2016 - 2017
Course Outcomes for 100-400 Level Courses

Course Prefixes:
ACCT    Accounting
ASLA    American Sign Language
BIOL    Biology
BITS    Business Information Technology and Systems
BUSN    Business
CHEM    Chemistry
CHIN    Chinese
CISP    Computer Information Systems and Programming
COMM    Communications
CSCI    Computer Science
ECON    Economics
ENGL    English
ENVS    Environmental Studies
FINC    Finance
GEOL    Geology
GPMT    Global Project Management
GRMN    German
HINT    Health Information Technology/Management
HIST    History
HLTH    Health Sciences
HRMG    Human Resource Management
HSAD    Health Services Administration
HUMN    Humanities
IAAS    Information Assurance and Security
LEGL    Legal Issues/Law
MATH    Math
MCMG    Medical Case Management
MEDA    Medical Assisting
MGMT    Management
MKTG    Marketing
NETW    Networks
PHYS    Physics
POLS    Political Science
PSYC    Psychology
RMGI    Principles of Risk Management and Insurance
SOCY    Sociology
SOSC    Social Sciences
SPAN    Spanish
STAT    Statistics
ACCT200  Accounting Basics for Managers  Credits  3

This course is designed strictly for the non-business major. It is a comprehensive survey course of financial and managerial accounting concepts that discusses the financial aspects of starting and growing a business. Specifically, the course explores the role of accounting in business, examining the balance sheet, profit/loss statements, and cash flow reports. Students will also learn how to analyze financial statements and financial trends.

Learning Outcomes:

Upon completion of this course, the student will successfully:

1. Define and explain business activities, the role of accounting in business, and accounting principles.
2. Understand accrual accounting concepts and apply knowledge to a merchandising business.
3. Identify financial statements, apply analytical calculations to these statements and interpret results.
4. Describe and discuss proper accounting treatment and reporting of cash; receivables; inventory; fixed and intangible assets; current liabilities; and stockholders’ equity, including application of internal controls and regulations.
5. Apply concepts of cost behavior, differential product analysis, product pricing, and capital investment in making business decisions.
6. Develop budgets and understand their usage in evaluating variances and budgetary performance.
ACCT201  Accounting Foundations I  

This course is an introduction to accounting principles emphasizing the operation of a business as a sole proprietorship and covers the complete accounting cycle for merchandising and service entities. Partnership accounting is also covered. The application of computer technology to accounting processes is integrated into this course.

**Learning Outcomes:**

Upon successfully completing this course, the student will be able to:

1. Create financial statements including multi-step income statement, statement of owner’s equity, classified balance sheet
2. Analyze and record business events for sole-proprietorships and partnerships.
3. Apply applicable Generally Accepted Accounting Principles
4. Apply applicable proper accounting treatment and reporting of cash, receivables, inventory, plant assets and current liabilities.
ACCT202  Accounting Foundations II  

Credits  4

This course continues the study of accounting principles with special emphasis on corporations, and basic principles of managerial accounting. Note: A $20.00 practice set fee is included in this course.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

2. Create various managerial accounting reports
3. Analyze and record business events for corporations using ratio analysis and other techniques.
4. Apply applicable Generally Accepted Accounting Principles.
This course is designed to provide an introduction to cost accounting and cost management techniques. The concepts of cost assignment to goods and services in the context of job order, process, and activity-based costing are covered. The behavior of costs, standard costing and variations—as well as schedules, summaries, and reports used in costing systems—are also introduced to the student.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Create appropriate management cost reports for manufacturing and service organizations.
2. Evaluate the performance of an organization through budget and variance analysis.
3. Analyze cost behavior.
4. Apply proper accounting treatment and reporting of business transactions for: Manufacturing and service businesses within a(n):
   - Job order cost system
   - Process cost system
   - Activity based costing system
5. Apply applicable overhead allocation
ACCT220  Accounting Information Technology  Credits  3

This course is a study of currently available accounting-business software and the related applications. Students will learn how to operate, evaluate and apply various software with accounting systems and accounting information systems. Note: A $20.00 software fee is included in this course.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Apply accounting terms, concepts, and processes to common business transactions using accounting software.
2. Formulate standard financial statements and management reports using accounting software.
3. Enter, manipulate and retrieve business data using accounting software.
ACCT301  Intermediate Accounting I  Credits  4

This course reviews the fundamental accounting process studied in ACCT202 and continues with a more comprehensive study of the major categories of the balance sheet and statement of cash flow and income statements. Students will also be introduced to applicable APB and FASB pronouncements and related topics. Note: A grade of C or better is required to take the next course in the sequence.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Create and analyze balance sheets, income statements and statements of cash flow, with financial disclosures.
2. Evaluate comprehensive income.
3. Apply the concepts of time value of money.
4. Evaluate the measurement of inventories.
5. Evaluate the measurement of property, plant and equipment
ACCT302  Intermediate Accounting II

This course is a continuation of ACCT301 with a comprehensive study of the major categories of the balance sheet, statement of cash flow, and income. In addition, students will be introduced to the accounting, analysis, and reporting of special topics such as pension/retirement, leases, inflation, income taxes, earnings per share and revenue recognition. Students will also be introduced to applicable APB and FASB pronouncements.

**Learning Outcomes:**

Upon successfully completing this course, the student will be able to:

1. Create the statement of cash flows using both the direct and indirect methods.
2. Evaluate Generally Accepted Accounting Principles related to investments.
3. Evaluate Generally Accepted Accounting Principles related to current liabilities, contingencies, bonds and other long-term notes.
4. Apply proper accounting treatments related to pensions.
5. Analyze compensation and earnings per share.
ACCT310  Accounting Fraud Examination  Credits  3

This course is an introduction to the field of forensic accounting. Topics include the history of forensic accounting, the fraud triangle theory, financial statement misrepresentation, and fraud examination techniques, including fraud prevention and control. Students will also be exposed to real-world cases in the area of forensic accounting and will have the opportunity to complete an experiential learning project as part of this course.

Learning Outcomes:

1. Define forensic accounting and explain the steps involved in fraud auditing.
2. Explain the three components of the fraud triangle in relation to why fraud is committed.
3. Differentiate between the various types of fraud and explain the evolution of a typical fraud.
4. Compare and contrast the various financial statement schemes and summarize how these students have affected actual corporations in the U.S.
5. List the common red flags of fraud and discuss the common detection methods.
6. Analyze and provide recommendations for sample forensic accounting-related scenarios through case study.
7. Apply the forensic accounting detection and investigation techniques learned in this class to an individualized experiential learning assignment.
ACCT315  Federal Taxation I  Credits  3

This course provides an explanation of the federal tax structure and provides training in the application of tax principles as they pertain to individuals. In addition, the course will provide an introduction to taxation for businesses, federal tax laws and regulations, taxation theory, and tax research and planning techniques.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Design a tax strategy to minimize an individual's tax situation
2. Apply the federal tax law as it applies to individuals
3. Conduct tax research utilizing a computerized tax service
4. Prepare an individual tax return of intermediate complexity
5. Recognize tax issues which may require additional tax research or analysis
ACCT316  Federal Taxation II

This course continues the study of federal taxation, focusing primarily on business taxation matters for partnerships, corporations, and limited liability companies. In addition, payroll taxes, estate and gift taxes, and other related topics will be covered. Students will be required to prepare partnership and corporation returns, as well as to perform research on a variety of tax issues.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Assess tax planning strategies for businesses
2. Research tax issues using tax research service software
3. Evaluate tax issues that may require additional tax research and analysis.
4. Prepare tax returns for partnerships, corporations, and S corporations
5. Explain the tax law as it pertains to partnerships, corporations, and limited liability companies.
ACCT318  Payroll and State Tax  Credits  3

This course is the study of the federal and state laws and regulations that govern the payroll tax arena. This will include learning about the rules and regulations that make-up the tax structure, as well as tax policy. Wage and overtime computations, tax filing compliance applications for federal, state, and local withholdings taxes and employer payroll are covered, along with analyzing and journalizing payroll transactions. State income tax computations will also be covered.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

2. Analyze payroll transactions and record them into the accounting system.
3. Analyze and complete basic payroll forms and payroll documentation.
4. Complete necessary information returns used in payroll (e.g. W-2(s), 1099(s) etc.).
5. Complete state income tax returns.
ACCT320  Auditing and Assurance  Credits  3

This course examines auditing and assurance services. The course focuses on the detailed study of the financial statement audit, including professional responsibilities and ethics, audit planning, internal controls, evidence gathering, and audit reports. Assurance services, reviews, and compilations are also covered.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Demonstrate and analyze the auditor's study and evaluation of internal control structure and recommend enhanced internal control procedures.
2. Analyze the decision making process in accepting clients and communicate acceptance through an engagement letter
3. Gather evidence, analyze results, and document conclusions
4. Prepare and evaluate audit and other assurance service reports
5. Apply and explain the following:
   - auditing standards
   - attestation standards
   - professional responsibilities for ethical behavior in attest services
   - legal liability in attest services.
ACCT350  Accounting Information Systems  Credits  3

This course examines the information flow through accounting systems including documentation, the recording process, and financial statements. The use of internal controls in the accounting system is emphasized. Case studies will be used to analyze and evaluate accounting systems.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Examine and analyze the components of an accounting information system.
2. Identify and apply internal controls and risk assessment in an accounting information system.
3. Understand the business processes and technological components of an accounting information system.
ACCT401  Certified Internal Audit Basics(CIA)  Credits  3

This course examines the differences between internal and external auditing. Students will learn how to evaluate and develop internal controls by incorporating the COSO framework, CobiT, and Sarbanes-Oxley. The course focuses on the organizing, planning, performing, and directing of internal audits; formulating corporate governance policies and procedures; and the communicating of findings.

Learning Outcomes:

Upon successful completing this course the student will be able to:

1. Compare and contrast the various internal controls to best reduce a specified risk.
2. Assess risk and the internal control structure.
3. Apply the various audit tools and techniques.
5. Identify the Internal Control Frameworks
ACCT402  Certified Internal Auditing Practice (CIA)  Credits  3

In addition to gaining an in-depth understanding of how to conduct the various types of internal audit engagements, this course is designed to prepare the student for the Internal Audit Practice section of the CIA exam. Topics include: Managing, Planning and Supervising Internal Audit Engagements, Engagement Information, Communicating Results, Monitoring Progress, Various Types of Internal Audit Engagements, and Fraud Risk & Controls. Note: A grade of C or better is required to take the next course in the sequence.

Learning Outcomes:

Upon successful completing this course, the student will be able to:

1. Compare and contrast techniques and tools used to conduct an internal audit
2. Distinguish between the types of reports used to communicate engagement results and outcomes
3. Describe the various types of internal audit engagements
4. Explain fraud risks and controls
ACCT403  Certified Internal Audit Knowledge Elements (CIA)  Credits  3

This course is designed to cover a broad range of internal audit information in addition to preparing the student for the Internal Audit Knowledge Elements section of the CIA exam. Topics include: Governance & Business Ethics, Risk Management, Organizational Structure, Management & Leadership Principles, IT & Business Continuity, Financial Management and the Global Business Environment.

**Learning Outcomes:**

Upon successful completing this course, the student will be able to:

1. Evaluate IT framework design including IT and business continuity, security, application development and infrastructure
2. Differentiate the various management and leadership principles, organizational structures and risk management techniques
3. Apply financial accounting and managerial accounting concepts to internal auditing.
4. Identify the key characteristics of corporate governance and business ethics
ACCT415  Advanced Accounting Topics  Credits  3

This course is designed to further develop the student’s analytical and interpretive skills in accounting for business mergers and acquisitions, partnerships and global accounting.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Assess, analyze, and record advanced accounting transactions.
2. Analyze, compute, prepare, and communicate financial information to various parties.
3. Recognize and select between alternative reporting methods.
4. Assess and analyze financial information of parent and subsidiaries to prepare consolidated financial statements and communicate the results.
5. Distinguish between U.S. and international accounting standards
ACCT420  Governmental and Not-For-Profit Accounting  Credits  3

This course is a study of accounting and reporting practices used in state and local governmental units as required by the Governmental Accounting Standards Board and the accounting and reporting practices used in not-for-profit entities as required by the Financial Accounting Standards Board. The unique accounting requirements of college, university, and hospital accounting are introduced in the course.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Assess, analyze and record various governmental, university, hospital and not-for-profit transactions
2. Summarize the use of budgets as legal documents in a local governmental entity's accounting system
3. Analyze & communicate the results of financial information in the Comprehensive Annual Financial Report and other financial reports
ACCT421  EDP Computer Auditing  

Credits  3

This course is designed to cover the techniques of computer auditing. The course provides the student with an in-depth view of computer auditing activities, computer information system control, design and implementation of audit tests, computer-aided audit tools and techniques, and electronic commerce systems.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Assess the internal control structure of a computer system
2. Summarize fraud detection procedures in a computer-based environment
3. Explain ethical issues related to the use of information technology
4. Compose and communicate audit findings to various parties
5. Evaluate evidentiary audit data/material obtained during the audit
6. Formulate audit tests for evaluating computer information systems
7. Apply computer-aided audit tools
ACCT461  CMA Prep Financial Planning/Performance  Credits  3

This course is primarily focused on preparing students to pass Part I of the CMA exam. This course is designed as a continuing study of cost management and cost control techniques. Included in the course is the study of management accounting planning and control techniques and decision-making and performance evaluation techniques. Such techniques include relevant costing, the budget process, capital budgeting, inventory and production management, and organizational performance evaluation.

