COURSE DESCRIPTIONS

Each course is identified by a three-letter discipline code and a three-digit number followed by the course title. Statements following the course description indicate whether a prerequisite or a co-requisite is needed and whether that course meets a Core elective requirement. A ***prerequisite*** course is one that must be taken before enrollment in the chosen course. A ***co-requisite*** course is one that must be taken simultaneously with the chosen course.

Note: If a course has a co-requisite, one may be transferred in without the other if it was successfully completed at another institution. If a student fails one of the co-requisite courses but passes the other, *only the failed course must be repeated.*

Core Requirement Key		
C = Communication	N = Natural Sciences	S = Social and Behavioral Sciences
H = Human Experience	Q = Quantitative Reasoning	F = Health Foundations

ART

ART 105 **An Artist's Guide to Anatomy** **3 credits**

The rich cultural history of human anatomy as it has been portrayed in art provides a student entry into understanding the body. Introducing students to the evolving representation of the human body portrayed in art from pre-history to modernity will concentrate on proportions developed by ancient Egyptian and ancient Greek cultures. Book and hands on activities will highlight the Italian Renaissance artist's techniques and explorations that led to the realistic representation of the body. Each student will demonstrate personal exploration through lab experiences on how the artist's rendering of the human form aids the discipline of health sciences. Students will be able to draw together how science and art have relied on each other in history and today through class activities and personal reflection.

Core Category: H

BIOLOGY

BIO 105 **Structure and Function I** **3 credits**

This course establishes a knowledge base in anatomy and physiology, covering the skeletal, muscular, nervous and endocrine systems of the body. Components of the cells, tissues, organs and systems are described and discussed. The fundamentals of sectional anatomy are addressed. Upon successful completion of this course students should be able to: 1) demonstrate the relationship between anatomy and physiology and describe the normal structure and function of body organ systems; 2) identify major body cells, tissues, organs, and systems and understand their functions; 3) predict the effect of disease on the normal functioning of the body; 4) identify activities that promote health and a longer, richer life. There is no laboratory component associated with this course, but students may utilize models, specimens and laboratory equipment to enhance learning.

Core Category: N

BIO 107 **Structure and Function II** **3 credits**

This course establishes a knowledge base in the study of structure and function of the human body, covering the Anatomy and Physiology of Cardiovascular, Lymphatic, Respiratory Urinary, Digestive and Reproductive systems of the body. Components of the cells, tissues, organs and systems are described and discussed. The fundamentals of sectional anatomy are addressed. Immunology, cellular division, embryological and fetal development, classical genetics and genetic technology considered. Upon successful completion of this course students should be able to: 1) demonstrate the relationship between anatomy and physiology and describe the normal structure and function of body organ systems; 2) identify major body cells, tissues, organs, and systems and understand their functions; 3) predict the effect of disease on the normal functioning of the body; 4) identify activities that promote health and a longer, richer life. There is no laboratory component associated with this course, but students may utilize anatomic or cellular models, microscopic specimens, laboratory equipment and videos related to topics to enhance learning.

Prerequisite: BIO 105

Core Category: N

BIO 205 Anatomy and Physiology I 3 credits

This course is the first of a two-semester sequence in which the structure and function of the human body is studied. An integrative, systemic study of the body includes the following topics: language of anatomy; basic chemistry; fundamental cell biology; integumentary, skeletal (including articulations), muscular, and nervous (including neurophysiology, the CNS, PNS, and ANS). The functions of each system will be investigated through a study of homeostatic mechanisms within the system as well as the system's response to homeostatic imbalances.

Co-requisite: BIO 205L

Core Category: N

BIO 205L Anatomy and Physiology I Lab 1 credit

The laboratory component of BIO 205 (Anatomy and Physiology I). Laboratory will address the gross and microscopic anatomy of systems covered in BIO 205 lecture, in addition to the classification (histology) of tissues. Dissection of the cat as a mammalian model as well as the dissection of select organ specimens will be performed. Laboratory exercises will include visual dissection using the Anatomage table.

Co-requisite: BIO 205

Core Category: N

BIO 207 Anatomy and Physiology II 3 credits

This course is the second of the two-semester sequence in which the structure and function of the human body is studied. An integrative systemic study of the body includes the following topics: special senses, endocrine, circulatory/cardiovascular, lymphatic/immune, respiratory, urinary, digestive, and reproductive systems; water, electrolyte, acid-base balance; nutrition and metabolism. The functions of each system will be investigated through a study of homeostatic mechanisms within the system as well as the system's response to homeostatic imbalances.

Prerequisite: BIO 205 and BIO 205L

Co-requisite: BIO 207L

Core Category: N

BIO 207L Anatomy and Physiology II Lab 1 credit

The laboratory component of BIO 207 (Anatomy and Physiology II). Laboratory will address the gross and microscopic anatomy of systems covered in BIO 207 lecture. Dissection of the cat as a mammalian model as well as the dissection of select organ specimens will be performed. Laboratory exercises will visual dissection using the Anatomage table.

Prerequisite: BIO 205 and BIO 205L

Co-requisite: BIO 207

Core Category: N

BIO 215 Microbiology 2 credits

This course is an introduction to microbiology taught at a level requiring few prerequisites. Students will learn the basic principles of microbial evolution, diversity, cell biology, genetics, and microbial impacts with humans and the environment. Additionally, students will be exposed to healthcare-based case studies strengthening critical thinking skills.

Prerequisites: BIO 205 and BIO 205L, CHM 105 and CHM 105L

Co-requisite: BIO 215L

Core Category: N

BIO 215L Microbiology Lab 1 credit

Students in Microbiology Laboratory should expect to leave the course with competence in basic laboratory skills including safe laboratory practices, a working knowledge of bright-field microscopes, and standard microbiological laboratory procedures. A student successfully completing microbiology lab should demonstrate an increased skill level in data analysis, communication, and cognitive processes including the development of testable hypotheses and predicting experimental results.

Prerequisites: BIO 205 and BIO 205L, CHM 105 and CHM 105L

Co-requisite: BIO 215 or BIO 216

Core Category: N

BIO 216 **Microbiology for Health Sciences** **3 credits**

This course introduces microbiology to students with limited biology experience. Students will learn the basic principles of microbial evolution, diversity, cell biology, genetics, and microbial impacts with humans and the environment. Additionally, students will be exposed to healthcare-based case studies strengthening critical thinking skills.

Prerequisite(s): BIO 205 and BIO 205L, and (CHM 103 and CHM 103L) or (CHM 105 and CHM 105L)

Co-requisite: BIO 215L

Core Category: N

BIO 303 **Nutrition and Metabolic Pathways** **3 credits**

This course is designed to provide a foundation and understanding of the fundamentals and metabolic aspects of nutrition and its application to health and disease. This course is applicable to the clinical and non-clinical settings by professionals from a variety of backgrounds. It builds from the pre-requisite sciences into an application that spans a person's life.

Prerequisite(s): BIO 205 and 205L, BIO 207 and 207L, CHM 105 or CHM 103

Core Category: N

BIO 305 **Study of Human Movement** **3 credits**

This course is designed to provide a basic understanding of the functional anatomy, biomechanics, physiology, motor control, and psychology of human movement. Changes and adaptations to human movement throughout the life span, as a result of training, and the impact of lifestyle will be examined.

Prerequisites: PHY 105, BIO 105 and BIO 107 or BIO 205 and BIO 207

Core Category: N

BIO 315 **Pathophysiology** **3 credits**

A study of the etiology, pathogenesis, morphology, and clinical significance of diseases and disorders of the human body. Signs, symptoms, and the manifestation of diseases as well as their diagnostic tests, treatments, and prevention measures will be identified. Normal physiological functioning of the body systems will be highlighted through the study of pathophysiological processes of diseases in the body.

Prerequisites: BIO 205 and BIO 207, or major of BSN-C and an active, unencumbered RN license

Core Category: N

CHEMISTRY

CHM 103 **Physiological Chemistry** **3 credits**

Students in Physiological Chemistry should expect to leave the course with a working knowledge of basic chemical concepts as they apply to physiological systems and process. Topics covered include: modern atomic theory, types of matter and periodicity, bonding and chemical formulas, stoichiometry, solution chemistry, reaction types, thermochemistry, metabolism of carbohydrates, lipids, proteins, and nucleic acids. These topics will emphasize the understanding of metabolic pathways at the molecular level. Atomic and molecular structure and energetics will be studied to illustrate the molecular mechanisms of human biochemistry.

