEOL 1302 Earth Sciences II for Non-Science Majors (lecture)

Extension of the study of geology, astronomy, meteorology and oceanography, focusing on natural resources, hazards and climate variability. Prerequisite: GEOL 1401, 1403 or 1404. Semester Hours 3 (3 lec)

GEOL 1303 Physical Geology (lecture)

Introduction to the study of the materials and processes that have modified and shaped the surface and interior of Earth over time. These processes are described by theories based on experimental data and geologic data gathered from field observations. Semester Hours 3 (3 lec)

GEOL 1304 Historical Geology (lecture)

A comprehensive survey of the history of life and major events in the physical development of Earth as interpreted from rocks and fossils. Prerequisites: GEOL 1303 or 1403. Semester Hours 3 (3 lec)

GEOL 1401 Earth Sciences for Non-Science Majors I (lecture + lab)

Survey of geology, meteorology, oceanography, and astronomy. The lab activities will cover methods used to collect and analyze data in geology, meteorology, oceanography and astronomy. Semester Hours 4 (3 lec/3 lab)

GEOL 1402 Earth Sciences for Non-Science Majors II (lecture + lab)

Extension of the study of geology, astronomy, meteorology and oceanography, focusing on natural resources, hazards and climate variability. Lab activities will focus on methods used to collect and analyze data related to natural resources, hazards and climate variability. Prerequisite: GEOL 1401, 1403 or 1404. Semester Hours 4 (3 lec/3 lab)

GEOL 1403 Physical Geology (lecture + lab)

Introduction to the study of the materials and processes that have modified and shaped the surface and interior of Earth over time. These processes are described by theories based on experimental data and geologic data gathered from field observations. Laboratory activities will cover methods used to collect and analyze earth science data. Semester Hours 4 (3 lec/3 lab)

GEOL 1404 Historical Geology (lecture + lab)

A comprehensive survey of the history of life and major events in the physical development of Earth as interpreted from rocks and fossils. Laboratory activities will introduce methods used by scientists to interpret the history of life and major events in the physical development of earth from rocks and fossils. Prerequisite: GEOL 1303 or 1403. Semester Hours 4 (3 lec/3 lab)

GEOL 2389 Academic Cooperative

An instructional program designed to integrate on-campus study with practical hands-on work experience in the physical sciences. In conjunction with class seminars, the student will set specific individual goals and objectives in the scientific study of inanimate objects, processes of matter and energy, and associated phenomena. Semester Hours 3 (3 lec)

GERM 1411 Beginning German I

Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture. Semester Hours 4 (3 lec/2 lab)

GERM 1412 Beginning German II

Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture. Prerequisite: GERM 1411, two years of high school German, or consent of instructor or division chair. Students with two years of high school German are encouraged to see a German instructor prior to enrolling. Semester Hours 4 (3 lec/2 lab)

GERM 2311 Intermediate German I

Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture. Prerequisite: GERM 1412, three years of high school German, or consent of instructor or division chair. Students with three years of high school German are encouraged to see a German instructor prior to enrolling. Semester Hours 3 (3 lec)

GERM 2312 Intermediate German II

Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture. Prerequisite: GERM 2311, four years of high school German, or consent of instructor or division chair. Students with four years of high school German are encouraged to see a German instructor prior to enrolling. Semester Hours 3 (3 lec)

MATH 1314 College Algebra

In-depth study and applications of polynomial, rational, radical, exponential and logarithmic functions, and systems of equations using matrices. Additional topics such as sequences, series, probability, and conics may be included. Graphing calculator required. Prerequisite: TSI math complete or MATH 0311. Semester Hours 3 (3 lec)

MATH 1316 Plane Trigonometry

In-depth study and applications of trigonometry including definitions, identities, inverse functions, solutions of equations, graphing, and solving triangles. Additional topics such as vectors, polar coordinates and parametric equations may be included. Graphing calculator required. Prerequisite: MATH 1314 with a minimum grade of C, or passing score on non-credit equivalency exam for MATH 1314, or consent of division chair. Semester Hours 3 (3 lec)

MATH 1324 Mathematics for Business & Social Sciences

The application of common algebraic functions, including polynomial, exponential, logarithmic and rational, to problems in business, economics and the social sciences are addressed. The applications include mathematics of finance, including simple and compound interest and annuities; systems of linear equations; matrices, linear programming; and probability, including expected value. Prerequisite: TSI math complete or MATH 0311. Semester Hours 3 (3 lec)

MATH 1325 Calculus for Business & Social Sciences

This course is the basic study of limits and continuity, differentiation, optimization and graphing, and integration of elementary functions, with emphasis on applications in business, economics and social sciences. This course is not a substitute for MATH 2313 or 2413 - Calculus I. Prerequisite: MATH 1314 or MATH 1324, minimum grade C. Semester Hours 3 (3 lec)