Learning Outcomes:

- Introduction to CMA Credential and CMA Learning System;
- Section A: Planning, Budgeting and Forecasting;
- Section B: Performance Measurement;
- Section C: Cost Management;
- Section D: Internal Controls;
- Section E: Professional Ethics
ACCT462  CMA Prep Financial Decision Making

Introduction to CMA Credential and CMA Learning System;
Section A:  Financial Statement Analysis;
Section B:  Corporate Finance;
Section C:  Decision Analysis and Risk Management;
Section D:  Investment Decisions;
Section E:  Professional Ethics

This course is designed to enhance learning from earlier courses with a focus on financial statement analysis. Students are challenged to analyze financial statements with the ability to construct and communicate strategic decisions. Additionally they have to demonstrate an understanding of risk management throughout this process. Lastly, the students are taught to use this ability to ultimately make investment decisions.

Learning Outcomes:

Introduction to CMA Credential and CMA Learning System;
Section A:  Planning, Budgeting and Forecasting;
Section B:  Performance Measurement;
Section C:  Cost Management;
Section D:  Internal Controls;
Section E:  Professional Ethics
ASLA111  American Sign Language 1  Credits  3

This course provides language training and cultural enrichment for students who wish to learn American Sign Language (ASL) and the uniqueness of deaf culture. The course will not prepare students to become interpreters but is designed to introduce students to the language and culture. This course is particularly useful for students pursuing careers such as allied health, nursing, medical management, or other healthcare related fields as well as paralegal studies where clients may be deaf. The class is designed to allow students to complement their degrees with an ASL experience.

**Learning Outcomes:**

Upon successful completion of this course, the student will be able to:

1. Apply basic language skills to produce ASL in a variety of ways to communicate effectively with deaf adults and children who depend on visual representations of English for communication.
2. Use classifiers through directionality, word signs, noun placements and non-manual signals.
3. Produce intermediate receptive comprehension and expressive information.
4. Recognize the diversity of the deaf culture through theory discussion, guest speakers and local events.
ASLA121  American Sign Language II  Credits  3

This second semester American Sign Language course is a continuation of language skills and cultural enrichment introduced in ASLA111. The course will not prepare students to become interpreters but is designed to advance language skills and further promote understanding of deaf culture. This course is particularly useful for students pursuing careers such as allied health, nursing, medical management, or other healthcare related fields as well as paralegal studies where clients may be deaf. The class is designed to allow students to complement their degrees with an ASL experience.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Apply the next level of language skills to produce ASL in a larger variety of ways to communicate effectively with deaf adults and children who depend on visual representations of English for communication.
2. Use a broader array of classifiers through directionality, word signs, noun placements and non-manual signals.
3. Produce a broader range of receptive comprehension and expressive information.
4. Examine the diversity of the deaf culture through theory, discussion, guest speakers and local events.
BIOL110  Foundations of Cell Biology  Credits  3

This course provides a foundation in fundamental biological and cellular concepts common to plants, animals, and microorganisms. Topics include the chemical and molecular basis of life, metabolism, cellular reproduction, principles of inheritance, and evolution. This course has an $80.00 eBook and Software fee.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Demonstrate an understanding of scientific classification and the science of taxonomy.
2. Express understanding of foundational chemistry principles including basic atomic structure, chemical bonding, chemical reactions and the pH scale
3. Describe the structure of the macromolecules and their relationship to the living organism
4. Analyze cell membrane structure, function and the various forms of membrane transport
5. Discuss the importance of thermodynamics and the role of ATP in biological systems
6. Compare aerobic and anaerobic pathways in cellular respiration
7. Explain the process of photosynthesis
8. Analyze the various types of communication between cells
9. Distinguish between mitosis and meiosis and state the importance of each to the life cycle of an organism
10. Describe the process of transcription and translation.
11. Examine the concepts of Mendelian genetics, including the principles of dominance, segregation and independent assortment
BIOL110L  Foundations of Cell Biology Lab  

Credits  1

This course is designed to provide the laboratory fundamentals of biological science at the cellular level. Students will focus on the scientific method, cellular structure and function, cellular energetics, photosynthesis, cellular respiration, genetics, and heredity. A $125.00 lab and insurance fee is charged in this course. *Note: The lab portion designated as BIOL110V is taught in a virtual format.

Learning Outcomes:

1. Describe and apply the scientific method.
2. Define and apply the metric system.
3. Proficiently use a compound and dissecting microscope and prepare different mounts.
4. Analyze, identify, and describe different macromolecules.
5. Describe, list, identify cell structure and function.
6. Describe the structure of lipid membranes and describe the effects of osmolarity.
7. Explain how enzymes work and describe the effects of pH, temperature, and rates of chemical reactions on enzymatically controlled reactions.
8. Compare aerobic and anaerobic pathways in cellular respiration.
9. Identify and illustrate stages of mitosis and meiosis.
10. Solve monohybrid and dihybrid crosses and apply the principles of genetics and heredity to scientific problems.
11. Isolate and identify nucleic acids.
12. Explain natural selection and describe the sequence of evolution.
BIOL111  Organisms and Populations  Credits  3

This second semester course provides a foundation in the study of biological systems at the organismal level. Students are introduced to structure and physiology of living organisms, evolution and general ecological principles.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Compare and contrast the diversity of micro- and macroorganisms including the general form, function and structure of each.
2. Identify how animal structure and function are related.
3. Explain the origins and diversity of life in terms of natural selection and evolution.
4. Explain the relationship between plant structure and function.
BIOL111L  Organisms and Populations Lab  Credits  1

This course is designed to provide the fundamental of biological science at the organismal level in a virtual lab setting. Students will focus on the scientific method, evolution, biodiversity, plane and animal physiology, and ecology. A $125.00 lab and insurance fee is charged in this course. *Note: The lab portion designated as BIOL111V is taught in a virtual

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Apply the scientific method by designing and conducting a novel scientific experiment using standard biological equipment.
2. Compare and contrast the diversity of micro- and macroorganisms including the general form, function, and structure of each.
3. Identify how animal structure and function are related.
4. Explain the origins and diversity of life in terms of natural selection and evolution.
5. Explain the relationship between plant structure and function.
6. Explain the interactions of organisms within their environment using ecological
BIOL115  Anatomy and Physiology with Human Disease I  Credits  4

This course is the first of a two semester sequence that provides a foundation in human anatomy, physiology and the disease process for students in the Health Information Management and Allied Health programs. Students will learn anatomical and physiological terminology, homeostatic mechanisms, and other fundamental principles of anatomy and physiology. Each organ system will be studied with emphasis on the relationship between systems. Common disease processes, disease characteristics and treatments will be introduced.

Note: A grade of C or better is required to take the next course in the sequence. There is a

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Organize anatomical structures with respect to hierarchical levels and bodily compartments.
2. Differentiate major tissue types with respect to structure, function and location within the body.
3. Relate and apply medical terminology to appropriate body systems.
4. Identify anatomical structures of the following body systems: integumentary, muscular, skeletal, nervous, endocrine and sensory. More specifically
   • Identify the various layers and components of the integumentary system.
   • Identify the major bones and bone markings of the human organism.
   • Identify the major superficial muscles, origin and insertion of each, and how they are interrelated to produce bodily movement.
   • Identify the major regions and structures of the brain and spinal cord.
   • Identify the major organs and structures of the endocrine system
5. Describe physiologic processes of the following body systems: muscular, skeletal, nervous, endocrine and sensory.
6. Predict the outcome of deviation from the homeostatic state and relate it to the disease process.
7. Determine appropriate treatment therapies for common diseases.
8. Access and evaluate information from a wide variety of sources (such as MEDLINE, PDR, Rx list.com and the Merck manual) to facilitate acquisition of research and analysis skills.
9. Perform computerized virtual dissections, and participate in all structure and system identification laboratory activities.
10. Write laboratory reports comparing anatomical structure with anatomical function in various body systems.
This course is the second of a two semester sequence that provides a foundation in human anatomy, physiology and the disease process for students in the Health Information Management and Allied Health programs. This course expands on previously gained knowledge in the anatomy and physiology of the human body. Students will continue to learn anatomical and physiological terminology as it relates to body systems. Students will integrate the structure and functioning of the cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems with material from earlier courses. Students will also review diseases, disease processes, conditions, symptoms and treatments related to the body systems.

Note: There is a $105.00 software included in this course.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Describe the composition and function of plasma and blood cells, including their origins.
2. Evaluate the anatomical components of the cardiovascular system and their relationship to blood flow through the heart and vessels.
3. Compare structure and functions of the lymphatic and cardiovascular systems in their roles of fluid circulation.
4. Relate the lymphatic structures’ locations and functions to immunity.
5. Correlate respiratory system structures with their functions.
6. Describe physiologic processes of the following body systems; cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems. More specifically
   • Compare the various immune cells’ functions in cell mediated immunity and humoral mediated immunity.
   • Explain the mechanisms of gas transport including the exchange of gases between blood, lungs and tissues.
   • Describe the mechanics of breathing and the physical factors that influence pulmonary ventilation.
   • Describe glomerular filtration, tubular reabsorption and secretion as related to urine formation
7. Predict the outcome of deviation from the homeostatic state and relate it to the disease process.
8. Determine appropriate treatment therapies for common diseases.
9. Access and evaluate information from a wide variety of sources (such as MEDLINE, PDR, Rx list.com and the Merck manual) to facilitate acquisition of research and analysis skills.
10. Perform computerized virtual dissections, participate in all structure and system
BIOL120  Essentials of Anatomy & Physiology

This course provides the student with the essential principles of anatomy and physiology including introductory chemistry concepts, cell and tissues studies and the structure and function of the following organ systems: integumentary, musculoskeletal, nervous, sensory, endocrine, respiratory, digestive, cardiovascular, lymphatic, immune, urinary and reproductive systems. Students will study the human body using a system-by-system approach. There is an $80.00 software fee included in this course.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Summarize the interrelationships among bodily systems
2. Organize the anatomical components of each body system into a single functional entity
3. Apply terminology of healthcare diagnostic techniques and interventions to the structures and functions of the human body
4. Comprehend the concept of homeostasis and predict the outcome of deviations from the homeostatic state
5. Identify and describe the structure and function of the cell and its components.
6. Differentiate among the various types of tissues with respect to location, structure and function.
7. Describe the structures of the integumentary system and its importance to health.
8. Assess biomechanical systems and actions with respect to the bones, joints and muscles operating in those systems.
9. Discuss how hormones function, their specific effects and predict the outcomes of deviation from homeostasis.
10. Identify major structures of the special senses, their functions and appropriate regions of the brain where senses are identified.
11. Describe the function and composition of blood.
12. Outline blood flow through the cardiovascular system.
13. Explain the structures and functions of the lymphatic system and how they relate to immunity.
14. Describe the major processes that occur during digestive system activity throughout the digestive system structures.
15. Explain the process of urine formation and how its composition relates to health.
16. Identify the major organs of the male and female reproductive systems and the importance of each structure.
17. Apply knowledge-based research techniques (such as library, MEDLINE, web-based) and common software applications (such as word processing, spreadsheet, database, graphics) to facilitate learning outcomes.
18. Write and orally present a paper on a selected topic in anatomy and physiology.
BIOL131  Introduction to Human Disease  Credits  3

This course introduces concepts of pathophysiology in a systemic manner by comparing the functioning of the human body in normal and diseased states. Students will integrate information relating to the etiology, presentation, evaluation, treatment, and prevention of common human diseases.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Evaluate clinically apparent disease processes in terms of common cellular mechanism of adaptation, injury, and aging.
2. Evaluate pertinent data given in clinical case scenarios to determine the likely underlying disease processes of, and appropriate interventions for, the case subjects.
3. Evaluate the utility of specific diagnostic tests and healthcare interventions in the preventions and treatment of common human disorders.
4. Assess the risk of common diseases occurring as a result of genetic inheritance, gender, lifestyle choices, developmental processes, and aging.
5. Compare normal functioning of bodily systems to the physiologic changes that occur as a result of disease at multiple corporal levels.
6. Describe the interrelationships among bodily systems in both progressive disease and healing states.
7. Discuss current topics in disease research, medical science, health and/or physiology.
This course is designed to equip students with the skill set necessary for employment as life science laboratory professionals. Students will learn and practice various lab techniques in a life science laboratory setting. The course will focus on standard laboratory procedures and common laboratory mathematical calculations, procedure documentation and record keeping, solution and media preparation, quality control and quality assurance protocols, specimen handling and storage, as well as regulatory policies and laboratory safety. Course activities are designed to facilitate the application of course content toward development of critical thinking and laboratory problem solving skills. There is a $105.00 lab fee included in this.