Co-requisite: CHM 103L and MTH 102

Core Category: N

CHM 103L **Physiological Chemistry Lab** **1 credit**

Students in Physiological Chemistry Laboratory should expect to leave the course with competence in basic laboratory skills including laboratory safety, proper use of scientific equipment, experiment set-up, data collection, data analysis, and effective communication of experimental results. Coursework will correlate with the Physiological Chemistry lecture. A focus on inquiry, critical thinking, and quantitative problem-solving (including application of mathematical skills) will assist in building a foundation for higher-level coursework in a science focused curriculum.

Co-requisite: CHM 103 and MTH 102

Core Category: N

CHM 105 **General Chemistry I** **3 credits**

Students in General Chemistry I should expect to leave the course with a working knowledge of basic chemical concepts as they apply to real-world situations. Topics covered include: modern atomic theory, types of matter and periodicity, bonding and chemical formulas, stoichiometry, solution chemistry, reaction types (including basics of acid base, redox, and nuclear chemistry), and thermochemistry. Additionally, students will show strength in quantitative problem-solving (including application of mathematical skills) and build a foundation for higher-level coursework in a science-focused curriculum.

Prerequisite: MTH 105 or MTH 102

Co-requisite: CHM 105L

Core Category: N

CHM 105L **General Chemistry I Lab** **1 credit**

Students in General Chemistry I Laboratory should expect to leave the course with competence in basic laboratory skills including laboratory safety, proper use of scientific equipment, experiment set-up, data collection, data analysis, and effective communication of experimental results. Coursework will correlate with the General Chemistry I lecture. A focus on inquiry, critical thinking, and quantitative problem-solving (including application of mathematical skills) will assist in building a foundation for higher-level coursework in a science focused curriculum.

Prerequisite: MTH 105 or MTH 102

Co-requisite: CHM 105

Core Category: N

COMMUNICATIONS

COM 105 **Public Speaking** **3 credits**

This course is designed to provide practical instructions for developing principles in effective speech preparation and delivery abilities. Skills emphasized include: preparation and planning; listening and audience analysis; research and organization; and persuasive delivery.

Core Category: C

COM 107 **Interpersonal Communications** **3 credits**

To be a productive society requires an essential element of communication, created by and the result of our relationships with others. Individuals and professionals benefit from refining communication skills, as communication is unavoidable, irrevocable, and consequential to many other elements of society, including health outcomes. This course focuses on introducing you, the student, to concepts, processes, and challenges involved in communicating effectively, as well as allowing you to practice the skills to improve your communication competencies.

Core Category: C

COM 138 **Professional Communication** **3 credits**

Students explore communication approaches and their impact on health delivery. By employing a variety of strategies for effective verbal and nonverbal skills students learn to gather and provide information from patients, families, and colleagues. Students examine the impact of technological advances in the healthcare communication to develop strategies to work within the framework of the modern organization and communicate effectively. Concepts explored include: disruptive technology, social media, communicating across generations.

Core Category: C

COMPUTER SCIENCE

CSC 105 **Introduction to Computer Science** **2 credits**

Introductory course to fundamental computer concepts including terminology, hardware, software, networking, information processing and programming basics. Hands-on exercises for functional use of Word, PowerPoint, and Excel. Discussion topics include security, ethical considerations, and the use of technology in healthcare. Basic keyboarding skills recommended.

ECONOMICS

ECN 225 Economics of Healthcare 3 credits

This course examines principle microeconomic concepts and theories and relates them to healthcare delivery systems. Presenting content equivalent to a study of introductory microeconomics, some overarching goals of this course are to integrate theory and practice and to facilitate an understanding of healthcare economics, markets, and issues. Armed with that information, students gain frameworks and share insights toward developing alternative approaches to healthcare delivery. Students will learn microeconomic theory, apply that knowledge to the context of healthcare, and contemplate various interrelationships.

Prerequisite: MTH 105 or MTH 205

Core Category: S, Q

ENGLISH

ENG 105 College Composition I 3 credits

This course emphasizes college-level critical thinking, reading, and writing as they relate to expository writing, argumentation, and research. The methodology is guided by the premise that writing is a process that develops through experience and varies among students; therefore, the primary format is workshop rather than lecture. The focus is on the writing process—essay development via pre-writing, drafting, revision, editing, and reflection. Students will discover how to create compositions that are grammatically correct, logically sound, and rhetorically effective. Core activities include a variety of readings to which students will respond in writing and discussion, essay development that incorporates critical analysis and argumentation, individual conferences with the instructor, collaborative peer review, instructor-led discussions/lessons on issues that arise from student writing, and an APA-style research project that utilizes library and online resources.

Core Category: C

ENG 107 College Composition II 3 credits

ENG 107 builds upon ENG 105 by expanding concepts and practices introduced there. This course continues to emphasize college-level critical thinking, reading, and writing as they relate to expository writing, argumentation, and research. The methodology is guided by the premise that writing is a process that develops through experience and varies among students; therefore, the primary format is workshop rather than lecture. The focus is on the writing process—essay development via pre-writing, drafting, revision, editing, and reflection. ENG 107 emphasizes argument and persuasion; critical thinking and reading; collaboration, research, and information literacy skills; and the use of technology to support writing. Students critically analyze their writing and that of others. Electronic or other projects of equivalent rigor and substance may be included. Core activities include a variety of readings to which students will respond in writing and discussion, essay development that incorporates critical analysis and argumentation, individual conferences with the instructor, collaborative peer review, instructor-led discussions/lessons on issues that arise from student writing, and an APA-style researched argument project that utilizes library and online resources.

Prerequisite: ENG 105

Core Category: C

ENG 110 Introduction to Literature 3 credits

This course is a survey of basic concepts in literature as these are integrated into the genres of short fiction, poetry, and drama. It emphasizes literature as a reflection of culture and focuses on developing students' abilities to respond to and interpret literary texts. In this course students develop the ability to interpret, analyze, evaluate, and respond to ideas about literature. It is a writing intensive class which means that at least 25% of the final grade is based on writing. Much of the reading is difficult and substantial, and the course moves quickly. In addition to identifying and discussing the elements of literature, this course will also provide students with a range of critical perspectives for reading literature.

Core Category: H

HEALTH SCIENCES

HSC 105 Emerging Healthcare Professional 1 credits

Participating in the world or healthcare requires a certain level of professionalism to communicate effectively and efficiently. This course experientially works with students to develop knowledge, skills, and attitudes to demonstrate professional dispositions and engagement within healthcare workplaces and college.

HSC 115 US Healthcare Systems 3 credits

Students explore the basic foundation of the U.S. healthcare system to provide a stronger understanding of the complex system in which healthcare occurs at the personal and social levels. Topics include: healthcare settings, the different job descriptions of those in the healthcare field, the role of the government in the healthcare system, how the healthcare system is financed, and the future of healthcare services. Specific topics include, but are not limited to, facility descriptions, job descriptions, insurance coverage, coding, and the Affordable Care Act. Critical thinking and the demonstrated mastery of certain practical skills deemed as essential competencies for the practice of healthcare are introduced and evaluated.
Core Category: F

HSC 119 Medical Language 2 credits

This sequentially designed course develops a student's working knowledge of the language of medicine to use throughout their program. Students acquire word-building skills by learning prefixes, suffixes, word-roots and abbreviations of common language used in classes, health literature, and government documents. Utilizing a body systems approach, students will define, interpret, and pronounce medical terms relating to the structure and function of the human body, pathology, diagnosis, clinical procedures and interventions. Medical terminology enhances communication skills both written and oral. Knowledge of medical terminology enhances a student's ability to successfully secure employment or pursue advanced education in the health sciences.
Core Category: C, H

HSC 120 Language of Medicine 3 credits

This course is designed sequentially so that to students will develop a working knowledge of the language of medicine. Students will acquire word-building skills by learning prefixes, suffixes, word-roots and abbreviations. Utilizing a body systems approach, the student will define, interpret, and pronounce medical terms relating to the structure and function of the human body, pathology, diagnosis, clinical procedures and interventions. Medical terminology enhances communication skills both written and oral. Knowledge of medical terminology enhances a student's ability to successfully secure employment or pursue advanced education in health science.
Core Category: C, H

HSC 130 Helping Skills 3 credits

Students learn to identify and facilitate fundamental helping skills for healthcare professional relationships. Students identify the professional distinction between helping skills and counseling with the opportunity to learn and practice basic helping skills. Additionally, students address other aspects of self and others that are critical to having successful human relationships (i.e., understanding one's self, communicating effectively, solving problems, managing conflict, responding to crisis, dealing with difficult people, handling groups of people, behaving ethically and achieving personal wellness).
Prerequisite: PSY 111
Core Category: C, H

HSC 135 Principles of Health Education 3 credits

The course provides a foundational understanding of the professional field of health education for future educators and employers. Students will identify and explore the theoretical and practical issues of the field of community and school health education. Students successfully completing this course will begin to assess needs, resources, and capacity for health education & promotion. Students will receive a fundamental understanding of the role of the health education in assessing, planning, executing and evaluating the health challenges that impact the wellbeing of today's society. This course engages students in a way that assists them in understanding the interrelationships between physical, social, and cultural forces in the etiology of disease and the ensuing practices of public health and disease prevention.
Prerequisite or Co-requisite: ENG 105

HSC 140 Health Promotion and Disease Prevention 3 credits

This course builds on Principles of Health Education and details specific theories and applications of health promotion principles. Current issues and controversies in health promotion will frame course experience. Students will utilize needs assessment data to plan a multipronged health promotion program as an outcome of the course.

