AAS
CIS - Multimedia & Web Tech - Development Track

2023-2024

McLENNAN COMMUNITY COLLEGE

Degree Description

This program prepares students for the diverse and exciting world of digital media manipulation and production. Curriculum exposes students to various types of digital media including digital imaging and graphics, audio and video production, 2D and 3D animation, Web technologies, and desktop publishing. This program consists of a two-year A.A.S. in Multimedia & Web Technology as well as certificates in Multimedia & Web Technology/Development Track and Design Track. It prepares students for careers in graphic design, website production and management, video production, animation, gaming, electronic journalism, communications, etc. The A.A.S. has two tracks, one that focuses on design concepts and the second that specializes in the technical aspect of running a media server.

Marketable Skills

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* Understand and apply computing terminology and concepts used in the workplace- Critical Thinking/ Communication * Apply fundamentals of computer programming in structured design concepts- Critical Thinking/ Communication * Configure, use, and troubleshoot computer operating systems and/or application software Critical Thinking * Use the Internet to locate, transfer, research and publish information at a level appropriate for the academic and work

* Install and evaluate desktop and network security protocols and principles-Critical Thinking

Semester I	Hours
BCIS 1305 Business Computer Applications	3 hours
IMED 1316 Web Design I	3 hours
ITSC 1305 Introduction to PC Operating Systems	3 hours
ITSY 1342 Information Tech Security	3 hours
ITSC 1315 Project Managment Software	3 hours
	15 hours

Semester II	Hours
IMED 2315 Web Design II	3 hours
ENGL 1301 Composition I ***or*** ENGL 2311 Technical & Business Writing	3 hours
ITSE 1311 Beginning Web Programming	3 hours
ITSW 1307 Introduction to Database	3 hours
ITSE 2309 Database Programming	3 hours
	15 hours

Semester III	Hours
COSC 1336 Programming Fundamentals I	3 hours
ITNW 1354 Implementing and Support Servers[1,2]	3 hours
ITSE 2302 Intermediate Web Programming	3 hours
ITCC 1314 CCNA 1: Introduction to Networks[1,2]	3 hours
Math elective ***or*** Life & Physical Science elective	3 hours
	15 hours

Semester IV	Hours
Creative Arts elective[4]	3 hours
COSC 1337 Programming Fundamentals II	3 hours
ITSC 2386 Internship-Computer & Information Scien[3]	3 hours
Social/Behavioral Science elective[4]	3 hours
SPCH 1311 Introduction to Speech Communication[4]	3 hours
	15 hours

Total hours: **60 hours**

1 MCC is a local CISCO Academy. This is one of four courses leading up to the CISCO Certified Network Administrator certification.

2 This course is designed to prepare students for the exams to receive the Comptia Server+ certification.

3 This course is a Capstone course, which brings together knowledge and skills learned in other courses and applies them in decision-making situations and in completing job tasks. Check course prerequisites.

4 See General Education Requirements (ECON Recommended)

Electives/General Education Courses

Creative 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
DRAM 1310 Theater Appreciation	3 hours
DRAM 2361 History of Theater I	3 hours
DRAM 2362 History of Theater II	3 hours
DRAM 2366 Film Appreciation	3 hours
HUMA 1315 Fine Arts Appreciation	3 hours
MUSI 1306 Music Appreciation	3 hours
MUSI 1307 Music Literature	3 hours
MUSI 1310 American Music	3 hours