**Learning Outcomes:**

Upon successful completion of this course, the student will be able to:

1. Apply statistical and instrumental analysis to judge the accuracy and precision of collected data.
2. Implement standard safety protocols in the laboratory.
3. Perform standard mathematical calculations utilized in a research laboratory setting.
4. Demonstrate common laboratory procedures and the ability to work with standard equipment and tools used in a biological research laboratory.
5. Demonstrate standard techniques for the isolation, analysis and manipulation of nucleic acids and the purification and analysis of proteins.
6. Demonstrate ethical research practices including accurate record keeping and adherence to regulatory guidelines set forth by regulatory agencies that monitor research practices.
7. Demonstrate strong interpersonal communication skills and work effectively in a team environment.
8. Describe the documentation practices and regulatory processes prevalent in Biological Science Research laboratories, including research and development, quality assurance and manufacturing.
BIOL211  Microbiology  Credits  3

This course presents a comprehensive overview of the role of microbes in disease processes, and is designed for the student in health sciences. Students compare human microbial pathogens with respect to their structure, function, host selection, reservoirs, modes of transmission, host effects, and vulnerability to various treatment regimens.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1.  Compare and contrast prokaryotic, eukaryotic organisms and acellular infectious agents (viruses).
2.  Summarize microbial metabolic pathways.
3.  Discuss microbial regulation of cellular activities.
4.  Describe inheritance, exchange and acquisition of genetic information in prokaryotes and acellular infectious agents (viruses).
5.  Analyze consequences of mutation and genetic recombination.
6.  Explain the dynamics of commensal, opportunistic, and pathological relationships particularly between microbes and humans.
7.  Evaluate and apply current techniques utilized for microbial identification, examination, and control through the analysis of sample scenarios and case studies.
8.  Compare and contrast the clinical characteristics for selected pathogenic microbes with regards to pathogenesis, epidemiology, treatment, and control.
9.  Discuss the importance of food and water safety.
BIOL211L  Microbiology

This laboratory course presents a comprehensive overview of the role of microbes in disease processes, and is designed for the student in health sciences. Students learn skills applicable to the clinical laboratory, including aseptic techniques, microbial culture, and antimicrobial resistance testing. Students also compare human microbial pathogens with respect to their structure, function, reservoirs, modes of transmission, host effects, and vulnerability to various treatment regimens. A $125.00 lab and insurance fee is charged in this course.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Demonstrate proficiency in the use of laboratory equipment and basic microbiological techniques.
2. Demonstrate the isolation and cultivation of selected microbes.
3. Characterize an unknown microbe based on morphologic, biochemical and metabolic properties.
4. Relate the process of selected staining methods in the differentiation of bacteria.
5. Compare and contrast physical and chemical methods for controlling microbial growth.
6. Demonstrate and interpret results of bacterial transformation.
7. Perform PCR analysis and demonstrate specific research applications
BIOL221  Anatomy and Physiology I

This course provides an in-depth introduction to the structure and function of the human body, and is designed for the future health care professional. Students will learn anatomical and physiological terminology as it relates to body systems, directional terminology, homeostatic mechanisms, and other fundamental principles of anatomy and physiology. The human body will be studied at the cellular, tissue, organ, organ system, and organism levels. Students will understand interrelationships between the integumentary, skeletal, muscular, nervous, and endocrine systems. Students will review the natural developmental and aging processes that occur in each system. Note: A grade of C or better is required to take the next course in the sequence. There is a $140.00 software fee included in this course.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Compare the structure and function of anatomical structures (i.e. cells, tissues, organs) as they vary across the lifespan.
2. Organize anatomical structures with respect to hierarchical levels and bodily compartments.
3. Differentiate major tissue types with respect to structure, function and location within the body.
4. Describe the multiple contributions of the integumentary system to homeostasis and health of the body.
5. Identify and explain biomechanical systems and actions with respect to the bones, joints and muscles operating in those systems.
6. Compare the functioning of the nervous and endocrine systems in regards to communication and regulation of the body.
7. Correlate organism behavior to structure and function of the nervous system.
8. Predict systemic responses in multiple organ systems to changes in homeostasis.
BIOL221L  Anatomy and Physiology I Lab  Credits  1

This laboratory course provides an in-depth introduction to the structure and function of the human body, and is designed for the future health care professional. Students will learn anatomical and directional terminology, homeostatic mechanisms, and other fundamental principles of anatomy and physiology. The human body will be studied at the cellular, tissue, organ, organ system, and organism levels. Students will understand interrelationships between the integumentary, skeletal, muscular, nervous, and endocrine systems through laboratory exercises. Note: A grade of C or better is required to take the next course in the sequence. A $105.00 lab and $20.00 insurance fee is charged in this course.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Work effectively with groups of students to achieve common goals.
2. Compare the structure and function of anatomical structures as they vary across the lifespan.
3. Demonstrate an understanding of the interconnections that exist between cells, tissues, organs, and organ systems of the human organism.
4. Differentiate major tissue types with respect to structure, function and location within the body.
5. Identify the various layers and components of the integumentary system.
6. Identify the major bones and bone markings of the human organism.
7. Identify the major superficial muscles, origin and insertion of each, and how they are interrelated to produce bodily movement.
8. Identify the major regions and structures of the brain and spinal cord.
9. Compare the functioning of the nervous and endocrine systems in regards to regulation and communication.
10. Write laboratory reports comparing anatomical structure with anatomical function in various body systems.
11. Actively dissect and participate in all structure and system identification laboratory activities.
BIOL222  Anatomy and Physiology II  Credits  3

This course expands on previously gained knowledge in the anatomy and physiology of the human body. Students will continue to learn anatomical and physiological terminology as it relates to body systems. Students will integrate the structure and functioning of the cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems with material from earlier courses. Students will also review the natural developmental and aging processes that occur in each system. Note: There is a $140.00 software fee included in this course.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Describe the composition and function of plasma and blood cells, including their origins.
2. Evaluate the anatomical components of the cardiovascular system and their relationship to blood flow through the heart and vessels.
3. Compare structure and functions of the lymphatic and cardiovascular systems in their roles of fluid circulation.
4. Relate the lymphatic structures’ locations and functions to immunity.
5. Compare the various immune cells’ functions in cell mediated immunity and humoral mediated immunity.
6. Differentiate hypersensitivity reactions.
7. Correlate respiratory system structures with their functions.
8. Explain the mechanisms of gas transport including the exchange of gases between blood, lungs and tissues.
9. Describe the mechanics of breathing and the physical factors that influence pulmonary ventilation.
10. Distinguish among the processes of digestion and absorption throughout the alimentary canal and accessory digestive structures.
11. Differentiate carbohydrate, lipid and protein metabolism.
12. Describe the location and roles of functions of the urinary system, including the role of the kidney in maintaining bodily homeostasis.
13. Compare the role of major ions and the major hormones that influence their concentration.
14. Describe respiratory and renal compensations to maintain acid-base balance.
15. Identify the major organs of the male and female reproductive system and their functions.
16. Distinguish between spermatogenesis and oogenesis.
17. Correlate the major physiological events controlling menstruation, ovulation and reproduction with the endocrine system.
18. Compare the structure and function of anatomical structures as they change
BIOL222L  Anatomy and Physiology II Lab  

This laboratory course expands on previously gained knowledge in the anatomy and physiology of the human body. Students will integrate the structure and functioning of the cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems with material from earlier courses through laboratory exercises. A $105.00 lab and $20.00 insurance fee is charged in this course.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Work safely in a laboratory setting within groups to achieve common goals.
2. Identify the major hematologic cells through microscopy.
3. Blood type to understand the principles of transfusion compatibility.
4. Relate blood flow through the heart by identifying the major vessels and structures through dissection.
5. Identify electrocardiographic waves and intervals on a normal electrocardiogram.
6. Locate major lymphatic structures and lymph nodes.
7. Identify organs of the respiratory tract and their associated structures.
8. Define, identify and determine respiratory volumes and respiratory capacities.
9. Identify the digestive system structures and describe how they are connected to allow for the processes of digestion and absorption.
10. Identify the structures of the urinary system through dissection, including major structures of the kidney.
11. List the major areas of the nephron involved in the process of filtrate formation.
12. Determine the physical and chemical properties of a urine sample and relate these properties to normal urine composition.
13. Identify the male and female reproductive structures that initiate oogenesis and spermatogenesis and the role of the accessory organs.
14. Identify the location of fertilization and early embryonic implantation.
15. List the basic human development stages including the following terms: zygote, blastocyst, embryo, and fetus.
16. Identify the female reproductive structures associated with pregnancy including the following: amnion, yolk sac, chorion, chorionic villi, placenta, umbilical cord, fetal blood vessels, maternal blood vessels.
BIOL310  Nutrition  

Credits  3

This course provides an introduction to the basic principles of nutrition and its use in therapy. Students will study the metabolism of nutrients and will perform nutritional assessments of both healthy and diseased individuals of all ages. Food preparation, safety, and unique food customs of major cultural groups will also be presented.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Assess clinical data, as part of a team, for evidence of nutrient overconsumption or deficiency.
2. Predict alterations in nutrient balance caused by specific healthcare interventions.
3. Compare food customs of various cultural groups, and assess emerging dietary trends.
4. Appraise personal dietary habits and implement strategies for improvement.
5. Evaluate methods of food handling with respect to quality and safety.
6. Write and present meal plans that utilize nutritional therapy for specific systemic disease, by applying fundamental nutritional principles to clinical case scenarios.
7. Write and present meal plans that optimize nutrition for healthy persons in the various stages of life.
8. Analyze case scenarios to determine likely causes of food-related illnesses.
9. Differentiate roles of the various healthcare professionals in the prevention and treatment of disease by nutrients.
BIOL312  Pathophysiology

This course expands students’ understanding of human disease, the effect of heritable factors and aging on disease processes, and the potential for prevention of specific diseases. Students will evaluate case studies with regard to the etiology, history, presentation, evaluation, treatment, and prevention of multi-system human diseases. Students will employ critical thinking in the application of didactic material to clinical nursing practice.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Integrate aspects of the disease process including etiology, pathogenesis, morphologic changes, clinical manifestations, and clinical course of selected disease states.
2. Evaluate risk factors for selected diseases.
3. Predict clinical manifestations based on disturbance of homeostatic mechanisms in diseased states.
This course presents an introduction to both classical and molecular genetics. Classic genetic concepts covered include Mendelian and Non-Mendelian patterns of inheritance, as well as linkage and chromosome mapping in eukaryotes and bacteria and bacteriophages. Molecular genetics topics include DNA structure, replication, mutation, and DNA repair; regulation of gene expression in both prokaryotes and eukaryotes; recombination and transposition at the molecular level. Genetic technologies including functional genomics, proteomics, bioinformatics, recombinant DNA, and biotechnology will be introduced and reinforced. Course content will facilitate student understanding of genetic analysis of individuals and populations. Special topics covered will include medical genetics and cancer and developmental genetics. There is an $80.00 eBook and software fee included in this course.