MATH 1332 Contemporary Mathematics (Quantitative Reasoning)

Intended for Non-STEM (Science, Technology, Engineering, and Mathematics) majors. Topics include introductory treatments of sets and logic, financial mathematics, probability and statistics with appropriate applications. Number sense, proportional reasoning, estimation, technology, and communication should be embedded throughout the course. Additional topics may be covered. Graphing calculator required. Prerequisite: TSI math complete or MATH 0308. Semester Hours 3 (3 lec)

MATH 1342 Elementary Statistical Methods

Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. Use of appropriate technology is recommended. Graphing calculator required. Prerequisite: TSI math complete or MATH 0308 or completion of college-level math course. Semester Hours 3 (3 lec)

MATH 1350 Mathematics for Teachers I (Fundamentals of Mathematics I)

This course is intended to build or reinforce a foundation in fundamental mathematics concepts and skills. It includes the conceptual development of the following: sets, functions, numeration systems, number theory, and properties of the various number systems with an emphasis on problem solving and critical thinking. Prerequisite: MATH 1314/1414 College Algebra or the equivalent. Semester Hours 3 (3 lec)

MATH 1351 Mathematics for Teachers II (Fundamentals of Mathematics II)

This course is intended to build or reinforce a foundation in fundamental mathematics concepts and skills. It includes the concepts of geometry, measurement, probability, and statistics with an emphasis on problem solving and critical thinking. Prerequisite: MATH 1314/1414 College Algebra Semester Hours 3 (3 lec)

MATH 1414 College Algebra (Stem Intensive)

In-depth study and applications of polynomial, rational, radical, exponential and logarithmic functions, and systems of equations using matrices. Additional topics such as sequences, series, probability, and conics may be included. Semester hours 4 (4 lec)

MATH 2305 Discrete Mathematics

A course designed to prepare math, computer science, and engineering majors for a background in abstraction, notation, and critical thinking for the mathematics most directly related to computer science. Topics include: logic, relations, functions, basic set theory, countability and counting arguments, proof techniques, mathematical induction, combinatorics, discrete probability, recursion, sequence and recurrence, elementary number theory, graph theory, and mathematical proof techniques. Prerequisite: MATH 2413 with a grade of C or better. Semester Hours 3 (3 lec)

MATH 2318 Linear Algebra

Introduces and provides models for application of the concepts of vector algebra. Topics include finite dimensional vector spaces and their geometric significance; representing and solving systems of linear equations using multiple methods, including Gaussian elimination and matrix inversion; matrices; determinants; linear transformations; quadratic forms; eigenvalues and eigenvector; and applications in science and engineering. Graphing calculator required. Prerequisite or corequisite: MATH 2414 or consent of division chair. Semester Hours 3 (3 lec)

MATH 2320 Differential Equations

Ordinary differential equations, including linear equations, systems of equations, equations with variable coefficients, existence and uniqueness of solutions, series solutions, singular points, transform methods, and boundary value problems; application of differential equations to real-world problems. Graphing calculator required. Prerequisite or corequisite: MATH 2414 minimum grade of C. Semester Hours 3 (3 lec)

MATH 2412 Pre-Calculus Mathematics

In-depth combined study of algebra, trigonometry, and other topics for calculus readiness. Prerequisite: MATH 1314 with a minimum grade of C, or passing score on non-credit equivalency exam for MATH 1314, or consent of division chair. Semester Hours 4 (4 lec)

MATH 2413 Calculus I

Limits and continuity; the Fundamental Theorem of Calculus; definition of the derivative of a function and techniques of differentiation; applications of the derivative to maximizing or minimizing a function; the chain rule, mean value theorem, and rate of change problems; curve sketching; definite and indefinite integration of algebraic, trigonometric, and transcendental functions, with an application to calculation of areas. Graphing calculator required. Prerequisite: MATH 2412 with a minimum grade of C, or both MATH 1314 and MATH 1316 with minimum grades of C, or passing score on non-credit equivalency exam for MATH 2412, or consent of division chair. Semester Hours 4 (4 lec)

MATH 2414 Calculus II

Differentiation and integration of transcendental functions; parametric equations and polar coordinates; techniques of integration; sequences and series; improper integrals. Graphing calculator required. Prerequisite: MATH 2413 with a grade of C or better or consent of division chair. Semester Hours 4 (4 lec)