Prerequisite: HSC 135

Prerequisite or Co-requisite: SOC 121

HSC 201 Health Informatics 3 credits

An introduction to basic information management in health care service organizations. Provides an overview of health information systems for selected administrative functions and clinical care services, including electronic data interchange for billing and claims management, institutional approaches to ensuring data security and privacy, and information management and decision support for managers and clinicians. (Required for Health Informatics concentration)

Prerequisite: HSC 115

HSC 204 Medical/ Legal Aspects of Healthcare 3 credits

Introduces students to the legal environment in healthcare with emphasis on laws and regulations of routine importance to healthcare managers in the areas of labor, contracts, real estate, medical malpractice, general business, and intellectual property, and community health education.

Prerequisite: PHL 104

HSC 217 Quality Improvement in Healthcare 3 credits

Students will build on existing knowledge from previous courses and experiences to build a holistic understanding of the Quality Improvement Process for administering and managing in a healthcare context. Case studies from inside and outside of acute care settings helps illustrates the quality improvement of the larger healthcare system new professionals will work in.

Prerequisite: HSC 115

HSC 223 Planning & Evaluation in Medical, Worksite, & Community Settings 1 credit

In this course students will critically examine and discuss models and processes to systematically plan and evaluate health interventions in field settings. Students will hone skills in needs assessment, program planning, and evaluation by reading and discussing literature in the field, working individually and in small groups on in-class activities and outside assignments, and by developing a data-driven program and evaluation plan based on HSC 225 experience.

Co-requisite: HSC 225

HSC 225 Internship in Health Sciences: Embedded 2-5 credits

Experience with in an organization that uses health sciences is important in learning structures and relationships to people, place, and policy. Student learn while participating in an organization and reflect on that experience through the lens of personal and public health interventions learned in the first-year curriculum. It prepares students to then enter undergraduate research and leadership-based internships in the future. Earned credit hours are based on hours completed on site, offsite reflection time, and preparation time. (Ex: 135 hours on site with 20% (27 hours) reflection and preparation time = 3 credit hours.)

Prerequisite: HSC 115

Co-requisite: HSC 223

HSC 227 Information Technology Project Management 3 credits

Identifies methods and skills for managing health care information technology (IT) projects. Students learn tools such as critical path analysis, resource management, crashing projects, vendor selection, quality assessment, and risk analysis.

HSC 230 Research in Health 3 credits

Research provides the foundation for evidence-based professional healthcare practice. This course provides students with an overview of the role of research in the development of healthcare delivery. The student will critically review current research and understand its impact in the development of practice guidelines and policy. Core to this work, students will understand the components of developing a research plan (population, data, analysis, interpretation, and application of findings).
Prerequisite or Co-requisite: MTH 205

HSC 240 Team Inquiry in Health Sciences 2-5 credits

There are opportunities for individuals to contribute to the health sciences as part of a team. This team inquiry forces participants to use their learning in the first-year curriculum to navigate not only the topic but how to manage themselves and the group to achieve outcomes. Credit is based on the time toward completing the project.

HSC 260 Leadership Skills 3 credits

This course focuses on the various leadership and management skills in a dynamic health care delivery system. The course will explore healthcare models of leadership. It will focus on understanding contemporary issues related to healthcare delivery (productivity, finance). It will develop strategies for successful management skills for individual programs or entire organizations. It will provide students an overview of applicable human resource law. Topics may include: conflict, stress, change, trust, time management, productivity, performance evaluation.
Prerequisite: COM 138

HSC 307L Electronic Health Record Configuration and Data Analysis: Lab 3 credits

Focuses on using electronic health records (EHRs) to improve health care processes. Compares means and rates of clinical & managerial processes. Uses EHRs in risk-adjusted statistical process control. Uses Excel to analyze data on patient satisfaction, wait time, mortality/morbidity, and cost of care.

HSC 308 Management of Human Resources in Health Organizations 3 credits

Human resources cost the most of any health care organization, knowing the concepts of HR in a health organization will prepare students to make future decisions as administrators of individual programs and large organizations. Concepts of hiring and retaining quality personnel as well as legal considerations will be addressed.

HSC 310 Cultural Competencies in Healthcare 3 credits

Students as emerging healthcare professionals examine healthcare issues and perceptions from a diverse social viewpoint through the lens of diverse populations. As students examine the individual needs of selected populations they will examine the regional and global influence of diversity on health outcomes. The goal of this course is to increase the healthcare professional's awareness of the many dimensions and complexities involved in the care and education of individuals.
Prerequisite: SOC 121

HSC 312 Population Health Communication 3 credits

This course design provides students with a critical understanding of the effects of the media—mass, social, and participatory—in promoting and impeding the achievement of population health goals in primary care and through health education. Students will develop the skills necessary to use media strategically to advance public health policies and social change. The course covers the design, implementation and evaluation of media campaigns to promote population health goals, examines theories and research on media influences with respect to its potential harmful effects on wellbeing, and students design a digital media-based health communication campaign.
Prerequisite: ENG 107

HSC 317 Internet and Web Technology Applications for Healthcare 3 credits

Introduces students to the major applications of Internet and Web technology in healthcare. Two major applications are studied: online promotion/marketing for consumer-oriented health web sites, and online Personal Health Records (PHR). Students will learn about Search Engine marketing and the practical skill of creating an online health marketing/promotion campaign. They also will learn to create and manage PHR. The technological challenges such as reliability, privacy, security and organizational barriers to adoption are discussed.

Prerequisite: HSC 217

HSC 320 Contemporary Concepts in Population Health 3 credits

This course focuses on current initiatives and innovations in health promotion and disease prevention across the lifespan. It addresses the influences of family, culture, community and environment on health. Content related to the theories of learning, assessment of learning needs, teaching strategies and evaluation of teaching are explored. Concepts in epidemiology, politics, and law are explored.

Prerequisites: SOC 121, PSC 305

HSC 325 Community Health Systems 3 credits

Students engaged with community health organizations develop holistic understanding of limitations, strengths, and future of current organizations. The course participants will build simulation experiences to model patient or family experiences within a local context for specific and general health needs and education.

HSC 327 Privacy and Security in Health Informatics 3 credits

Health information security and privacy issues in the current healthcare system. Evaluates methods to achieve privacy and security. Discusses the important role of sound security policies and procedures; looks into technical solutions and non-technical solutions for achieving privacy and security.

Prerequisite: HSC 115

HSC 335 Individual Inquiry in Health Sciences 2-6 credits

Students propose an individual inquiry project and then demonstrate personal competencies in completing the project directed toward their concentration or interest. Qualitative and/or quantitative data/information will determine needs, establish priorities and make decisions for experiments, program development, policies or procedures. Credit can be earned over multiple semesters for faculty approved and mentored projects. Portfolio presentation of the project is required.

Prerequisite: HSC 115

HSC 340 Internship in Health Sciences: Leadership 3-6 credits

Students devise a project linking their Health Sciences education & professional skills to a health sciences outcome allowing them to demonstrate their ability to design, lead, and evaluate a health sciences intervention within an organization or directly with clients. Credit can be earned over multiple semesters for faculty approved and mentored projects. Portfolio presentation of the project is required.

Prerequisite: HSC 225

HSC 345 Health and Aging 3 credits

Students investigate the connections of geriatric physical ailments, acute injury and chronic disease, and social determinants to understand risks and opportunities for this population to be healthy through primary care and education. Resources at the individual, family, and social levels will be identified so students can network support during case studies.

Core Category: H

HSC 350 Health Diagnostics 3 credits

This course explores common diagnostic testing for disease prevention, identification, and management of disease on the individual patient level. Diagnostic information will then be discussed to enable providers to engage/ educate patients and caregivers for treatment modalities and coordinated care. This course provides strategies to develop a systematic approach to identify community resources for patient access and effective communication behaviors between healthcare providers and patients.