Learning Outcomes:

1. Relate the structure and function of the DNA molecule to its functional role in encoding genetic material.
2. Extend the principles of inheritance as formulated by Mendel to multiple alleles, lethal alleles, gene interactions, and sex-linked transmission.
3. Apply the Hardy-Weinberg Law in analyzing population genetics for gene frequency, sex linkage, equilibrium, and heterozygote frequency.
4. Classify mutations in DNA and understand their direct effect on gene expression, inherited diseases and cancer.
5. Explain how gene structure and expression impacts organism development.
6. Explain the relationship between genetic, physical, and cytogenetic maps.
7. Describe how information generated from genomic and proteomic bioinformatic analysis can be used to discover practical knowledge about gene expression, relationships between species and human disease.
8. Describe how various applications of recombinant DNA technology are utilized in genetic engineering and biotechnology.
BITS101  Computer Essentials

Credits  3

This course is designed for novice computer users. The primary focus is the development of keyboarding ability since this skill is a prerequisite to computing success. Other areas to be studied include configuring the Windows desktop and managing files with Windows Explorer. Students will also learn the basics of operating a computer for simple word processing tasks, searching the Internet, and effectively using e-mail.

Learning Outcomes:

Upon completion of this course, the student will be able to

1. key straight copy for 3 minutes at a rate of 25 correct words per minute with a maximum of three errors
2. efficiently use the Windows interface to move, resize, minimize, maximize, and close windows as well as to control windows properties
3. customize the Windows desktop
4. create, move, copy, delete, and rename files and folders with Windows Explorer
5. create, save, open, and print a document in word processing software
6. effectively perform Internet searches for specific information
7. send and receive e-mail with his/her Davenport account
8. send and open an attachment to an e-mail message
9. save and open a file downloaded from the Internet
10. identify basic terminology related to the Windows environment and the Internet
BITS209  Dynamic Presentations

Students create dynamic, computerized presentations using the advanced tools of professional-caliber presentation software. Students will learn to enhance presentations with custom animations, transitions, action controls, and a variety of multimedia objects. In addition to design techniques, students study the tools for professionally delivering a presentation within various environments. This course is recommended for all students who will need to make polished presentations in their career.

Learning Outcomes:

Upon completion of this course, students will be able to:

1. Create dynamic PowerPoint presentations using advanced software tools such as custom animations, transitions, layout variations, and action controls
2. Incorporate text, graphics, and multimedia objects to enhance the message of a computerized slide show
3. Prepare portable presentations for various media and environments including web-based and tutorial applications
4. Demonstrate creativity while applying key presentation design techniques
5. Use a digital camera, scanner, and projector to create and present slide shows
6. Enhance a presentation through the use of speaker’s tools
7. Integrate related software files within PowerPoint
8. Use time-saving features such as slide master and templates to create a presentation quickly yet consistently.
Students create and manipulate spreadsheets with MS Excel to solve business applications. It is expected that students have a familiarity with spreadsheet software, as the course quickly progresses to advanced features, including data validation, linked workbooks, pivot tables, lookup functions, solver, and scenario manager. By the end of the semester, students will have the prerequisite skills to take applicable certification testing.

**Learning Outcomes:**

After successfully completing this course, the student will be able to:

1. Plan, create, and format an Excel spreadsheet to solve business applications
2. Create formulas manually and with the formula function.
3. Create and format a variety of charts and their components.
4. Apply special spreadsheet commands such as sorting, filtering, linking workbooks, pivot tables, and lookup functions.
5. Analyze spreadsheet data through solver, goal seek, data tables, and scenario manager.
6. Export and import data with varied sources.
7. Demonstrate the prerequisite spreadsheet skills for MS Excel expert certification.
BITS212    Microcomputer Applications: Database    Credits  3

Students learn to create and manipulate databases to solve business applications. The course begins with the basic structure and configuration of tables, queries, forms, and reports. It then advances to more complex queries, custom forms and reports, macros, and the integration of databases with the web and other programs. At the end of the semester, students combine these features into a functional database which has a user-friendly interface. By the end of the semester, students will have the prerequisite skills to take applicable certification testing.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Create and modify tables with various field properties.
2. Create and modify table relationships.
3. Solve business questions by filtering, sorting, and creating simple condition and complex queries including parameter, list-of-values, pattern match, find unmatched, find duplicates, and crosstab.
4. Apply action queries such as make-table, append, history, delete, and update to appropriate business scenarios.
5. Create and modify database forms for user-friendly input.
6. Create and modify database reports for professional and meaningful output.
7. Import and export data with various sources
8. Create and link a database file with web pages and HTML documents.
BIT213  Microcomputer Applications: Desktop Publishing  CREDITS  3

Students learn to design high-quality, marketable publications with industry-standard page composition software. Sample projects include newsletters, brochures, letterheads, business cards, and on-line materials. Publication design principles and software competency are integral components of this course. Students work on team projects and pre-press activities which are critical components of desktop publishing.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Create professional-quality publications such as newsletters, brochures, flyers, letterheads, and business cards using Adobe InDesign CS2.
2. Apply software functions such as font and color attributes, page layout, and graphic features to produce attractive publications which adhere to standard design theory
3. Plan and produce an original publication as a team effort
4. Critique publications as to their effectiveness for the intended audience and purpose
5. Critique publications on acceptable design practices by using appropriate publishing terminology
BITS214  Microcomputer Applications: Word Processing  Credits  3

This course expands on prior word processing knowledge. Students study advanced commands and features of industry-standard word processing software for production of various business documents. Some areas of study include macros, mail merge, sharing data, compiling specialized tables, collaborative tools, and forms. Upon successful completion of this course, students will have the prerequisite skills to take applicable certification testing.

**Learning Outcomes:**

After successfully completing this course, the student will be able to:

1. Evaluate business documents for accuracy in style, format, grammar, and spelling.

2. Integrate word processing functions with Internet activities and MS Office Suite applications.

3. Create/incorporate macros, mail merge, templates, and shared document features to improve word processing efficiency.

4. Design visually-appealing documents through the use of font attributes, borders, clip art, WordArt, SmartArt, drawn objects, and charts.

5. Create tables, columns, styles, sorts, fill-in forms, envelopes, and labels.

6. Assemble long documents with section breaks, indexes, table of contents, page numbers, bookmarks, headers/footers, and footnotes/endnotes.

7. Demonstrate the prerequisite word processing skills for MS Word expert certification.
BIT221  Administrative Procedures

This course prepares students to support an administrative department in a variety of office tasks. Students compose business documents, file correspondence, use proper telephone technique, process mail, make travel arrangements, and plan meetings. A focus throughout the course is business etiquette and professionalism as related to the duties of an

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Write letters for a variety of business situations, including good news, bad news, inquiry, and sales letters.
2. Compose employment documents.
3. Plan meetings and conferences.
4. Apply ARMA rules for alphabetic, geographic, numeric, and subject filing.
5. Explain record retention, retrieval, and transfer procedures.
6. Perform basic office skills such as processing mail, making travel arrangements, and using proper telephone technique.
7. Demonstrate business etiquette and professionalism for an administrative assistant.
8. Design professional PowerPoint presentations in various formats including slide shows, kiosks, and web shows through the use of advanced features such as custom animations, slide transitions, slide master, action buttons, and pack ‘n go.
BITS301  Image Editing Applications  Credits  3

Students create, edit, and prepare graphics for print publications and web sites using professional image editing software. A project approach gives students an advanced-level of understanding of photo editing and design for a variety of media formats. Students will create dynamic artwork using layers, color commands, painting tools, filters, typeface design, and many other image techniques. Upon successful completion of this course, students will have the prerequisite skills to take applicable certification testing.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Plan, design, and create a graphic image with professional graphic-editing software.
2. Define image-editing terminology and illustrate with examples
3. Manipulate type in a Photoshop image.
4. Design and organize images through the use of layers.
5. Use selection techniques to modify image attributes
6. Create special effects with filters
7. Apply painting tools and color attributes to enhance the aesthetic effect of an image
8. Apply special Photoshop features such as liquefy, mesh, mask, and transform
9. Record and revise actions
9. Create web elements such as buttons, document slices, rollovers, and basic animations
BITS302  Graphic Illustration Software  Credits  3

This course introduces students to professional digital illustration software. Students will learn to create everything from simple graphics, icons, and text to complex, multi-layered illustrations for print publications, multimedia presentations, or the web. Students learn to electronically draw illustrations, transform objects, work in layers, and create special effects with patterns, brushes, and filters.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Create, position, and transform an object using professional illustration software.
2. Apply color and transparency techniques to Illustrator objects.
3. Use anchor points, paths, and the clipping mask to modify a drawing.
4. Organize artwork through effective use of layers
5. Use patterns and brushes to create unique artwork
6. Incorporate filters, gradient meshes, envelopes, and blends in illustrations
7. Work with graphs and grouped objects.
8. Create and edit graphs.
9. Create and edit symbols.
BITS303  Web Authoring Applications  Credits  3

Students learn to create effective and attractive web pages through the use of a popular web authoring program. Topics of study include layout, typography, graphics, navigation, and color techniques. Students learn the appropriate use of tables, image maps, cascading style sheets, toolbars, and palettes. Publishing and maintaining a website are also integral components of this course. Students will have created many functional and aesthetic web pages upon completion of this course. Upon successful completion of this course, students will have the prerequisite skills to take applicable certification testing.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Design an aesthetic and functional multi-page web site using current, professional web authoring software.
2. Create and modify web text.
3. Create and modify web graphics.
4. Create a variety of navigational links including rollovers, hypertext, and image maps.
5. Import a variety of file types onto pages in a web site as per current course design.
6. Create, apply, and edit cascading style sheets.
7. Create and apply actions to layers, images, and links.
8. Maximize design efficiency by using software customization features.
9. Use the appropriate software function to layout the website page structure.
10. Publish, maintain, and manage a web site.
BITS345    Digital Video Editing

This course is an introduction to digital video editing using current video editing software tools and techniques. Topics covered include making video montages, editing soundtracks, creating documentaries, producing a PSA or a commercial, working with special effects. Students are expected to perform hands-on application of the material covered.

Learning Outcomes:

1. Define digital video terminology and illustrate with examples.
2. Plan and produce an original digital video as a team effort.
3. Organize video elements to illustrate proper design technique.
4. Create and utilize animation effects in video editing.
5. Demonstrate and utilize appropriate color, sound, and media elements within the video.
6. Demonstrate the ability to create and modify a video montage.
7. Demonstrate the ability to create soundtrack to incorporate as part of the video project.
8. Apply fundamental digital video design principles, including appropriate interactivity and content-sensitive navigation schemes.
9. Create a storyboard and timeline to guide the creation of the digital video project.
BUSN120  Introduction to Business  Credits  3

This course provides a broad study and analysis of the philosophy, environment, and language of business. It introduces students to contemporary business principles, practices, and terminology. Students also gain an understanding and appreciation of the private free enterprise system. The major functional areas of business, including short and long-term financing (including the securities market), forms of ownership, banking, marketing, and management are examined. A $40.00 simulation access fee is charged in this course.