MATH 2415 Calculus III

Advanced topics in calculus, including vectors and vector-valued functions, partial differentiation, Lagrange multipliers, multiple integrals, and Jacobians; application of the line integral, including Green's Theorem, the Divergence Theorem, and Stokes' Theorem. Graphing calculator required. Prerequisite: MATH 2414 with a grade of C or better or consent of division chair. Semester Hours 4 (4 lec)

PHYS 1401 College Physics I

Fundamental principles of physics, using algebra and trigonometry; the principles and applications of classical mechanics and thermodynamics, including harmonic motion, mechanical waves and sound, physical systems, Newton's Laws of Motion, and gravitation and other fundamental forces; with emphasis on problem solving. Prerequisite: MATH 1314 and MATH 1316, 2412 or 2413 with a grade of C or better. Semester Hours 4 (3 lec/3 lab)

PHYS 1402 College Physics II

Fundamental principles of physics, using algebra and trigonometry; the principles and applications of electricity and magnetism, including circuits, electrostatics, electromagnetism, waves, sound, light, optics, and modern physics topics; with emphasis on problem solving. Prerequisite: PHYS 1401. Semester Hours 4 (3 lec/3 lab)

PHYS 1403 Stars and Galaxies

Study of stars, galaxies, and the universe outside our solar system. Semester Hours 4 (3 lec/3 lab)

PHYS 1404 Solar System

Study of the sun and its solar system, including its origin. Semester Hours 4 (3 lec/3 lab)

PHYS 1405 Elementary Physics I

Conceptual level survey of topics in physics intended for liberal arts and other non-science majors. Semester Hours 4 (3 lec/3 lab)

PHYS 2389 Academic Cooperative

An instructional program designed to integrate on-campus study with practical hands-on work experience in physical sciences. In conjunction with class seminars, the students will set specific individual goals and objectives in the study of inanimate objects, processes of matter and energy, and associated phenomena. Semester Hours 3 (3 lec)

PHYS 2425 University Physics I

Fundamental principles of physics, using calculus, for science, computer science, and engineering majors; the principles and applications of classical mechanics, including harmonic motion, physical systems and thermodynamics; and emphasis on problem solving. Basic laboratory experiments supporting theoretical principles involving the principles and applications of classical mechanics, including harmonic motion and physical systems; experimental design, data collection and analysis, and preparation of laboratory reports. Prerequisite: MATH 2413 with a grade of C or better. Semester Hours 4 (3 lec/3 lab)

PHYS 2426 University Physics II

Principles of physics for science, computer science, and engineering majors, using calculus, involving the principles of electricity and magnetism, including circuits, electromagnetism, waves, sound, light, and optics. Laboratory experiments supporting theoretical principles involving the principles of electricity and magnetism, including circuits, electromagnetism, waves, sound, light, and optics; experimental design, data collection and analysis, and preparation of laboratory reports. Prerequisites: PHYS 2425 and MATH 2414 with a grade of C or better. Semester Hours 4 (3 lec/3 lab)

SPAN 1300 Beginning Spanish Conversation

Basic practice in comprehension and production of the spoken language. Semester Hours 3 (3 lec)

SPAN 1411 Beginning Spanish I

Basic Spanish language skills in listening, speaking, reading, and writing within a cultural framework. Students will acquire the vocabulary and grammatical structures necessary to communicate and comprehend at the beginner level. Semester Hours 4 (3 lec/2 lab)

SPAN 1412 Beginning Spanish II

Continued development of basic Spanish language skills in listening, speaking reading, and writing within a cultural framework. Students acquire the vocabulary and grammatical structures necessary to communicate and comprehend at the high beginner to low intermediate level. Prerequisite: SPAN 1411, two years of high school Spanish, or consent of instructor or division chair. Students with two years of high school Spanish are encouraged to see a Spanish instructor prior to enrolling. Semester Hours 4 (3 lec/2 lab)

SPAN 2311 Intermediate Spanish I

The consolidation of skills acquired at the introductory level. Further development of proficiency in listening, speaking, reading and writing. Emphasis is on comprehension, appreciation, and interpretation of the cultures of the Spanish-speaking world. Prerequisite: SPAN 1412, three years of high school Spanish, or consent of instructor or division chair. Students with three years of high school Spanish are encouraged to see a Spanish instructor prior to enrolling. Semester Hours 3 (3 lec)

SPAN 2312 Intermediate Spanish II

The consolidation of skills acquired at the introductory level. Further development of proficiency in listening, speaking, reading and writing. Emphasis is on comprehension, appreciation, and interpretation of the cultures of the Spanish-speaking world. Prerequisite: SPAN 2311, four years of high school Spanish, or consent of instructor or division chair. Students with four years of high school Spanish are encouraged to see a Spanish instructor prior to enrolling. Semester Hours 3 (3 lec)