Prerequisites: NRS 300 or BIO 315

HSC 355 Budgetary Analysis and Financial Decision Making 3 credits

As money dominates healthcare discussions, students investigate the implications of budget strategies on the health of patients and stakeholders of a healthcare organization. Background knowledge will be developed on public and private funding sources as well as forecasting economic changes to inform decision makers about policies to be implemented or changed.

Prerequisite: ECN 225

HSC 357 Advanced Information Technology Project Management 3 credits

Teaches project management methods and techniques with focus on health IT projects. Covers knowledge, skills, and abilities associated with certification (Certified Associate in Project Management).

Prerequisite: HSC 227

HSC 360 Navigating the Health System 3 credits

In complex systems like healthcare, professionals as well as patients and their families find challenge in doing not only the "right" thing but also the efficient action as they navigate the health care system. This course requires no prerequisites. This course introduces students to the players, resources and issues of contemporary healthcare. Students are introduced and obtain skills for journeying with patients and families including topics of models of health insurance coverage, levels of care across the continuum, behavior change theory and the impact on engagement, community resource availability, healthcare information and telehealth, and the future of healthcare services. Critical thinking and the demonstrated mastery of certain practical skills deemed as essential competencies for the navigation through the health care system are introduced and evaluated.

HSC 390 Fostering Helping Behaviors in Disasters 3 credits

Students will build first aid knowledge skills and behaviors through a variety of learning strategies to individually help in an emergency. A key focus will be on how to work in limited resource environments or remote environments (e.g., foreign countries, wilderness, air travel). Then students will learn and demonstrate how to prepare others, and be a leader during emergencies through practical experiences. Course will be taught and assessed in a cognitively, physically, and emotionally stressed manner. This course will include three weekends and will include outdoor experiences. Exceptional completion of the course may result in American Red Cross certification and Instructor status.

Prerequisite: HSC 135

HSC 407 Public & Population Health Informatics 3 credits

Public Health Informatics (PHI) is an emergent, interdisciplinary field that focuses on the systematic management and dynamic application of information resources to enhance public health practice, education and research. The field of public health subsumes PHI and is concerned more broadly with population based health promotion and disease and disaster surveillance and control. This course provides an introductory overview of the vast and dynamic field of PHI. It focuses on health promotion, trend tracking (particularly through social networking and geographic visualization), and knowledge management for policy development and for rapid, evidence-based decision making.

Prerequisites: HSC 115, HSC 230, MTH 205, ENG 107

HSC 410 Program Surveys and Analysis 3 credits

This course will evaluate and develop methodology for surveying program effectiveness and based on analysis, students will determine necessary modifications to programs. It will teach students to utilize current research to determine quality assurance models. The course will provide an overview of clinical practice guidelines and their relationship to current research.

Prerequisites: HSC 115, HSC 230, ENG 107

HSC 418 Principles of Clinical Education 3 credits

As new professionals emerge in practice and practicing professionals need to learn, educators can employ a variety of modalities to help learners achieve their goals. This course is founded on the Experiential Learning theory and prepares educators to use educational technology to promote, capture, and reflect student experiences in clinical health settings.

HSC 427 Mobile Health 3 credits

Introduces emerging technologies used in Mobile Health (mHealth). Students will examine the impact and potential of mobile devices on health. Students will conceptualize and design health apps that incorporate evidence-based guidelines and capitalize on the mobility, portability, and input and output capabilities of smartphones and tablets.
Prerequisites: ENG 107, HSC 320

HSC 437 Health Data Standards and Interoperability 3 credits

Introduction to prevailing and emerging data standards that are applicable in health information technology. Students will learn about standard-making organizations, such as HL7 and Healthcare Information Technology Standards Panel (HITSP), and their standardization processes. The structure of and relationship between standard terminologies applicable in healthcare, such as International Classification of Diseases (ICD-10-CM), Logical Observation Identifiers Names and Codes (LOINC) and Systematized Nomenclature of Medicine–Clinical Terms (SNOMED-CT), will be explained.

HSC 450 Population Health Systems 3 credits

Students use information technology to survey defined populations and assess their health status. This helps students explore the relationship of health policy, social and economic structures, and health organization models to improve overall health of individuals. Students will also gain an understanding of gaps in current models and identify possible solutions.
Prerequisites: HSC 402 or NRS 402
Core Category: S

HSC 454 Survey of Healthcare Organizations 3 credits

The course examines the complex integration of a healthcare system and relates them to population health and outcomes. It will explore contemporary concepts of accountable care organizations and theories and future roles in community health. It will explore models of delivery and help students understand their impact on the community. Students will develop approaches to analyze healthcare organizations and their effectiveness.
Prerequisites: ENG 107, HSC 260, HSC 320

HSC 458 Healthcare Accreditation 3 credits

Basic elements of quality improvement and organizational responsibilities related to quality improvement in health care delivery. Data analysis for quality improvement, clinical practice guidelines, and future of healthcare quality improvement strategies.
Prerequisites: HSC 115, PSC 305

HSC 490 Capstone 6 credits

Students devise and implement a capstone *project* within a healthcare organization that demonstrates Health Science program outcomes. The results of this project in terms of learning and product provide evidence for the student, faculty, and future employer of the skills and professional behaviors needed for goal attainment.
Prerequisite: HSC 225

MATHEMATICS

MTH 102 **Math for Health Professionals** **3 credits**

This course provides students with the mathematical skills and concepts required to be successful in professional health fields. Topics covered in this course include: mathematical essentials; review of basic algebra; measurement systems and conversion procedures; dilutions, solutions, and concentrations; drug dosages and intravenous calculations; linear equations, graphing, and variation; exponential and logarithmic functions; charts, tables, and graphs; and introduction to statistics. Together, these skills serve as a base for quantitative reasoning throughout the curriculum at Aultman College. *This is a Structured Learning Assistance (SLA) course and* has a supplemental lab component.

Co-requisite: MTH 102S

Core Category: Q

MTH 102S **Math for Health Professionals Supplemental Lab**

This is course is the required weekly workshop portion of the MTH 102 lecture course. This course is aimed at helping students master course content and develop and apply specific learning strategies. Workshop sessions are small study groups that consist of approximately 10 students and offer additional academic support. Credit for attending the workshop is incorporated into the credit earned for the course, and sessions will carry the college-wide lab fee.

Co-requisite: MTH 102

MTH 105 **College Algebra I** **3 credits**

College Algebra I is a standard college algebra course emphasizing a deep understanding of functions and their properties and usefulness in modeling real-world data. In addition to working with polynomial, rational, exponential, and logarithmic functions, students will solve systems of linear and nonlinear equations and inequalities, and see the usefulness in mathematics to solve a wide variety of problems.

Core Category: Q

MTH 205 **Statistics** **3 credits**

An introduction to statistics and statistical literacy. This course is designed to enable students to collect and summarize data and their relationships. The following topics are also covered: probability theory, sampling methods and randomization, correlation and regression, formulation of hypotheses and testing, statistical inference, reasoning, statistical significance, and confidence intervals.

Core Category: Q

MTH 210 **Applied Statistics** **3 credits**

This course provides practical application to statistical concepts studied in elementary statistics. Topics include a review of basic concepts in statistics, a review of descriptive statistics, measuring relationships (correlation and regression), inferential statistics (t Test, Analysis of Variance (ANOVA), and Chi Square Test) and Nonparametric methods (Sign Test, The Wilcoxon Test, The Kruskal-Wallis Test, Rank Correlation, and Runs Test). A statistical tool such as SPSS or Excel will be utilized for all of the above topics as needed.

Prerequisite: MTH 205

Core Category: Q

NURSING

NRS 100 **Nursing Success** **1 credit**

This course will focus on helping students explore proven strategies for creating academic, professional, and personal success by balancing adult roles with college demands. Students will implement learning skills and study strategies and will learn to express themselves more effectively in writing.

NRS 101 **Foundations I** **3 credits**

This introductory course focuses on the development of basic nursing skills when providing for healthcare needs of the adult and geriatric client. The sub-concepts of communication, legal and ethical behaviors, and safe and caring interventions are introduced.