Learning Outcomes:

Upon successfully completing this course, the student should be able to:

1. Plan and support business decisions using credible external and appropriate internal business information
2. Consider the major roles and functions of business in a free market, private enterprise system
3. Explain how forces in the contemporary global business environment drive the need for codes of ethics, social responsibility, leadership, entrepreneurship, innovation and change
4. Discuss the main functions in a business operation including accounting and finance, human resource management, marketing and sales, production and quality, sourcing and distribution/logistics
5. Identify the components of professional behavior, language and ethical value
BUSN210  Professional Ethics  Credits  3

This course explores applied ethics, focusing on social and professional situations especially in the fields of business, law, and technology. Students learn ethical theory as they examine the complexities of ethical dilemmas. Students also compare and contrast ethical and moral systems. In addition, students apply creative and critical thinking to ethical dilemmas involving professional and social responsibility.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Examine how ethical concepts can be used in the business context to resolve ethical dilemmas and improve ethical decision-making.
2. Compare ethical and moral belief systems
3. Describe how professional and social ethical decision making influences employee behavior and organizational culture
4. Explain the social and legal ramifications of unethical practices
5. Describe what the appearance of unethical or compromising practices in business situations means and what businesses should do to avoid such circumstances.
BUSN225  International Business  Credits  3

This course focuses on the international dimensions of business by clarifying and classifying country differences with regard to political economy. International Trade Theory, Foreign Direct Investment, and the Global Monetary System are explained. Emphasis is placed on competing in the global marketplace. International business situations dealing with trade, ethical dilemmas and globalization are examined with the use of proper case analysis

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Assess the similarities and differences between domestic and international business operations.
2. Select major international business growth areas and judge alternative opportunities for U.S. businesses.
3. Investigate the challenges and opportunities companies encounter in a global environment and the impact of cultural differences on business strategies/structures.
4. Evaluate the impact of social, cultural, political, economic, and ethical environments on international business strategy.
5. Explain international finance concepts including international trade and investment, the balance of payments, and the international monetary system.
BUSN265  Entrepreneurship  

This course provides foundational knowledge of the entrepreneurial process and its applications in new ventures and other aspects of business management. It addresses the elements of a good business plan, and explains how to build new venture teams and secure financial support. Using case analysis, simulations and experiential learning, the student will develop the ability to recognize and evaluate new business opportunities and define basic strategies for enterprise growth and development. This is the first course in the

Learning Outcomes:

1. Develop basic business models and plans
2. Explain the entrepreneurial concept and processes.
3. Identify business opportunities using industry, competitor, and feasibility analysis methods.
4. Identify the methods used to acquire financial support for a new venture.
BUSN303  Business Research: 21st Century Tools  

While "Google" has become synonymous with search, it is only one of many tools available to researchers today. BUSN 303 directs students to original data sources -- public and private, internal and external -- that lead to unique insights and data-driven business decisions. Students will complete a secondary research project, from problem definition through presentation of results, and gather/analyze data from a wide variety of resources. This course prepares students for future research success, both academically and in the world of business.

Learning Outcomes:

Upon successfully completing this course, students should be able to:

1. Develop a research statement, thesis statement, and research questions for an identified business problem.
2. Evaluate research data to support conclusions and propose recommendations.
3. Use visuals, descriptive statistics, and narrative to convey research findings.
4. Demonstrate effective secondary research skills
5. Understand primary research strategies and methods suitable for business.
BUSN311  Business Planning for Entrepreneurs    Credits  3

This course provides an in-depth business planning experience focused especially to the scope, scale and needs of the business entrepreneur in developing a new venture. Students will be able to learn and immediately apply knowledge and skills they developed as they build a comprehensive business plan that incorporates financial, marketing and long range planning methods.

Learning Outcomes:

Upon successfully completing this course, students should be able to:

1. Create a business model for an entrepreneurial venture
2. Evaluate resource needs for an entrepreneurially-based business including technical, human capital and fiscal resources.
3. Conduct a risk assessment for business model implementation
4. Analyze and research business models for an entrepreneurial venture.
CHEM150  Foundations in Chemistry  

This course emphasizes general chemistry principles, including introductory topics in organic chemistry and biochemistry for the health professions student.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Identify common units of measure and perform conversions between metric units
2. Explain the organization of the periodic chart
3. Describe the three states of matter and classification
4. Explain general structure and nomenclature of atoms
5. Predict types of bond formations between atoms
6. Apply the mole concept in the stoichiometry of reactions and solutions.
7. Balance chemical equations and use stoichiometric relationships to calculate product and reactant amounts.
8. Compare and contrast types of reactions and predict the outcome of these reactions.
9. List properties of acids and bases, the pH scale and buffers
10. Explain the behavior of solutions, suspensions, and colloids
11. Describe the properties of gases
12. Explain nuclear decay, the concept of half-life and the diagnostic and therapeutic uses of ionizing radiation
13. Compare types of molecules occurring in inorganic systems with those found in organic systems
14. Identify and compare the structure and function of proteins, enzymes, carbohydrates and lipids
15. Describe the role of nucleic acids in biochemical protein synthesis
16. Write a paper on the application of chemistry in solving problems in the student’s field of professional study
CHEM150L Foundations in Chemistry Lab  Credits  1

This course is an introduction to general chemistry laboratory principles and techniques that accompanies CHEM 150. Emphasis is placed on fundamental chemistry principles, organic chemistry, and biochemistry for the health professions student. A $125.00 lab and insurance fee is charged in this course.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Identify common units of measure and perform conversions between metric units
2. Explain the organization of the periodic chart
3. Describe the three states of matter and classification
4. Explain general structure and nomenclature of atoms
5. Predict types of bond formations between atoms
6. Apply the mole concept in the stoichiometry of reactions and solutions.
7. Balance chemical equations and use stoichiometric relationships to calculate product and reactant amounts.
8. Compare and contrast types of reactions and predict the outcome of these reactions.
9. List properties of acids and bases, the pH scale and buffers
10. Explain the behavior of solutions, suspensions, and colloids
11. Describe the properties of gases
12. Explain nuclear decay, the concept of half-life and the diagnostic and therapeutic uses of ionizing radiation
13. Compare types of molecules occurring in inorganic systems with those found in organic systems
14. Identify and compare the structure and function of proteins, enzymes, carbohydrates and lipids
15. Describe the role of nucleic acids in biochemical protein synthesis
16. Write a paper on the application of chemistry in solving problems in the student’s field of professional study
CHEM160   General Chemistry I   Credits  3

This course is the first semester of a two semester course. This course introduces the student to the basic theories and concepts in chemistry. Topics that will be covered include: atomic structure, chemical bonding, stoichiometry, gas laws, thermochemistry, quantum theory, states of matter and solutions.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Compare and contrast the chemical behavior and physical properties of common substances.
2. Solve quantitative problems (stoichiometric) involving chemical formulas and equations.
3. Solve quantitative problems (stoichiometric) involving chemical formulas, equations, acid-base chemistry, and solution dilution and concentration.
4. Distinguish the qualitative and quantitative relationships between matter and energy involved in chemical or physical processes.
5. Utilize chemical and physical properties to separate matter into its components.
6. Relate the process of chemical bonding to the size, shape and nature of ions and molecules.
7. Apply the scientific method to solve a problem.
8. Classify the structure and behavior of atoms based on modern atomic theory.
CHEM160L General Chemistry I Lab

This laboratory course supplements the learning in CHEM160. It is an introduction to fundamental principles and techniques of chemistry. Emphasis is placed on basic chemical theories, stoichiometry, properties of solutions, gas laws, and thermochemistry applications. A $125.00 lab and insurance fee is charged in this course. *Note: The lab portion designated as CHEM160V will be taught in a virtual format.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Construct a formal lab report, including materials methods. discussion, procedures, data, results and conclusions.
2. Formulate and test hypotheses.
3. Record, graph, chart and interpret data obtained from experimentation
4. Demonstrate safe and proper use of standard chemistry glassware and equipment while performing laboratory experiment
5. Perform fundamental aspects of statistical analysis including the calculation of averages, standard deviations and assess statistical validity of data points.
6. Use the basic instrumentation employed in a general chemistry lab including a pH meter, spectrophotometer, and analytical balance
7. Apply the fundamental aspects of stoichiometry in the execution of experiments.
8. Identify an unknown compound applying experimental techniques acquired in the course
CHEM161  General Chemistry II

This is the second semester of a two semester sequence. This course expands on previously gained knowledge and introduces the student to additional basic theories and concepts in chemistry. Topics that will be covered include: reaction rates, chemical equilibrium, acid-base equilibria, thermodynamics, electrochemistry, nuclear chemistry, chemistry of metals/nonmetals and organic chemistry.

Learning Outcomes:

Upon successful completion of this course, the student will be able to

1. Interpret potential-energy curves for endothermic and exothermic reactions.
2. Distinguish integrated rate laws for first-order, second-order, and zero-order reactions.
3. Explain the Transition-State theories and activation energy (Ea).
4. Explain the rate-determining step of a mechanism.
5. Explain the differences between homogeneous catalysis and heterogeneous catalysis and how they influence the rate of a reaction.
7. Discuss key concepts in Electrochemistry, Nuclear chemistry and thermodynamics.
8. List examples of a rate law, rate constant, and reaction order.
CHEM161L General Chemistry II Lab

This course expands on the topics explored in CHEM160L. Emphasis is placed on basic chemical theories, acid-base properties, equilibrium, kinetics, electrochemistry and qualitative analysis. A $125.00 lab and insurance fee is charged in this course. *Note: The lab portion designated as CHEM161V was taught in a virtual format.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Interpret potential-energy curves for endothermic and exothermic reactions
2. Determine the molecularity of an elementary reaction
3. Qualitatively interpret equilibrium constants and write Kc for reactions
4. Distinguish how temperature, activation energy, and molecular orientation influence reaction rates
5. Determine pH using a pH meter and acid–base indicators.
6. Calculate the common-ion effect on acid ionization
7. Calculate ΔS° for a reaction using the standard entropies of products and reactants.
8. Apply Le Châtelier’s principle to the alteration of temperature and pressure in chemical reactions.
9. Explain the behavior of solutions, suspensions, and colloids
10. Explain enzyme catalysis and how a catalyst influences the rate of a reaction
CHEM250  Organic Chemistry I  Credits  3

This is the first semester of a two semester sequence. This course introduces students to the fundamental concepts necessary for understanding organic molecules and their significance in biological systems. Topics include classes of organic compounds, nomenclature, covalent bonding, stereochemistry, spectroscopy and reaction mechanisms.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:
1. Draw and interpret organic structures.
3. Explore three-dimensional arrangements of molecules.
4. Explore the differences of conformational and configurational isomers.
5. Gain familiarity with functional groups.
7. Draw reaction mechanisms.
8. Predict the products of organic reactions.
9. Propose steps to synthesize complex organic molecules.
CHEM250L Organic Chemistry I Lab  

This laboratory course highlights the concepts learned in lecture. Students will learn and employ techniques for the preparation, isolation, purification and characterization of organic molecules. A $125.00 lab and insurance fee is charged in this course. *Note: The lab portion designated as CHEM250V was taught in a virtual format.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Use common separation and purification methods.

2. Set up synthesis experiments.

3. Isolate synthetic products.

4. Evaluate the purity of samples.

5. Calculate percent yield of products.

6. Properly maintain a laboratory notebook.

7. Write laboratory reports.
CHIN111  Beginning Chinese I  

This first semester Chinese course is an introduction to listening, speaking, reading and writing skills, and Chinese-speaking cultures. The course recognizes the practical importance of language with special emphasis on speaking skills. It assumes no previous knowledge of the language. Students learn basic vocabulary and language structure, and begin exploring diverse segments of Chinese-speaking cultures.

Learning Outcomes:

1. Select the appropriate Chinese language elements necessary to communicate effectively at a beginning level
2. Interpret at a beginning level both written and oral Chinese language messages
3. Construct written and spoken Chinese sentences, paragraphs, and workplace messages using appropriate nouns, articles, verbs and adjectives.
4. Compare the society and culture of diverse segments of Chinese-speaking peoples
CHIN121  Intermediate Chinese  Credits  3

This second semester Chinese course is a continuation of language skills and cultural understanding in CHIN111. The course recognizes the practical importance of language with special emphasis on speaking skills. Students expand their vocabulary, language structure, and continue examining diverse Chinese-speaking cultures.

Learning Outcomes:

1. Demonstrate a beginning level of competence in Chinese structure and usage.
2. Comprehend spoken and written Chinese at a beginning level.
3. Construct written and spoken Chinese language messages at a beginning level using appropriate grammatical units.
4. Demonstrate knowledge of the society and culture of diverse segments of Chinese-speaking peoples.
CHIN211  Intermediate Chinese I  Credits  3

The third semester Chinese course is a continuation of language, skills and cultural understanding at an intermediate level. The course recognizes the practical importance of language with special emphasis on speaking skills. Students continue to expand their vocabulary and language structure, and deepen their understanding of diverse Chinese-speaking

Learning Outcomes:

1. Demonstrate an intermediate level of competence in Chinese structure and usage.
2. Construct written and spoken Chinese sentences, paragraphs, essays and workplace messages using appropriate grammatical units.
3. Comprehend spoken and written Chinese at an intermediate level.
4. Demonstrate appreciation and understand the society and culture of diverse segments of Chinese-speaking peoples.
CHIN221  Intermediate Chinese II  

The fourth semester Chinese course is a continuation of language skills and cultural understanding from CHIN211. The course recognizes the practical importance of language with special emphasis on speaking skills. Students continue to expand their vocabulary and language structure, and build a well-rounded view of diverse Chinese-speaking cultures.