Life & Physical Science

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 2401 Anatomy & Physiology I	4 hours
BIOL 2402 Anatomy & Physiology II	4 hours
BIOL 2404 Anatomy & Physiology (specialized)	4 hours
CHEM 1405 Introductory Chemistry I	4 hours
CHEM 1411 General Chemistry I	4 hours
CHEM 1412 General Chemistry II	4 hours
ENVR 1301 Environmental Science I (lecture)	3 hours
ENVR 1101 Environmental Science I (lab)	1 hours
ENVR 1302 Environmental Science II - Lecture	3 hours
ENVR 1102 Environmental Science II (lab)	1 hours
ENVR 1401 Environmental Science I (lecture + lab)	4 hours
ENVR 1402 Environmental Science II	4 hours
GEOL 1301 Earth Sciences I for Non-Science Majors (lecture)	3 hours
GEOL 1101 Earth Sciences I for Non-Science Majors (lab)	1 hours
GEOL 1302 Earth Sciences II for Non-Science Majors (lecture)	3 hours
GEOL 1102 Earth Sciences II for Non-Science Majors (lab)	1 hours
GEOL 1303 Physical Geology (lecture)	3 hours
GEOL 1103 Physical Geology Laboratory	1 hours
GEOL 1304 Historical Geology (lecture)	3 hours
GEOL 1104 Historical Geology Laboratory	1 hours
GEOL 1401 Earth Sciences for Non-Science Majors I (lecture + lab)	4 hours
GEOL 1403 Physical Geology (lecture + lab)	4 hours
GEOL 1404 Historical Geology (lecture + lab)	4 hours
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

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 2412 Pre-Calculus Mathematics	4 hours
MATH 2413 Calculus I	4 hours
PHIL 2303 Introduction to Formal Logic	3 hours

Social/Behavioral Science

ANTH 2351 Cultural Anthropology	3 hours
CRIJ 1301 Introduction to Criminal Justice	3 hours
ECON 2301 Principles of Macroeconomics	3 hours
ECON 2302 Principles of Microeconomics	3 hours
ENGR 2308 Engineering Economics	3 hours
PSYC 2301 General Psychology	3 hours
SOCI 1301 Introduction to Sociology	3 hours
SOCI 1306 Social Problems	3 hours
SOCI 2326 Social Psychology	3 hours
SOCW 2361 Introduction to Social Work	3 hours

Course Descriptions

BCIS 1305 Business Computer Applications

Introduces and develops foundational skills in applying essential and emerging business productivity information technology tools. The focus of this course is on business productivity software applications, including word processing, spreadsheets, databases, presentation graphics, data analytics, and business-oriented utilization of the internet. (BCIS 1305 is included in the Business Field of Study.) Semester Hours 3 (2 lec/2 lab)

IMED 1316 Web Design I

Introduces Internet Web page design and related graphic design issues, including mark-up languages, websites, Internet access software, and interactive topics. Students should be proficient with Windows functions, mousing and keyboarding skills.

ITSC 1305 Introduction to PC Operating Systems

Introduction to personal computer operating systems, including installation, configuration, file management, memory and storage management, control of peripheral devices and use of utilities. Semester Hours 3 (2 lec/2 lab)

ITSY 1342 Information Tech Security

Instruction in security for network computer hardware, software, virtualization, and data, including physical security; backup procedures; relevant tools; encryption; and protection from viruses. Topics may adapt to changes in industry practices. Students will learn to ensure the physical security of file servers and other network components using best practices; develop backup procedures to provide for data security; use network operating system features to implement network security; describe the nature of computer viruses, their methods of spreading, and means of protecting networks from viruses; use relevant tools to provide for network security; and use encryption techniques to protect network data. Semester Hours 3 (2 lec/2 lab)

ITSC 1315 Project Managment Software

Use of project managment software for developing a project plan including timelines, milestones, scheduling life cycle phases, management frameworks, skills processes, and tools. Semester Hours 3 (2 lec/2 lab)

IMED 2315 Web Design II

Studies current mark-up languages and layout techniques for creating engaging, well-designed Web pages; identify the target audience and producing websites according to World Wide Consortium (W3C) standards, and legal issues. Demonstrate the use of WC standards; build dynamic web pages; evaluate legal and ethical issues; and test and maintain a website. Prerequisites: Successful completion of IMED 1316 with a minimum grade of C or equivalent introductory Web design course with instructor consent; knowledge of CSS and division tags important. Semester Hours 3 (2 lec/2 lab)

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)

ENGL 2311 Technical & Business Writing

Intensive study of and practice in professional settings. Focus on the types of documents necessary to make decisions and take action on the job, such as proposals, reports, instructions, policies and procedures, e-mail messages, letters, and descriptions of products and services. Practice of individual and collaborative processes involved in the creation of ethical and efficient documents. Prerequisite: TSI complete in Writing or the equivalent. Semester Hours 3 (3 lec)

ITSE 1311 Beginning Web Programming

Skill development in Web page programming, including mark-up and scripting languages. Semester Hours 3 (2 lec/2 lab)