Special emphasis is placed on a systematic approach to assessment, basic client care, nutrition, skin and wound care, as well as documentation. Has a laboratory component.
Co-requisites: NRS 100; BIO 205 and BIO 205L; and MTH 105

NRS 102 Foundations II 3 credits

This course focuses on more advanced nursing skills when providing for healthcare needs of the adult and geriatric client. The sub-concepts of the nursing process, teaching / learning principles, and interdisciplinary approach are introduced. Communication, safe and caring interventions and legal and ethical behaviors are reinforced. Special emphasis is placed on medication administration and invasive nursing procedures. Has a laboratory component. **NOTE: Withdrawal from NRS 102 automatically results in a withdrawal from NRS 103.**
Prerequisite: NRS 101

NRS 103 Medical Surgical Nursing I 4 credits

This course focuses on the nursing process approach to assist the adult and geriatric client in acute, intermediate or long term care environments. The healthcare needs of the client experiencing alterations in health related to immune, basic respiratory, and musculoskeletal conditions as well as the care of the peri-operative client are emphasized. The sub-concepts of nursing process, communication, safe and caring interventions for these populations are incorporated into clinical practice. Sub-concepts of legal and ethical behaviors and teaching/learning are reinforced. The student begins providing care and applying basic skills in the clinical setting. Has both clinical and laboratory components.
Prerequisites: BIO 205 and BIO 205L
Co-requisites: NRS 102, BIO 207 and BIO 207L

NRS 104 Nursing Pharmacology 3 credits

This course introduces the basic concepts of pharmacology and provides the theoretical background necessary for students to provide safe and caring interventions and accurate teaching related to medication administration throughout the lifespan. Major drug categories and the related profiles are presented.
Prerequisites: NRS 101, BIO 205 and BIO 205L, BIO 207 and BIO 207L (NRS 101 only for students enrolled prior to fall 2014)

NRS 105 Medical Surgical Nursing II 4 credits

This course focuses on the nursing process approach to assist the adult and geriatric client in acute, intermediate or long-term care environments. The healthcare needs of the client experiencing alterations in health related to basic cardiac and gastrointestinal conditions as well as diabetes and neurological disorders are emphasized. Subconcepts of communication, safe and caring interventions, and interdisciplinary approach are upheld. Students demonstrate the sub-concepts of nursing process and teaching/learning. The student continues to develop time management and organizational skills while providing care in a single client assignment. Has both clinical and laboratory components.
Prerequisites: NRS 103, BIO 207 and BIO 207L, ENG 105

NRS 107 Professional Role 2 credits

This course introduces the role of the professional nurse and related health care concepts. Concepts include stress, professionalism, health promotion, communication, collaboration, safety, evidence, health care organization and health care policies. This course includes 12 additional hours of observational activities related to the professional nursing identity.
Prerequisite: MTH 102

NRS 201 Medical Surgical Nursing III 4 credits

This course focuses on the nursing process approach to assist adult and geriatric clients in the acute, intermediate, or long-term care environments. The healthcare needs of the client experiencing alterations in health related to moderate complex cardiac, complex gastrointestinal, chronic renal, fluid and electrolyte imbalances, complex endocrine and genitourinary disorders are emphasized. Sub-concepts of nursing process, communication, safe and caring interventions are maintained for these populations. Students appropriately apply the sub-concepts of safe and caring interventions and interdisciplinary approach. The student continues to develop time management and organizational skills while beginning to provide care to more than one client. Has both clinical and laboratory components.
Prerequisites: NRS 104

NRS 202 Psychiatric Nursing 2 credits

This course focuses on the nursing process approach to assist clients and families experiencing psychiatric disorders. Sub-concepts of nursing process, communication, teaching/ learning and safe and caring interventions are emphasized. The student relates health promotion, health maintenance, and recovery strategies to obtain optimal levels of functioning for this population in the clinical setting. Has both clinical and laboratory components.

Prerequisites: NRS 105, PSY 111

NRS 203 Medical Surgical Nursing IV 4 credits

This course focuses on the nursing process approach to assist adult and geriatric clients in acute, intermediate or long-term care environments. The healthcare needs of the client experiencing alterations in complex cardiac, cardiac electrophysiology, neurological, complex respiratory, classifications of shock, multiple organ dysfunction syndrome, burns, and the clients who require emergency treatment are emphasized. Sub-concepts of nursing process, communication, safe and caring interventions legal and ethical behaviors, teaching/learning, and interdisciplinary approach are practiced. The student continues to develop time management and organizational skills while precepting. Has both clinical and laboratory components.

Prerequisite: NRS 201

NRS 204 Maternal Child Nursing 3 credits

This course focuses on the nursing process approach to assist clients in childbearing and child- rearing phases. Sub-concepts of nursing process, communication, safe and caring interventions and teaching learning are emphasized within the clinical settings. The student relates health promotion, health maintenance and illness management strategies for these populations. Has both clinical and laboratory components.

Prerequisites: NRS 105, PSY 211

NRS 207 Introduction to Health Assessment 4 credits

This course prepares the pre-licensure student to conduct comprehensive health assessments. This course focuses on health assessment methods with emphasis placed on communication strategies, interviewing skills, health histories, and physical and psychosocial findings for the diverse population across the continuum of care. An overview of assessment techniques and patient education will be explored to support informed health care decisions. A physical, psychological, socio-cultural, and spiritual approach is used to assess the client and to incorporate consideration of the client's needs, state of wellness, developmental level, and response to life experiences.

Prerequisites: NRS 107, BIO 205 and BIO 205L, BIO 207 and BIO 207L, HSC 119

Co-Requisite: NRS 209

NRS 209 Foundational Concepts 4 credits

This course introduces essential concepts of safe and quality nursing care. Concepts of perfusion, gas exchange, thermoregulation, fluid and electrolytes and patient education are introduced. Emphasis is placed on the concepts of health promotion, clinical judgment, safety, functional ability, health care quality, mobility, elimination, infection, and tissue integrity. Laboratory and clinical experiences are designed to facilitate the fundamental acquisition of psychomotor skills needed to assist individuals in meeting basic human needs. Class, laboratory, and clinical components required.

Prerequisites: NRS 107, BIO 205 and BIO 205L, BIO 207 and BIO 207L, HSC119

Co-Requisite: NRS 207

NRS 211 Transition to Baccalaureate Nursing 3 credits

This course introduces the role of the baccalaureate prepared professional nurse for those beginning in the associate level. Students will integrate prior knowledge and skill sets with the baccalaureate concept-based approach to impact health promotion, health maintenance, and illness care across the lifespan. Emphasis will be placed on concepts related to physical assessment in addition to stress, professionalism, communication, collaboration, safety, evidence, clinical judgment, and health care quality. Clinical experiences are designed to integrate holistic care for attainment of basic human needs.

Prerequisites: NRS 100, NRS 101, NRS 102, HSC 120

NRS 215 Concepts of Health and Illness I 4 credits

Building on the foundation of previous courses, students will explore the health and illness concepts of cellular regulation, gas exchange, immunity, inflammation, infection, and mobility. Emphasis will be placed on the application of presented concepts to the nursing care of patients in a variety of health care settings, across the lifespan. Required clinical and laboratory components promote the development of nursing psychomotor, cognitive, and affective skills.

Prerequisites: ENG 105, NRS 207, NRS 209

NRS 300 Health Assessment 3 credits

This course focuses on enhancing nursing knowledge and assessment skills to perform a comprehensive, holistic assessment on socially diverse adult and geriatric clients. Main concepts of this course include utilizing interviewing techniques, the health history and physical exam skills and evidence-based practice to prioritize and effectively communicate assessment data for improved client outcomes. The analysis and synthesis of assessment data will enable students to enhance clinical reasoning and decision making.

NRS 302 Nursing Research 3 credits

This course provides students with an overview of the role of theory and research in the development of nursing as a profession. It prepares students to critically read and critique research articles; to develop a research problem and literature review, and to use research findings to develop and refine knowledge that can be used as evidence to improve clinical practice to utilize nursing research in their practice. Concepts to be discussed: Health Promotion, Safety and Evidence.

Prerequisite: MTH 205 (NRS 300, MTH 205 for students enrolled prior to fall 2016), (NRS 207 for students enrolled in BSN pre-licensure).

NRS 304 Care of Culturally Diverse Populations 3 credits

This course will allow the healthcare professional to examine healthcare issues and perceptions from a diverse social viewpoint. The goal of this course is to increase the healthcare professional's awareness of the many dimensions and complexities involved in the care of individuals from a community with rich cultural diversity.

Prerequisite: SOC 121 (NRS 300, SOC 121 for students enrolled prior to fall 2016), (NRS 207 for students enrolled in BSN pre-licensure).

NRS 306 Gerontology 3 credits

This course will examine the unique healthcare needs of the older adult and introduces students to the nursing approaches that can be organized by the professional nurse. Self-perception toward care of the older adult is explored. Theories and concepts of aging, physiologic and psychosocial changes and problems associated with the aging process are discussed. Ethical and legal issues related to the nursing care of the older adults are explored in addition to the importance of health promotion for the geriatric population.

Prerequisite: (NRS 300 for students enrolled prior to fall 2016).