Learning Outcomes:

1. Select the appropriate Chinese language elements necessary to communicate effectively at an intermediate level.
2. Interpret at an intermediate level both written and oral Chinese language messages.
3. Construct written and spoken Chinese sentences, paragraphs, essays, and workplace messages using appropriate grammatical units.
4. Demonstrate an intermediate level of competence in Chinese structure and usage.
5. Comprehend spoken and written Chinese at an intermediate level.
6. Demonstrate a deeper understanding of the society and culture of diverse segments of Chinese-speaking peoples and be able to compare them.
CHIN311  Chinese for the Professions

A course designed for students pursuing the language specialty. This course follows a language needs approach which consists of developing content based on the needs and interests of students and their prospective majors. Students will relate information studied in other subjects to their learning of foreign language. Concentration will be on preparing students with specific language and usage in relevant cultural contexts in their intended careers. Instruction will utilize target language.

Learning Outcomes:

1. Understand spoken Chinese in a variety of authentic contexts.
2. Utilize oral communication skills within a context of common business/technical and medical situations.
3. Practice “need-to-know” language using key vocabulary essential to real situations in the business/technical and medical field.
4. Promote cultural awareness of the Chinese community in order to better communicate with and relate better to patients, clients, and fellow workers.
5. Appreciate the usefulness and vitality of Chinese in today’s world.
CISP100   Introduction to Computers   Credits   3

This course introduces students to computer hardware, software, and terminology. Hands-on lab exercises will be extensive and focused on Internet usage, file management, and microcomputer software (word processing, spreadsheet, database, and presentation).

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Create word processing documents with integrated objects including tables and pictures.
2. Create proficient PowerPoint presentations.
3. Create spreadsheets with multiple sheets and charts.
4. Create a database and output reports based on database queries and filters.
5. Demonstrate proficient file management on a PC.
6. Discuss current ethical and legal issues related to computers in society.
7. Locate and share information on the Internet (www and e-mail).
8. Discuss current events specific to Information Technology.
9. Define basic computer terms such as hardware, software, kilobyte, operating system, etc.
CISP111  Requirements Planning and Development  Credits  3

This course surveys the main components of the business systems cycle. The five phases of the systems development life cycle (SDLC) (systems planning, system analysis, systems design, systems implementation, and system operation and support) will be investigated. Students will look at how many of the typical business needs are incorporated into a business system. These may include invoicing, accounts receivable, order entry, inventory, accounts payable, payroll, manufacturing, and sales/marketing. Participation in a group project, site visit, or case study will give students a sense of group dynamics in real-world systems

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Describe major system’s components such as: hardware and software requirements (including system flowcharts), type of computer programs, types of computer files, systems documentation, computer programming fundamentals, and batch control.
2. Describe each of the five phases of the SDLC.
3. Identify and employ logical steps and practical problem-solving processes in program/project development.
4. Describe how information systems, including the Internet, intranets, and extranets support business requirements in today’s intensely competitive environment.
5. Describe how systems analysts interact with users, management, and other information systems professionals in a typical business organization.
6. Create context diagrams, data flow diagrams (DFDs), organizational charts, and Gantt charts using commonly available software such as Microsoft Visio and Microsoft Project.
7. Demonstrate the ability to work as a team member in the development of a technical project or system analysis.
8. Analyze business cases to determine optimum problem-solving, data analysis, and systems analysis techniques.
CISP112  Applied Information Technology  Credits  3

This course introduces students to the foundations of information technology, systems and management processes used in today’s global business environment. Topics include hardware, software, database management, networks and Internet technologies, as well as an overview of the system development process. Students will gain a business perspective and knowledge of common management information systems such as: automation & support systems; strategic information systems; enterprise resource planning systems. The security, privacy and ethical implications of information technology will also be explored.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Describe information flows within a variety of domestic and global organizations.
2. Identify the users, applications and interrelationships of: transaction processing systems, management information systems, decision support systems, strategic information systems and enterprise resource planning systems.
3. Recognize how data is organized, and the most common data models: hierarchical, network, relational, multidimensional and object-oriented.
4. Understand the software used by organizations to create, modify and access databases.
5. Describe the various types of computer hardware used in business organizations, including the system unit, input, output, storage, and communication devices.
6. Explain the concept of connectivity, the impact of the wireless revolution, and the elements of a business communication system.
7. Identify the organizational uses of Internet technologies, including intranets, extranets, and firewalls.
8. Describe the stages of system development, including investigation & analysis, planning, development and implementation.
CISP211  E-Business Foundations  Credits  3

This course is an introduction to the world of electronic business—business activities carried out electronically via the Internet. Main topic areas include Internet-based technologies used to create new business opportunities, business strategies for e-commerce, hardware and software requirements for e-business activities, security concerns, and payment systems. A discussion of social networking tools and their impact on current businesses will be discussed. Marketing techniques, business models and decision-making processes regarding Internet-based technologies and business decisions will be discussed.

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Describe differences between electronic commerce and traditional commerce.
2. Discuss business possibilities on the Internet of Business-to-Consumer and Business-to-Business.
3. Discuss the infrastructure of the Internet.
4. Identify software and hardware components needed to support e-commerce systems.
5. Examine the transparencies introduced with the internet and how they have impacted business practices such as electronic payment systems and pricing comparisons.
7. Discuss security, privacy, and legal issues relating to e-commerce.
CISP220  Web Page Applications  Credits  3

This course covers tools for rapid deployment of common and complex Web solutions. Students will use current techniques to develop, publish, and maintain the most complex of web sites. Topics covered include interfaces, forms, interactive content, media, and e-commerce technologies. Specific skills will be developed in the use of HTML, DHTML (Dynamic Hypertext Markup Language), CSS and JavaScript.

Learning Outcomes:

1. Create and modify dynamic Web pages using HTML.
2. Enhance a website with forms and tables.
3. Create a website using style sheets
4. Publish a website to a web server.
5. Introduce the use of JavaScript tools with DHTML applications
6. Manage websites on a server using various tools

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CISP238  Server-side Scripting I  Credits  3

This course combines application development with the web site design. Topics include building dynamic database-driven web sites such as online storefronts, payment systems, and back-end business system integration. Note: A grade of C or better is required to take the next course in the sequence.

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Demonstrate problem-solving techniques by creating database-driven web pages that can retrieve and manipulate data contained in the database.
2. Discuss the difference between transactional processing and message queuing.
3. Describe the function of a web server and how it interacts with other resources such as database servers and e-mail servers.
4. Apply fundamental commands and operators of the CGI Perl scripting language.
5. Construct database-driven sites using ASP.
6. Set up scripts that search the pages of a website for keywords.
7. Construct an order form for an on-line business.
CISP242  Visual BASIC Programming

This course continues the study of programming utilizing Visual BASIC Programming. Emphasis will be placed on how to work with databases from within Visual Basic. Other topics include utilizing class modules, creating DLL’s, utilizing common controls and the Windows API functions, and deploying and debugging an application.

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Discuss object-oriented concepts and techniques and how they apply to the design of a program.
2. Apply problem-solving techniques in identification and analysis of program needs.
3. Design a logical program solution.
4. Test and debug the Visual Basic application.
5. Demonstrate the ability to deploy a Visual Basic application.
6. Demonstrate how to apply object-oriented concepts to promote code reuse both within a program and across multiple programs.
7. Describe how a Visual Basic program interacts with a database and how to retrieve and manipulate the data within the database.
CISP246      3D Modeling

This course provides the student with an introduction to 3D modeling. Students will utilize polygonal and NURBS modeling to develop surfaces, shapes, and basic animations. Topics covered include lighting, rendering, paint effects, and particles.

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Implement models using Polygonal Modeling.
2. Implement models using NURBS Modeling.
3. Demonstrate basic animation techniques.
4. Demonstrate character setup and rigging.
5. Implement lighting and texturing for animations.
CISP247  Database Design  Credits  3

This course will examine the major types or data models of Database Management Systems (DBMS): hierarchical, network, relational, and object-oriented. The principles and problems of database design, operation, and maintenance for each data model will be discussed and compared. Topics that will be covered include design theory, query language, relational expressions, SQL, stored procedures, client-server interfaces, entity-relationship diagrams, normalization, and database security.

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Discuss the advantages and disadvantages of the four types of database design; hierarchical, network, relational, and object-oriented.
2. Discuss the role of SQL in database application development.
3. Demonstrate the different modeling and design techniques for a DBMS.
4. Demonstrate normalization and ERD diagramming.
5. Discuss the importance of database security.
6. Describe the developing changes in database design and implementation, including XML applications.
Perl and Python programming languages are both cross platform in nature and can be used on Windows, Linux/Unix and Mac OS systems. This broad-based capability makes the Perl/Python Scripting languages highly useful in the field of technology. Both languages are highly capable in stream editing of data, data manipulation and parsing, which are programming capabilities required in IT Forensics.

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Design structured programs.
2. Demonstrate the ability to code loops, branches, and logical structures.
3. Write mathematical expressions, function calls, and functions.
4. Demonstrate built-in and user-defined data types.
5. Use the Perl and Python language for structured and interactive programming.
6. Demonstrate the use of linked lists, strings, arrays, and records.
7. Demonstrate the ability to code input and output within a program.
This course explores tools and techniques for managing an organization's data resources and database technology. Topics include database architecture, database management system (DBMS) selection, database technology installation, database creation and maintenance, DBMS operation and troubleshooting, data warehousing technology, database performance tuning, and database reengineering. In the laboratory, students engage in activities performed by a typical database administrator.

Learning Outcomes:

1. Demonstrate knowledge of best practices in database administration
2. Describe the manner in which database administration plays a role in information system solutions
3. Explain interaction of database management system with technology that supports information systems
4. Describe the architecture of a distributed database management system with regard to process, memory, and storage
5. Identify tools and methods to install, create, manage, and monitor the performance of a database management system
6. Develop a backup and recovery plan for a production database
7. Select and utilize appropriate methods and tools for database administration
CISP310 Server-side Scripting II Credits 3

This course extends upon the concepts learned in CISP238; Server-Side Scripting I. Advanced concepts in server-side scripting will be introduced, including webserver configuration, tuning, caching, transactional processing, and localization techniques. Students will design, develop, test, and deploy database applications to simulated test, quality assurance, and production environments.

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Demonstrate web site application development in the ASP environment.
2. Demonstrate E-commerce site development that interacts with a database.
3. Demonstrate local and remote file management.
4. Demonstrate web site authoring skills in HTML, DHTML, JavaScript, CGI/Perl, and ASP.
5. Construct error-handling routines for browsers.
6. Construct data validation techniques using JavaScript and ASP.
CISP313  Computer Selection and Training  Credits  3

This course will create the ability to conduct the business planning process and training programs for implementing a computer system. The needs assessment step will be studied and desired computer output will be determined. Request for proposal (RFP) will be developed. Using the results of a RFP, the student will conduct an evaluation of hardware and software products (including packages). Written documentation in the form of corporate policy and procedures will be developed.

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Identify the problems associated with corporate automation.
2. Identify corporate cultural and ethical requirements for information processing.
3. Develop negotiating strategies for working with vendors.
4. Develop implementation schedules for computer systems.
5. Conduct a needs analysis study to evaluate training requirements for employees.
6. Plan and conduct a training session for a user of software.
7. Evaluate and recommend vendors for outsourcing of training.
8. Prepare a Request for Proposal (RFP) to be sent to competing vendors to bid for computer systems.
9. Evaluate RFP’s that are returned from vendors and select computer hardware and software.
10. Develop corporate policy for the computer training, use and ethics, the student should be able to create a corporate policy.
CISP316  Web Design  Credits  3

In this intermediate to advanced web design course students apply the main web site production processes with particular emphasis on design elements involving layout, navigation and interactivity. Hands-on web design exercises will be taught using state of the art software. Design techniques will be discussed and implemented into a functional website that the student will create in the course.

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Gather requirements from a client for the design and implementation of a real-world website.
2. Incorporate web graphics into a website using best practices.
3. Describe website architecture, workflow, and production processes.
4. Demonstrate fundamental online graphic design principles, including appropriate interactivity, content-sensitive navigation schemes, and user interface criteria.
5. Select task-appropriate software tools for the implementation of a website.
6. Demonstrate web animation techniques.
7. Demonstrate the use of website accessibility.
8. Apply website implementation and hosting.
9. Create a functional website following industry best practices for a real-world company as part of a team.
This course will cover the theory of machine learning and data mining as fundamental applications of artificial intelligence and statistics. Topics will include decision trees, neural networks, logistic regression, data preparation and modeling, clustering, classification, entity associations, deviation detection, and link analysis. Techniques will be applied to various professional sectors, including finance, credit rating, fraud detection, database marketing, customer relationship management, and stock market investments.