ITSW 1307 Introduction to Database

Introduces relational and non-relational database theory and the practical applications of a contemporary databases. Topics may adapt to changes in industry practices. Semester Hours 3 (2 lec/2 lab)

ITSE 2309 Database Programming

Database development using database programming techniques emphasizing database structures, modeling, and database access. Students develop database applications using a structured query language, create queries and reports from database tables, and create appropriate documentation. Semester Hours 3 (2 lec/2 lab)

COSC 1336 Programming Fundamentals I

Introduces the fundamental concepts of structured programming and provides a comprehensive introduction to programming for computer science and technology majors. Topics include software development methodology, data types, control structures, functions, arrays, and the mechanics of running, testing and debugging. This course assumes computer literacy. Semester Hours 3 (3 lec)

ITNW 1354 Implementing and Support Servers

Implement, administer, and troubleshoot information systems that incorporate servers in a networked computing environment. This course prepares students to earn the CompTIA Server+ Certification Prerequisite: ITSC 1305. Semester Hours 3 (2 lec/2 lab)

ITSE 2302 Intermediate Web Programming

Teaches server-side and client-side techniques for Web development. Emphasis on design, code, and implement a secure dynsamic web application; incorporate client-side and server-side scripts. Prerequisites: ITSE 1311 with a minimum grade of C. Semester Hours 3 (3 lec/2 lab)

ITCC 1314 CCNA 1: Introduction to Networks

Covers networking architecture, structure, and functions; introduces the principles and structure of IP addressing and the fundamentals of Ethernet concepts, media and operations to provide a foundation for the curriculum. Semester Hours 3 (2 lec/3 lab)

COSC 1337 Programming Fundamentals II

This course focuses on the object-oriented programming paradigm, emphasizing the definition and use of classes along with fundamentals of object-oriented design. The course includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering processes. Students will apply techniques for testing and debugging software. Prerequisite: COSC 1336 with a minimum grade of C. Semester Hours 3 (3 lec)

ITSC 2386 Internship-Computer & Information Scien

Provides a work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Prerequisite: An approved workstation and consent of program director. Semester Hours 3 (15 lab)

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)

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)

DRAM 1310 Theater Appreciation

Survey of theater including its history, dramatic works, stage techniques, production procedures, and relation to other art forms. Participation in major productions may be required. Applies as a required Humanities or Visual & Performing Arts course for all students. Semester Hours 3 (3 lec)

DRAM 2361 History of Theater I

Study of the history of the theater from primitive times through the Renaissance. Required of theatre majors; open to non-theatre majors. Semester Hours 3 (3 lec)

DRAM 2362 History of Theater II

Study of the history of the theater from the Renaissance through today. Required of theatre majors; open to non-theatre majors. Semester Hours 3 (3 lec)

DRAM 2366 Film Appreciation

Survey and analyze cinema including history, film techniques, production procedures, selected motion pictures, and cinemas impact on and reflection of society. (Cross - listed as COMM 2366) Semester Hours 3 (3 lec)

HUMA 1315 Fine Arts Appreciation

This course is an exploration of the purposes and processes in the visual and performing arts (such as music, painting, architecture, drama, and dance) and the ways in which they express the values of cultures and human experience. Semester Hours 3 (3 lec)

MUSI 1306 Music Appreciation

Understanding music through the study of cultural periods, major composers, and musical elements. Illustrated with audio recordings and live performances. (Does not apply to a music major degree.) Applies as a required humanities or fine arts course for all students. Semester Hours 3 (3 lec)

MUSI 1307 Music Literature

A survey of the styles and forms of music as it developed from the middle ages to the present. This course will familiarize the student with cultural context, terminology, genres, and notation. Semester hours: 3

MUSI 1310 American Music

A general survey of various styles of music of the Americas, including but not limited to jazz, folk, rock, and contemporary music. Satisfies general humanities elective requirements. 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 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)

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 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)

ENVR 1301 Environmental Science I (lecture)

A survey of the forces, including humans, that shape our physical and biologic environment, and how they affect life on Earth. Introduction to the science and policy of global and regional environmental issues, including pollution, climate change, and sustainability of land, water, and energy resources. Semester Hours 3 (3 lec)