NRS 309 Pharmacology 3 credits

This course introduces pharmacokinetic principles, drug mechanism of action and indications for common classes of medications nurses frequently encounter. Emphasis is placed on key nursing assessments, interventions and patient education associated with various drug classifications as related to curricular concepts.

Prerequisites: BIO 205 and BIO 205L, BIO 207 and BIO 207L, BIO 315, CHM 103 and CHM 103L, NRS 315

NRS 311 Concepts of Mental Health Nursing 4 credits

Building on the foundation of previous courses, students will explore concepts related to mental health nursing including coping, mood and affect, anxiety, psychosis, addiction and cognition. Emphasis will be placed on the application of the presented concepts to the nursing care of patients within diverse settings. Required clinical and laboratory components promote the development of nursing psychomotor, cognitive, and affective skills emphasizing the therapeutic use of self to promote functioning of patients experiencing mental health issues.

Prerequisites: PSY 111, NRS 215

NRS 313 Concepts of Family Nursing 4 credits

Principles and concepts of health and illness in childrearing and families are covered with an emphasis on preventive and therapeutic aspects. Use of community resources is introduced. Clinical experiences apply the nursing process to childbearing, childrearing and families with a focus on the principles and concepts of health promotion and maintenance to families in various phases of the health and illness continuum. Concepts to be covered: Intracranial Regulation, Gas Exchange, Sensory Perception, Reproduction, Sexuality, Development (growth and development), Family Dynamics, Patient Education, Health Promotion and Safety. Required clinical and laboratory components promote the development of nursing psychomotor, cognitive, and affective skills.

Prerequisites: NRS 215, PSY 211

NRS 315 Concepts of Health and Illness II 4 credits

Building on the foundation of previous courses, students will explore the health and illness concepts of fluid and electrolyte balance, glucose regulation, elimination, and clotting. Emphasis will be placed on the application of presented concepts to the nursing care of patients in a variety of health care settings, across the lifespan. Required clinical and laboratory components promote the development of nursing psychomotor, cognitive, and affective skills.

Prerequisite: ENG 105, NRS 215

NRS 317 Concepts of Community Nursing 4 credits

This course utilizes principles, theories and concepts of community and public health nursing to generate an understanding of the roles and functions of a nurse in the community setting. There is emphasis on health promotion, risk reduction, clinical prevention and population health maintenance for populations at risk and the community as a whole. Concepts to be discussed: Nutrition, Infection, Interpersonal Violence, Clinical Judgment, Patient Education, Health Promotion, Collaboration, Safety, Health Care Economics and Health Care Law. The required clinical component promotes the development of nursing psychomotor, cognitive, and affective skills.

Prerequisite: NRS 315

NRS 325 Concepts of Health and Illness III 4 credits

Building on the foundation of previous courses, students will explore the health and illness concepts of thermoregulation, intracranial regulation, perfusion, and stress. Emphasis will be placed on the application of presented concepts to the nursing care of patients in a variety of health care settings, across the lifespan. The required clinical component promotes the development of nursing psychomotor, cognitive, and affective skills.

Prerequisite: NRS 315

NRS 400 Health Promotion and Teaching 3 credits

This course focuses on current initiatives and innovations in health promotion and disease prevention across the lifespan. It addresses the influences of family, culture, community and environment on health. Content related to the theories of learning, assessment of learning needs, teaching strategies and evaluation of teaching are explored. Emphasis is placed on the multiple roles of the nurse as: teacher, care giver, critical thinker and problem-solver, researcher and consultant.

Prerequisite: (NRS 300 for students enrolled prior to fall 2016).

NRS 402 Informatics for Clinical Judgment 3 credits

This course provides a history of information management systems in the transformation of healthcare. The focus will incorporate various computer-based systems that define languages of healthcare disciplines that facilitate utilization of data for patients, research, education, and the institution's application. Technology utilization including ethically managing data, information, and knowledge to communicate effectively will be covered. The use of technology to provide safe and effective patient care; and the use in research and clinical evidence will also be examined.

Prerequisite: NRS 300 OR NRS 315 (NRS 300 for students enrolled prior to fall 2016).

NRS 404 **Community** **4 credits**

This course utilizes principles, theories and concepts of community and public health nursing to generate an understanding of the roles and functions of a nurse in the community setting. There is emphasis on health promotion, risk reduction, disease prevention and population health maintenance for populations at risk and the community as a whole. Opportunities for student application will be through specified course projects.

Prerequisite: (NRS 300 for students enrolled prior to fall 2016).

NRS 405 **Capstone of Nursing Concepts** **4 credits**

This course merges curricular concepts to a clinical practicum experience. Review of all nursing concepts explored across the curriculum, with a focus on application of concepts to patient care during completion of clinical practicum. Emphasis is on clinical decision making, licensure exam preparation, and transition to professional nursing practice.

Prerequisite: all other nursing courses

Co-requisite: NRS 408

NRS 406 **Leadership (BSNC)** **4 credits**

This course focuses on the various leadership and management roles of the nurse in a dynamic healthcare delivery system. The course will also assist the healthcare practitioner to gain an advanced knowledge of professional practice, evidence-based healthcare, and the role of technology in nursing leadership and management. Opportunities for student application will be through specified course projects.

Prerequisites: NRS 300, NRS 302, NRS 304, NRS 306, NRS 400, NRS 402, NRS 404

NRS 408 **Leadership** **4 credits**

This course focuses on the various leadership roles of the nurse as an influential leader in a dynamic health care delivery system. The course will also assist gaining advanced knowledge of professional practice for developing and refining knowledge, attitudes, and behaviors in working within health care organizations. It examines nursing leadership and management with a focus on the concepts of: health care policy, law, ethics, quality, safety, leadership, professionalism, and clinical judgment.

Prerequisites: all nursing courses

Co-requisite: NRS 405

NRS 415 **Concepts of Health and Illness IV** **4 credits**

Building on the foundation of previous nursing courses, students will explore complex health and illness concepts, including acid-base balance, acute and emergent alterations in perfusion, complex impairments in gas exchange, and significantly impaired tissue integrity. Emphasis is placed on the application of selected concepts to the nursing care of individuals experiencing acute, complex alterations in health, across the lifespan. Required clinical and laboratory components promote the development of nursing psychomotor, cognitive, and affective skills.

Prerequisites: NRS 325, NRS 309

PHILOSOPHY

PHL 104 **Medical Ethics** **3 credits**

This course will provide the foundation for ethical decision making in the healthcare environment. Content will include laws and policies that define and regulate professional practice including job expectations and responsibilities balanced with patients' rights. Complex ethical dilemmas involving euthanasia, physician-assisted suicide, withdrawal, and withholding of life support, genetic manipulation in fetal development, surrogacy and conscientious objection will be discussed.

Core Category: H

PHL 114 **World Religion** **3 credits**

A course in world religions will give the students a theoretical and practical understanding of what one would call the "major world religions." This will be done from an examination of the potential of human transcendence, formulation of dogma, liturgical practices, and primary belief system of each religion. Attention given to Christianity, Judaism, Islam, Hinduism, Buddhism, Taoism, and various local and or regional systems such as Native American and Shintoism. The course will allow for an exchange of ideas and examination of similarities and differences in each religion. There will also be a brief presentation of information relevant to

a hospital setting covering such ideas as bioethical positions of different religions, what illness means, and what one may expect when a member of a particular faith is a patient.
Core Category: H

PHYSICS

PHY 105 Principles of Physics Biomedical Applications 2 credits

PHY (105) explores a wide array of topics including: space, time, matter, motion, force, momentum, energy, heat, electricity, magnetism, light, radiation, sound, units of measure, and other concepts. Calculation and problem-solving techniques are introduced, including a brief review of elementary algebra and geometry (trigonometry). The "language" of Principles of Physics is algebraic formulas and trigonometry along with graphs and tables of data. Emphasis is placed on understanding the laws and rules governing the physical world and applying them to topics from biology, chemistry, and medicine.
Co-requisite: PHY 105L
Core Category: N

PHY 105L Principles of Physics Biomedical Applications Lab 1 credit

Coursework for Principles of Physics Biomedical Applications lab will correlate with Principles of Physics Biomedical Applications lecture. Students should expect to leave the course with competence in basic laboratory skills including laboratory safety, proper use of scientific equipment, experiment set-up, data collection, data analysis, and effective communication of experimental results. Students will test physical theories using measured data. A focus on inquiry, critical thinking, and quantitative problem solving (including application of mathematical skills) will assist in building a foundation for higher-level coursework in a science-focused curriculum.
Co-requisite: PHY 105
Core Category: N