Learning Outcomes:

Upon successful completion of this course the student will be able to:
1. Discuss the relevance of data mining and knowledge discovery to managerial decision-making.
2. Discuss the advances of data capture and usage due to the innovations in technology (i.e., the Internet, Online transactions, and intelligent machines).
3. Demonstrate how data mining can be used to extrapolate relevant data from very large repositories to support MIS applications.
4. Discuss how mathematical algorithms and artificial intelligence aid in business applications.
5. Discuss the applications of data mining and knowledge discovery to enterprise competitiveness.
6. Discuss future trends in the areas of data mining and knowledge discovery.
CISP328  Advanced Database Programming  Credits  3

This course surveys advanced database design techniques relating to enterprise-wide databases and the implementation of these designs using some of the programmatic extensions to Structured Query Language (SQL) supported by today's leading enterprise-class Relational Database Management Systems (RDBMS). Topics include: advanced data analysis with an emphasis on storage considerations; data transformation techniques to enhance interoperability of data; stored procedure and trigger design and implementation; and query optimization to enhance database performance.

Learning Outcomes:

1) Demonstrate database development methods to implement database functionality and to manage database performance.
2) Discuss the impact of process on database programming.
3) Formulate and execute test scenarios and then correct code modules as needed.
4) Identify properties of data and database technologies that impact database implementations.
5) Transform database model to a relational database implementation with full data security and integrity using integrity constraints, triggers, stored procedures, extensions, and transaction control.
6) Utilize appropriate methods and tools for physical database design: data definition language (DDL) for database creation, enforce business rules through the use of constraints, and data manipulation language (DML) for database validation.
CISP330  Software as a Business  Credits  3

This course will survey issues related to the commercialization of a software product. Topics will include innovation, entrepreneurialism, business organization options, funding, software development options, intellectual property, and other aspects related to getting from an idea to a successful business. Students will be responsible for designing, developing, and beginning the process of creating a technology start-up company.

Learning Outcomes:

1. Identify key software industry trends and attractive software market opportunities

2. Demonstrate how to create a successful software company by: Identifying, creating, and managing successful management and development teams; Matching the funding options to a business opportunity, Matching the exit option

3. Identify the challenges of the software industry: Turning value into revenue, making the distinction between a technology, a product, and a market-maker, finding the right business model and mix of tools and services; finding the right distribution channel for a software product.

4. Demonstrate how to minimize and manage software development and support costs
CISP340  Mobile Application Development I  Credits  3

This course explores the tools, platforms, and techniques required to develop applications for highly mobile and compact devices. Mobile applications will be designed, developed, tested, and deployed that provide computing services to the mobile user. The design implications between traditional desktop application development and mobile application development will be investigated during the course of application development. Note: A grade of C or better is required to take the next course in the sequence.

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Configure a mobile application development environment.
2. Discuss the software architecture and design principles of mobile applications.
3. Design, implement, and test network aware mobile applications.
4. Design appropriate user interfaces for varying screen sizes and orientations.
5. Implement data storage and retrieval mechanisms that are appropriate for both the application and the device.
6. Utilize specialized sensors available on the device, including global positioning, accelerometers, and proximity sensors.
7. Discuss security and privacy implications relative to application development in a mobile platform.
8. Discuss the deployment and support of mobile applications.
CISP401 Systems Analysis and Design Credits 3

The major concepts of systems analysis and design are reinforced. The student will learn how to provide management for projects that employ the methods of data gathering, fact-finding and input/output design. Using case problems, students will implement the techniques of system development and project management. In preparation for the role of a systems analyst or designer, students will be expected to use all of the skills and techniques of an advanced analyst to research a complex project.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Develop, synthesize, and gain concurrence of a problem statement.
2. Create Data Flow Diagrams (DFD’s).
3. Design input/output and data structures.
4. Specify, design, and create data dictionaries.
5. Develop recommended specifications for a project that will be outsourced.
7. Identify the tools necessary to manage large-scale systems projects.
8. Demonstrate the use of CASE development tools.
CISP405 B2B Processes Credits 3

This course explores the variety of methods that companies are using to improve their purchasing and logistics activities with Internet- and Web-based technologies. Main topics covered include MRP and ERP concepts, buy-side and sell-side services, XML/EDI document interchange, supply chain management, and logistics activities.

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Discuss the transparencies introduced by the Internet.
2. Explain how the transparencies have impacted business practices.
4. Differentiate between buy-side, sell-side, and marketplaces.
5. Describe the flow material and information in a supply chain, and where Internet technologies make an impact.
6. Demonstrate oral and written communication proficiency in analyzing case studies.
CISP415  3D Animation

This course expands on 3D Modeling techniques learned in previous classes and begins to incorporate animation into these objects. Students will learn techniques that include path animation, using lattice for flying text, proper pivot points, using with deformers, using kinematics, proper geometry constraints and proper use of binding points.

Learning Outcomes:

1. Plan and produce an original digital animation project as a team effort.
2. Create a storyboard and timeline to guide the creation of the digital animation project.
3. Perform script writing and utilize script tools.
4. Apply fundamental digital animation design principles, including appropriate interactivity, content-sensitive navigation schemes, and user interface criteria.
5. Demonstrate proper organizing and editing of objects
6. Discuss the proper use of light and shadows
7. Discuss proper organizing of objects and scene management
8. Demonstrate the proper creation of animations, particles, and dynamics
9. Properly use rigging for Animation
10. Demonstrate the use of advanced rendering
11. Apply principles for creation of web content from animation elements.
CISP446  Data Warehousing  Credits  3

The design and implementation of data warehouses (including data marts and operational data stores) are studied using current database technologies. Topics include data modeling for warehouses, data warehousing infrastructure and tool selection, data exploration, data synthesis and reduction, organizational metadata, data warehouse administration, and other contemporary issues.

Learning Outcomes:

1. Design a data warehouse or data mart to present information needed by management in a form that is usable for managers in their decision making processes.
2. Implement a high quality data warehouse or data mart.
3. Effectively administer a corporate data resource to meet management’s needs.
4. Evaluate standards and new technologies to determine their potential impact on the information resource.
COMM120  Presentation Techniques  

This course introduces and applies the theories and principles of effective communication. Students learn to organize and present clear, logical messages to specific audiences. They develop confidence in public speaking and increase their ability to inform and persuade listeners. They also implement critical thinking and listening skills. Finally, students exhibit the skills and tools necessary to construct, organize, and deliver effective speeches. Note: Online sections will have a $65.00 book fee included with tuition charges.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Identify the importance of the fundamentals of communication theory, including listening and self-awareness.
2. Identify and evaluate public speaking skills.
3. Identify practices used to document sources and avoid plagiarism using the most current version of the American Psychological Association (APA) Style.
4. Adapt presentation techniques appropriate to the purpose, situation, and audience.
5. Employ appropriate communication elements necessary to deliver effective oral messages and presentations (including persuasive, informative and ceremonial speeches).
6. Utilize presentation aids (include technology) to complete professional presentations.
COMM311 Organizational Communication

This course is designed to develop the skills and attitudes necessary for effective communication in business and professional settings. Successful students will be able to evaluate the cultural dynamics of an organization as well as to develop effective strategies of leadership and to enhance internal and external communication, problem-solving and collaborative decision-making abilities.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Demonstrate effective communication behaviors within an organizational setting.
2. Evaluate the effectiveness of communication strategies within specific business situations.
3. Analyze and develop strategies to manage obstacles in organizational communication.
4. Apply effective communication strategies in culturally diverse settings and situations.
COMM313  Small Group Communication  Credits  3

This course is a practical as well as theoretical introduction to small group dynamics designed to provide opportunities for developing and improving group communication skills. Successful students will be able to evaluate strategies and techniques necessary for effective group leadership and to develop the skills necessary for conducting and participating in small group discussions, problem-solving and decision-making.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Demonstrate an understanding of small group communication.
2. Evaluate and effectively apply processes involved in small group communication.
3. Demonstrate effective communication behaviors with a small group.
4. Analyze and develop effective strategies for competently managing obstacles and conflicts inherent in small group communication.
5. Apply strategies to facilitate effective small group communication in culturally diverse settings and situations.
COMM315  Intercultural Communication  

Credits  3

This course presents communication as an interaction among people who are culturally different, whether it is because of ethnicity, nationality, self-determination, gender, or age. Because of the changing global community, intercultural communication is vital to each person’s life. Successful students will be able to evaluate and apply strategies and techniques necessary to employ effective communication between cultures

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Summarize the various theories and models that describe the communication patterns that develop between culturally diverse individuals.
2. Differentiate among cultural values, beliefs, and norms among cultures within domestic and global cultures in order to apply appropriate communication strategies.
3. Analyze the reciprocal relationship between communication and culture within domestic and global cultures.
4. Explain the obstacles that affect intercultural communication.
5. Appraise and defend strategies for competent communication among the obstacles inherent in intercultural communication.
CSCI222  Biometric Fundamentals  Credits  3

This course will present an overview of the topics fundamental to Biometrics. Those topics will include an introduction to the Biometric modalities currently being used today (such as Face, Finger, and Iris). Performance evaluation of biometric systems will be explored as well as understanding the components that make up a biometric system. An overview of the sciences that allow biometrics to be used today will also be briefly covered (Computer Vision, Pattern Recognition, Machine Learning, and Statistical Inference).

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Demonstrate a basic understanding of Biology; the structure of cells, how cells produce and use energy, how they reproduce, and how inheritance works.
2. Demonstrate a basic understanding of fingerprinting, iris scanning, speaker verification, hand geometry, and dynamic signature recognition technologies.
3. Demonstrate a basic understanding of statistical testing and analysis methodologies.
4. Demonstrate a basic understanding of pattern recognition techniques.
5. Apply biometric methods that are applicable to specific problems.
6. Understand the legal, social and ethical issues concerning the application of biometric techniques to Information Assurance.
7. Demonstrate an understanding of identification using physiological and behavioral traits.
8. Demonstrate an understanding of common aspects of biometrics systems, including theoretical (statistical decision theory) and practical (issues of acceptability).
9. Demonstrate an understanding of current identification using traditional (fingerprints, face, voice) and recent (iris, retina, ear, dynamic signature) biometric systems.
10. Demonstrate identification techniques using pattern recognition, including feature extraction and matching.
11. Apply Biometrics and Biometric authentication devices to solve real-world human
CSCI231  Introduction to Programming  Credits  3

This is an introductory course in object-oriented programming. Students learn fundamental programming concepts including structured programming, operations on data and decision-making, looping, recursion, pointers, scope and class of variables strings, numeric arrays, sorting, and an introduction to data structures. Emphasis will be placed on the design, development, and testing of programs used to solve practical problems. Note: A grade of C or better is required to take the next level of programming courses CSCI 232, CSCI 234 AND

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Design structured programs.
2. Demonstrate the knowledge of loops, branches, and logical structures.
3. Write mathematical expressions, function calls, and functions.
4. Demonstrate basic knowledge of loops, selections, and conditions.
5. Demonstrate built-in and user-defined data types.
6. Use the C# language for structured and interactive programming.
7. Demonstrate the use of linked lists, strings, arrays, and records.
8. Demonstrate the knowledge of input and output on a program.
CSCI232  Object-Oriented Programming with C++  Credits  3

This course is a continuation of object-oriented programing utilizing C++. Students learn to
design, code, test, and debug programs using object orientated techniques. Emphasis is placed
upon topics such as problem solving, programming structure, arrays, strings, pointers, classes,
inheritance, polymorphism, constructors, copy constructors, destructors, overloading
operators, virtual functions, I/O file streams, and data files. Students learn how to strengthen
problem solving skills and analytical techniques as they apply to their programs a variety of
data types, input/output, operators, decisions, looping, and functions. Note: A grade of C or
better is required to take the next level of programming course

Learning Outcomes:

Upon successful completion of this course the student will be able to:
1. Write simple computer programs in C++ using Classes, Inheritance, and
   Polymorphism.
2. Create and destroy objects dynamically.
3. Redefine operators to work with Classes.
4. Demonstrate use of concept Inheritance.
5. Use the concept of Polymorphism.
6. Allocate memory dynamically and delete it when it is not needed.
7. Write output of a program to a file on the disk and read data from a file on the disk.
CSCI234  Object-Oriented Programming with C#  Credits  3