ENVR 1101 Environmental Science I (lab)

This laboratory-based course accompanies ENVR 1301 Environmental Science (lecture). Activities will cover methods used to collect and analyze environmental data. Prerequisite: Credit for or concurrent enrollment in ENVR 1301. Semester Hour 1 (3 lab)

ENVR 1302 Environmental Science II - Lecture

General interest course requiring a minimum of previous science background and relating scientific knowledge to problems involving energy and the environment. Semester Hours 3 (3 lec)

ENVR 1102 Environmental Science II (lab)

General interest course requiring a minimum of previous science background and relating scientific knowledge to problems involving energy and the environment. Lab exercises relate scientific knowledge to problems involving energy and the environment. Includes research projects related to the historical development of current environmental practices and concerns. May include other research projects dealing with current or potential environmental concerns. Prerequisite: Credit for or concurrent enrollment in ENVR 1302. Semester Hour 1 (3 lab)

ENVR 1401 Environmental Science I (lecture + lab)

A survey of the forces, including humans, that shape our physical and biologic environment, and how they affect life on Earth. Introduction to the science and policy of global and regional environmental issues, including pollution, climate change, and sustainability of land, water, and energy resources. The laboratory activities will cover methods used to collect and analyze environmental data. Semester Hours 4 (3 lec/3 lab)

ENVR 1402 Environmental Science II

General interest course requiring a minimum of previous science background and relating scientific knowledge to problems involving energy and the environment. Lab exercises relate scientific knowledge to problems involving energy and the environment. Includes research projects related to the historical development of current environmental practices and concerns. May include other research projects dealing with current or potential environmental concerns. Semester Hours 4 (3 lec/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 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 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 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 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 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 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 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 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 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)

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)

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 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)

PHIL 2303 Introduction to Formal Logic

The purpose of the course is to introduce the student to symbolic logic, including syllogisms, propositional and predicate logic, and logical proofs in a system of rules. Semester Hours 3 (3 lec)

ANTH 2351 Cultural Anthropology

The study of human cultures. Topics may include social organization, institutions, diversity, interactions between human groups, and ethics in the discipline. 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)

CRIJ 1301 Introduction to Criminal Justice

This course provides a historical and philosophical overview of the American criminal justice system, including the nature, extent, and impact of crime; criminal law; and justice agencies and processes, and an overview of the criminal justice system, including law enforcement and court procedures. Semester Hours 3 (3 lec)

ECON 2301 Principles of Macroeconomics

Analyzes the economy as a whole including measurement and determination of aggregate demand and aggregate supply, national income, inflation, and unemployment. Other topics include international trade, economic growth, business cycles, fiscal policy and monetary policy. Prerequisite: Must have passed the TSI Assessment or be concurrently enrolled in INRW 0402. Semester Hours 3 (3 lec)

ECON 2302 Principles of Microeconomics

Analyzes the behavior of individual economic agents, including consumer behavior and demand, producer behavior and supply, price and output decisions by firms under various market structures, factor markets, market failures, and international trade. Prerequisite: Must have passed the TSI Assessment or be concurrently enrolled in INRW 0402. Semester Hours 3 (3 lec)

ENGR 2308 Engineering Economics

Methods used for determining the comparative financial desirability of engineering alternatives. Provides the student with the basic tools required to analyze engineering alternatives in terms of their worth and cost, an essential element of engineering practice. The student is introduced to the concept of the time value of money and the methodology of basic engineering economy techniques. The course will address some aspects of sustainability and will provide the student with the background to enable them to pass the Engineering Economy portion of the Fundamentals of Engineering exam. Prerequisite: MATH 2413 with a grade of C or better. Semester Hours 3 (3 lec)

PSYC 2301 General Psychology

General Psychology is a survey of the major psychological topics, theories and approaches to the scientific study of behavior and mental processes. 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)

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)

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)

SOCW 2361 Introduction to Social Work

An overview of the history and development of social work as a profession. The course is designed to foster a philosophical, historical, and critical understanding of the social work profession, including social work values, ethics, and areas of practice utilized under a Generalist Intervention Model. Prerequisite: TSI complete in Writing or have credit for INRW 0402 Semester Hours 3 (3 lec)