POLITICAL SCIENCE

PSC 105 American National Government 3 credits

This course serves as an introduction to the roles and purposes of democratic institutions within the United States. Significant emphasis will be placed upon the founding period to examine the evolution of Constitutional government through time. Students will explore the purposes of the federal system that has been designed to both establish majority rule and protect minority rights. Citizenship rights and responsibilities will be defined and explained to encourage participation in the political process.
Core Category: S

PSC 305 Politics of Healthcare 3 credits

This course is designed to review the origins and framework of constitutional government in order to evaluate public policies regarding healthcare. A close examination of US healthcare policy will require students to understand federalism so that national, state, and local laws and regulations may be critiqued. Students will debate current policy topics and apply both political and healthcare information to place contemporary issues in context. Students will gain a practical understanding of the interrelationship between political dynamics and public healthcare policy.
Core Category: S

PSYCHOLOGY

PSY 111 Introduction to Psychology 3 credits

Introduction of Psychology provides an overview of the most fundamental ideas in psychology, provides a foundation for critical thinking and learning strategies, while promoting a cross-cultural perspective and sensitivity to issues of diversity. This course will encourage the application of psychological concepts to everyday situations, particularly those in the healthcare field.
Core Category: S

PSY 211 Human Growth and Development 3 credits

In this course basic principles of human development throughout the entire lifespan, from conception through death, will be explored. Discussion will include major theories and foundations of human development and the major people associated with them. Additionally, physical, cognitive, social, and personality development at different ages and the ways in which biological and

environmental variables interact to guide development in these areas will be explored. The knowledge gained from this course should provide one with the skills required to better understand people of all ages.
Prerequisite: PSY 111
Core Category: S

PSY 222 Death & Dying 3 credits
What is grief? What are normal grief responses? What is involved in the final life transition—death? These are some of the questions that will be discussed in this course. The role of culture, palliative and hospice care, advance directives, and the role of spirituality in death and dying will be described. Interactions, healing strategies, and rituals that use the senses and bring comfort and peace for the dying will also be explored. The goal of this course is to provide the healthcare professional with an understanding of the psychological, physical, social, and spiritual aspects of death and dying.
Prerequisite: PSY 111
Core Category: H, S

RADIOGRAPHY

RAD 112 Introduction to Radiography 2 credits
This course introduces students to the role of radiography in healthcare. Topics include radiologic profession and organizations, radiologic terminology, ethics and laws in radiology, isolation techniques, safe equipment usage, radiology processes, procedures and documentation, radiation protection in the clinical areas, pharmacology, drug administration, assessment of vital signs, and venipuncture. Students apply legal and ethical considerations to patient care and pharmacology in the radiologic sciences.
Co-requisites: RAD 114 and RAD 114c

RAD 114 Radiographic Anatomy and Positioning I 2 credits
Radiographic terminology, positioning and procedures will be introduced and practiced in a laboratory setting. Image evaluation to include, anatomy, positioning and radiation protection will be included. This course prepares radiography students to perform routine radiologic procedures on various parts of the body including the upper and lower extremities, and chest. Students apply knowledge of human anatomy to position the patient correctly to achieve the desired result.
Co-requisites: RAD 112, RAD 114c

RAD 114c Clinical Practicum I 1 credit
This beginning level clinical course prepares radiography students to perform radiologic procedures on patients with extensive supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a healthcare setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting. Introduces students to the hospital clinical setting and provides an opportunity to participate in or observe radiographic procedures. Topics include: orientation to hospital areas and procedures; orientation to mobile/surgery; orientation to radiography and fluoroscopy; participation in and/or observation of procedures related to the chest, upper and lower extremities. Activities of students are under direct supervision until competency is achieved; indirect supervision once competency is attained.
Co-requisites: RAD 112, RAD 114

RAD 124 Radiographic Anatomy and Positioning II 3 credits
This course is a continuation of radiographic terminology, positioning and procedures. New radiologic procedures will be introduced and practiced in a laboratory setting. Image evaluation to include, anatomy, positioning and radiation protection will be included. Prepares radiography students to perform routine radiologic procedures on various parts of the body including the knee, femur, hip and pelvis, humerus, shoulder girdle, scapula, clavicle, acromioclavicular joints, abdomen, lower gastrointestinal (GI) system, and small bowel. Students apply knowledge of human anatomy to position the patient correctly to achieve the desired result.
Prerequisites: RAD 112, RAD 114 and RAD 114c
Co-requisite: RAD 124c

RAD 124c **Clinical Practicum II** **2 credits**

This second level clinical course prepares radiography students to perform radiographic imaging procedures on patients. Students will demonstrate continued competence on prior clinical requirements gained in the first level clinical practicum course, as well as learn new procedures. Students apply radiation protection and standard precautions in the production of radiographic images by taking exposures in a healthcare setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting.

Prerequisites: RAD 112, RAD 114 and RAD 114c

Co-requisite: RAD 124

RAD 128 **Radiographic Equipment and Computers** **3 credits**

The course is designed to establish a knowledge base in radiation physics, and radiographic equipment. Concepts that will be covered include X-ray production, X-ray interactions with matter, and digital radiography. The student will also be provided with an introduction to the basics of mobile imaging, fluoroscopy, and computed tomography.

Prerequisites: MTH 102, PHY 105

RAD 134 **Radiographic Anatomy and Positioning III** **3 credits**

This course is a continuation of radiographic terminology, positioning and procedures. New radiographic procedures will be introduced and practiced in a laboratory setting. Image evaluation will include anatomy, positioning and radiation protection. This course prepares radiography students to perform routine radiographic procedures on various parts of the body including the upper gastrointestinal and biliary system, cervical, thoracic, lumbar spine and the bony thorax, and urological studies. Students apply knowledge of human anatomy to position the patient correctly to achieve the desired result.

Prerequisites: BIO 105, RAD 124

Co-requisite: RAD 134c

RAD 134c **Clinical Practicum III** **2 credits**

This third level clinical course prepares radiography students to perform radiographic imaging procedures on patients with supervision and direction. Students will demonstrate continued competence on prior clinical requirements, as well as learn new procedures. Students apply radiation protection and standard precautions in the production of radiographic images by taking exposures in a healthcare setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies.

Prerequisite: RAD 124c

Co-requisite: RAD 134

RAD 138 **Radiographic Imaging and Analysis** **3 credits**

This course introduces radiography students to the process of creating radiographic images. Students determine the factors that affect image quality including contrast, density, and distortion. Students apply OSHA standards for health and safety in the darkroom. Students analyze exposure factor considerations, differentiating between film and digital exposure latitude and uses of grids and beam restricting devices. This course will cover image artifacts and quality control in both film/screen imaging and digital imaging.

Prerequisite: RAD 128, RAD 134 and RAD 134c

RAD 244 **Radiographic Anatomy and Positioning IV** **2 credits**

This course is a continuation of radiographic terminology, positioning and procedures with the presentation of more complex theories to further the knowledge of the student. New radiologic procedures will be introduced and practiced in a laboratory setting. Image evaluation to include, anatomy, positioning and radiation protection will be included. Prepares radiography students to perform routine radiologic procedures on various parts of the body including the skull, facial bones, mandible, sinuses, mobile, surgery, and special positioning in pediatric procedures, and trauma. Students apply knowledge of human anatomy to position the patient correctly to achieve the desired result.

Prerequisite: BIO 107, RAD 134 and RAD 134c

Co-requisite: RAD 244c

RAD 244c **Clinical Practicum IV** **3 credits**

This fourth level clinical course prepares radiography students to perform radiologic procedures on patients with supervision and direction. Students will show continued competence on prior clinical requirements, as well as learn new procedures. Students apply radiation protection and standard precautions in the production of radiographs in a healthcare setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies.

Prerequisite: RAD 134c

Co-requisite: RAD 244

RAD 246 **Radiographic Pathology** **2 credits**

This course prepares students to determine the basic radiographic manifestations of pathological conditions. Students classify trauma related to site, complications, and prognosis and locate the radiographic appearance of pathologies.

Prerequisite: RAD 124, RAD 128, ENG 105

RAD 248A **Radiation Safety** **2 credits**

This course provides information which will enable the student to safely administer ionizing radiation in the diagnostic clinical setting. This course examines how radiation affects human cellular biology; federal regulations regarding exposure levels to patients and operators; and the proper utilization of protective devices to minimize exposure.

Prerequisite: RAD 138

RAD 254 **Radiographic Anatomy and Positioning V** **2 credits**

This course is designed to be a capstone course that focuses on the synthesis of professional knowledge, skills, and attitudes in preparation for professional employment and lifelong learning. The major emphasis is to help students develop a sense of professionalism by focusing on such topics as the role of radiography in the healthcare system, ethics and medical legal responsibility, patient care, communication skills, and professional development. Service Learning involvement promotes ethical concern for society by researching the needs of the community and reflecting on those service experiences. This course utilizes lecture, demonstration, self-directed learning activities, clinical experiences, and in-depth critique of positioning that further develops critical thinking skills supporting clinical competencies, validation, and terminal evaluation events such as the American Registry of Radiologic Technologist (ARRT) simulated registry.

Prerequisite: RAD 244

Co-requisite: RAD 254c

RAD 254c **Clinical Practicum V** **3 credits**

This final clinical course requires students to integrate and apply all knowledge learned in previous courses to the production of high quality radiographic images in the clinical setting. Students apply radiation protection and standard precautions in the production of radiographic images in a healthcare setting while adhering to legal & ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies

Prerequisite: RAD 244c

Co-requisite: RAD 254

SOCIAL WORK

SWK 105 **The Social Work Profession** **3 credits**

Introduction to the historical development of the social work profession. The course includes an introduction to the foundational knowledge, skills, and values needed for the social work profession. The development of critical thinking, self-awareness and self-help skills, problem solving skills, and an appreciation of diversity will also be addressed.

SWK 107 **Social Welfare Policies and Programs** **3 credits**

This course studies federal, state, and local social welfare policies and programs and examines policies and programs that target reducing poverty, oppression, and discrimination. Special emphasis is placed on how such factors influence healthcare delivery, health disparities and inequities, and healthcare access across multiple populations.

SWK 225 Multicultural Competence 3 credits
This course is an overview of social science methods of inquiry used to develop the knowledge and skills necessary to work and relate effectively in diverse settings with diverse populations. It covers historical and modern issues of discrimination in the U.S. and how they have impacted society. It emphasizes the need for multicultural competency to be an engaged and informed citizen in a democratic society as well as how to provide culturally competent practice in social work.

SWK 227 Social Work Ethics 3 credits
This course is an introduction to social work practice skills with an emphasis on professional ethics. Students will think critically about the Social Work Code of Ethics as it relates both to agency and governmental policy and how at times they can intersect, creating ethical and boundary issues for social work practice. Students will learn to navigate practice to avoid crossing ethical boundaries while advocating for clients.
Prerequisite: SWK 105

SWK 233 Human Behavior and the Social Environment I: Micro 3 credits
This course analyzes human behaviors to guide assessment, intervention, and evaluation of social work practice at the micro level. It includes theories such as the psychoanalytic, behavioral, ecological, and normative life stages. Learners will comprehend and apply theories of development to behaviors individuals may exhibit in the practice environment.
Prerequisite: SWK 105

SWK 306 Human Behavior and the Social Environment II: Macro 3 credits
This course analyzes groups, systems, and community organizations to guide assessment, intervention, and evaluation of social work practice at the macro level. It includes theories such as systems theory, social justice, oppression, and basic human rights and how they relate to behavior within policies and large system changes.
Prerequisite: SWK 233

SWK 311 Social Work Across the Lifespan 3 credits
This course explores the issues and needs of individuals across the lifespan from birth to end of life. It examines techniques, policies, and programs effective at all stages across the lifespan.
Prerequisite: SWK 105

SWK 405 Social Work Practice I: Individuals 3 credits
This course applies the social work process for working with individuals, from intake to termination. Theories relating to therapeutic relationships will be discussed.

SWK 405L Social Work Practice I: Lab 3 credits
This course enhances the application of social work practice with individual clients by covering the process from intake to termination using multimedia recording, editing, and standardized documentation.
Co-requisite: SWK 405

SWK 407 Social Work Practice II: Groups 3 credits
This course covers application of practice skills with groups. Student learning will center on group dynamics, formation of groups, and group processes of social work practice.
Prerequisite: SWK 405, 405L

SWK 410 Social Work Research II 3 credits
This course covers application of quantitative and qualitative social research methodology and techniques of gathering, analyzing, and interpreting data. It covers evaluation of research reports for relevance to practice with at-risk populations and requires an undergraduate research component using quantitative or qualitative approaches.
Prerequisite: SWK 331

SWK 415 **Social Work Field Practicum** **3-6 credits**

This field practicum course is taken as a block placement over one semester (6 credits) or is taken over two semesters (3 credits per semester) where students apply social work practice knowledge to practice within agency settings. Student learning experiences occur under the supervision of an agency field instructor with guidance from the faculty field liaison.

Prerequisite: SWK 405, 405L, SWK 233, and instructor permission

SWK 417 **Social Work Field Seminar I** **3 credits**

In this course, the faculty field liaison utilizes individual and group feedback to assist students in applying generalist social work practice knowledge while planning, implementing, and processing activities at their practicum sites. Application of prior social work coursework is expected to engage students in learning more about the agencies in which they are working.

Co-requisite: SWK 415

SWK 421 **Social Work Practice III: Families** **3 credits**

This course is an exploration of social work practice as it relates to family work practice. The focus is on system dynamics and subsystems and how the social worker navigates family members through the social work process.

Prerequisite: SWK 407

SWK 430 **Social Work Field Practicum II** **3 credits**

This field practicum course is the second course in a two-semester field experience taken over two semesters (3 credits per semester) where students apply social work practice knowledge to practice within agency settings. Student learning experiences occur under the supervision of an agency field instructor with guidance from the faculty field liaison.

Prerequisite: SWK 415, SWK 417

SWK 432 **Social Work Field Capstone** **3 credits**

This course offers individual and group feedback to assist students in applying generalist social work practice knowledge while planning, implementing, and processing activities at their practicum sites. It also includes resume/portfolio writing, mock interviews, and preparation for licensure exam.

Co-requisite: SWK 430.

SOCIOLOGY

SOC 121 **Introduction to Sociology** **3 credits**

Introduction to Sociology is designed to help students think clearly and critically about sociological issues, concepts and methods. The questioning of "common sense notions" and "official interpretation" of issues and events is the essence of sociology. "The first wisdom of sociology is this…things are not what they seem", sociologist Peter Berger attests. Introduction to Sociology promises to provide knowledge and a framework to understand our social world as well as emphasize how society and social forces affect everything from international policies to our everyday lives. Sociology's diverse research interests and perspectives illustrate the fact that for sociologists, the entire world is a laboratory.

Core Category: S

SOC 305 **Sociology of Health and Illness** **3 credits**

This course will examine the social context of health and illness. It will critically examine the distribution of mortality and morbidity, health disparities, how health and illness are defined and socially constructed, the experiences of illness, training, and hierarchies of health care workers, interactions between health care providers and patients, alternative medicine, ethical issues, and health care financing.

Prerequisite: SOC 121

Core Category: S

SOC 333 **Social and Behavioral Theories of Public Health** **3 credits**

Students examine the social and behavioral theories of public health and their impact on health delivery throughout this course. Each student will develop multiple approaches to surveying individuals and community to better understand the relationship to public health theory. Contemporary research and strategies to health change will then be applied to current health trends and discrepancies.

Prerequisite: SOC 121

Core Category: S

SOC 337 **Organizational Behavior** **3 credits**

This course provides an overview of the impact of human behavior in a healthcare organization. It explores major theories of organizational behavior and culture. Students will analyze contemporary organizational behavior, thought, and design.

Prerequisite: SOC 121

Core Category: S

SPANISH

SPA 103 **Conversational Spanish** **3 credits**

This course will develop elementary speaking, reading, writing, and listening comprehension skills in the Spanish language. Geographic differences and cultural variations in Hispanic countries will be highlighted throughout the course. Special attention will be paid to applying emerging Spanish skills to medical scenarios.

Core Category: H

SPA 105 **Beginning Spanish for Medical Professions** **3 credits**

This course will introduce work on developing elementary speaking, reading, writing, and listening comprehension skills in the Spanish language. It will also introduce essential medical vocabulary, practical reference information, and medical notes written from a cross-cultural perspective. The emphasis on this class is to apply Spanish skills to medical scenarios at hospitals, emergency rooms, doctors 'offices, and clinics when dealing with Spanish-speaking patients and personnel in the United States. Teaching methods will include once a week face-to-face lecture, class discussion, group work, take-home assignments, online assignments and in-class quizzes and exams.

Prerequisite: SPA 103

Core Category: H

STUDENT LEARNING SKILLS

SLS 106 **Maximizing Your Aultman Experience** **1 credits**

Your Aultman experience is much more than your individual courses. To maximize it for your vocation and career, this course introduces you to resources for a growth mindset throughout your studies. Students engage with peers, faculty, and community to pursue personal and professional goals. **Must be successfully completed in the first semester/session of any Aultman College degree program except the ASN and RAD programs.**

Core Category: F