This continuing course in object-oriented programming exposes students to C# programming and object-oriented analysis and design techniques. Students will design, develop, and test applications used to solve practical problems. Topics explored include classes, inheritance, polymorphism, interfaces, database access, extensible markup language, and network programming. Note: A grade of C or better is required to take the next level of programming course

Learning Outcomes:

Upon successful completion of this course the student will be able to:
1. Write simple computer programs in C# using Classes, Inheritance, and Polymorphism.
2. Create and destroy objects dynamically.
3. Redefine operators to work with Classes.
4. Demonstrate use of concept Inheritance.
5. Use the concept of Polymorphism.
6. Allocate memory dynamically and delete it when it is not needed.
7. Write output of a program to a file on the disk and read data from a file on the disk.
CSCI239  Object-Oriented Programming with Java  

This course investigates advanced topics in object-oriented programming using the Java programming language. Data structures, Trees, Linked Lists, Abstract Data Types, Binary Trees, Graphs, Searching and Sorting Algorithms are covered. Note: A grade of C or better is required to take the next level of programming course.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Discuss and define object-oriented concepts and techniques.
2. Design Graphical User Interfaces.
3. Identify/Describe the Java variables, primitive data types, and arithmetic operators.
4. Demonstrate the knowledge of loops, branches, and logical structures.
5. Demonstrate the use of objects, strings, and arrays.
6. Demonstrate the knowledge of structured error handling.
7. Demonstrate the ability to solve problems and create stand-alone programs utilizing JAVA programming techniques and methodologies.
8. Describe multithreading benefits and issues.
9. Design applications which interact with information contained in database systems.
CSCI258  Introduction to Game Design  Credits  3

This course introduces students to the game development process from storyboarding the initial concept to the final marketing documentation. During this course, students will utilize multiple game development methodologies to move a project through the major stages of game design with each student assuming one or more of the development team roles.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Describe the game development process from pre-production to post-production.
2. Discuss the key development team roles and responsibilities.
3. Demonstrate the use of prototyping and storyboarding in the pre-production concept development of a game.
4. Describe the critical phases in the development lifecycle that require testing and create viable testing plans to address the critical phases.
5. Describe the development team roles required to support the development of a game.
6. Demonstrate the ability to create a budget that accurately reflects the estimated work required to complete the project.
7. Develop and implement game prototypes to test game mechanics.
CSCI260  Software Engineering  Credits  3

The key objective of this course is to learn modular design of software and documenting the design using symbolic representations, i.e., UML diagrams. The course will cover software life-cycle models and different phases of the software development process. Object-oriented techniques are key to the course. However, this is not a programming course.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Apply modular design of software development and documentation.
2. Understand and apply each of the phases of software development processes.
3. Apply logical steps and practical problem-solving processes in software development.
4. Understand and Apply software engineering techniques when developing software.
5. Create symbolic representations to document software design.
6. Analyze and critique a demonstrable software package as a team using software.
CSCI280  Artificial Intelligence  Credits  3

This course will present an introduction to the field of Artificial Intelligence. Topics will include problem solving, search techniques (including game playing), inductive learning, decision trees, reasoning, and natural language understanding.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Understand and apply ‘Search’.
2. Demonstrate Game playing.
3. Demonstrate Logic and Automated Reasoning.
4. Demonstrate Reasoning with Uncertainty (Probabilistic reasoning)
6. Understand Natural Language Processing.
CSCI312  Data Structures and Algorithms  Credits  3

A continuation of object-oriented programming, this course investigates advanced topics in technically-oriented programming. Data structures, trees, linked lists, abstract data types, and object-oriented programming are introduced.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Demonstrate problem solving techniques and reasoning by designing structured programs.
2. Write programs using object-oriented methods and data structures.
3. Identify the difference between ADT’s Lists, Stacks, and Queues.
4. Use the C++ language for structured and interactive programming.
5. Compare the use of Trees, Linked Structures and Binary Search Trees.
6. Explain the use and purpose for recursion within a program.
CSCI326  Biometric Spoofing  Credits  3

This course will cover the inverse problem to Biometrics: Biometric Spoofing! The course will cover concepts and techniques that are used to spoof Biometric Systems. Topics that may be covered will be liveness detection, encryption, template reverse engineering, and cancellable biometrics. The final project for this course typically involves challenging the student to a hands-on experiment where the student will spoof a common biometric device.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Analyze the components involved in synthesizing a biometric
2. Apply countermeasures to spoofing techniques.
3. Understand current Countermeasures and Spoofing (e.g., liveness detection, biometric encryption, template security, cancellable biometrics, etc.)
4. Understand fully the advantages of certain biometrics over others given their ease of spoofing
5. Apply an understanding of how to recreate images from a biometric template
CSCI335  2D Game Development  

Credits  3

This course will cover the conventional models and methodologies of computer game design and development. Topics will include the history of games, graphics, multimedia animation, interactive fiction, and game development environments. Lectures and hands-on exercises will stress game design, virtual reality simulations, and the evaluation of human play.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Understand and apply game programming techniques.
2. Develop data representations of virtual elements.
3. Demonstrate 3D modeling techniques.
4. Demonstrate controlling motion and avatar behaviors.
5. Demonstrate interactive control.
6. Manage complexity and message passing.
7. Design and develop 2D and 3D games.
CSCI340  Introduction to Modeling and Simulation  Credits  3

This course introduces students to the fundamentals of modeling and simulation (M&S). Topics covered include M&S theory, simulation tools, data modeling, discrete event simulation, continuous simulations, and Monte Carlo simulation. Students will design, develop, validate, and verify multiple discrete event simulations.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Discuss the various simulation tools and programming languages currently available.
2. Discuss and contrast between common simulation models, including discrete event, continuous, and Monte Carlo.
3. Discuss common approaches to input data modeling
4. Design and implement a discrete event simulation
5. Describe how to validate and verify a simulation model
CSCI342  Advanced Object-Oriented Programming  Credits  3

This course continues exploring the tools and techniques required to perform object-oriented analysis in an effort to design and build reusable, extensible, efficient, and maintainable software. Design patterns, UML, and object-oriented techniques will be utilized throughout the development lifecycle to design, develop, and test software that meets functional and non-functional requirements.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Develop software using appropriate design patterns, including the singleton, memento, observer, and factory patterns.
2. Implement maintainable systems that can evolve by using inheritance, interfaces, and polymorphism.
3. Choose and use the appropriate data structures and algorithms in the construction of programs.
4. Develop and implement use appropriate software testing strategies.
5. Demonstrate the ability to design and document non-trivial software systems using UML and object-oriented terminology to convey abstract ideas and concepts.
CSCI370  3D Game Development  Credits  3

This course will extend the concepts learned and applied in Game Design (CSCI335) to the 3D environment. Topics will include advanced design and architecture, creation of 3D game and simulation development, and interactive virtual environments. Lecture and hand-on exercises will stress application creation and execution in a 3D context.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Develop 3D games using SDL.
2. Develop 3D games using OpenGL.
3. Develop 3D games using a variety of animation.
4. Develop 3D games using OpenSceneGraph.
5. Develop 3D games using collision detection.
CSCI380  Computer Vision  

Credits  3

The course will focus on image processing and introduce the student to the field of Computer Vision. The goal of Computer Vision is to develop methods that will allow a machine to understand or analyze images/videos. We will explore various fundamental topics in the field typically including image formation, edge detection, segmentation and background subtraction.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Apply concepts of image formation
2. Apply concepts of feature detection in images
3. Apply concepts of image segmentation
4. Apply concepts of motion and tracking in video
CSCI420  Distributed Architectures

This course will provide an overview of networked computing, the systems and applications supporting and surrounding them. The autonomous nature of distributed computing, as well as design and implementation issues, is examined. Topics include complexity management, concurrency, protocols, security, performance, networking, reliability, fault-tolerance, and middleware. Distributed systems studied will include client-server computing, distributed objects, peer-to-peer, distributed file systems, multicast communication, distributed shared memory, web services and the WWW architecture.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Discuss the protocols and methods for resource allocation specific to distributed systems.
2. Discuss how environmental variables, including security and communication, affect the cooperative processes within systems.
3. Discuss the paradigm differences between disparate distributed systems.
4. Discuss the paradigm challenges of emerging distributed systems, including P2P computing, mobile IP, and web services.
5. Discuss viable applications of distributed systems and the importance of middleware.
CSCI430  Operating Systems  Credits  3

This course investigates operating system structure and design. Topics include computer system structures, processes, threads, CPU scheduling, memory management, virtual memory, I/O, protection, and security. Recent advances in operating system theory will be

Learning Outcomes:

Upon successful completion of this course the student will be able to:
1. Describe computer operating systems including: processes, multi-programming, the development of operating systems.
2. Use essential text-based commands, and command-line interface including file and disk management: batch file use, customizing and configuring a system, managing memory.
3. Demonstrate how to perform the following with a Graphical User Interface: file and disk management; troubleshooting; customizing the environment; launching batch files and DOS sessions from windows environment; run system utilities such as defrag and backup
4. Describe the procedure to install and upgrade Microsoft Windows operating systems.
5. Maintain a Windows installation by installing devices, run system utilities such as defrag and backup, and install patches and software.
6. Describe several operating systems currently used on PC’s, including DOS, Variations of Windows, OS/2, UNIX, LINUX, Macintosh, or others.
7. Demonstrate troubleshooting techniques to solve operating system problems.
CSCI446  Advances in Biometrics  Credits  3

This course will tie in the fundamentals learned about biometrics in the introductory course with the computer vision and pattern recognition courses. Students will learn techniques that are currently being used and applied to biometrics as well as study the research that is ongoing. Topics covered may include feature extraction techniques, various pattern recognition algorithms and computer vision topics that are currently being discovered and explored.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Evaluate the current research trends as well as the individual researchers and organizations that are paving the way for Biometrics
2. Evaluate at an intermediate to advanced level the current algorithms used in feature extraction.
3. Evaluate at an intermediate to advanced level the current algorithms used in data classification.
4. Evaluate government applications of biometric authentication, including those used by the FBI, NIST and ANSI.
CSCI448  Collaborative Game Development  Credits  3

This course focuses on the development of a functional multiplayer network-enabled game or simulation. Networking code will be developed that employs prediction algorithms to account for network latency. Emphasis will be placed on the management of the design process and the use of tools and technologies that enable collaborative development and management through all stages of the development life cycle.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Develop entertainment-based games and business-scenario simulations.
2. Develop applications in 2D, 3D, adventure, puzzles, and other game genres.
3. Develop game and simulation prototypes.
4. Work in a cohesive, team environment with fellow students to achieve course goals and outcomes.
5. Identify and solve issues affiliated with sandbox application development.
ECON200  Microeconomics

This course introduces students to economics. Students learn the basics of supply and demand; the market economy; elasticity; the foundation of consumer demand; the theory of the business firm and costs of production; the market structures of perfect competition, monopoly, oligopoly, and monopolistic competition; theories of labor unions and wages; antitrust policy; and the microeconomic view of international business.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Assess how the theory of comparative advantage contributes to increased specialization, production and consumption.
2. Explain how the economic forces of supply and demand work in a market system.
3. Summarize the factors that affect consumer decisions.
4. Differentiate among the four market structures.
5. Determine how wages, labor unions, externalities, and taxation affect the economy.
6. Explain the costs associated with production in the short run and in the long run.
7. Explain the main sources of market failure and the possible remedies to each.
ECON201  Macroeconomics  

This course introduces students to economics, the schools of economic thought, and international economics. Students learn the methodology, concepts, and terminology of macroeconomics, including principles, theories, and tools. They also study banking, money, the Federal Reserve System, and monetary theory. In addition, macroeconomic problems such as inflation, unemployment, economic growth, and globalization are discussed.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Assess how the theory of comparative advantage contributes to increased specialization, production and consumption.
2. Explain how the economic forces of supply and demand work in a market system.
3. Explain what is being measured by GDP, unemployment rate and the CPI as well as the shortcomings in each measure.
4. Be able to differentiate between long-run and short-run macroeconomic models and identify the arguments for and against government intervention.
5. Explain the goals of fiscal policy and the impact of fiscal policy on the Federal budget.
6. Differentiate between real and nominal measures in GDP, wages, and interest rates.
7. Assess the effects of money, banking, the Federal Reserve System and monetary policy on the economy
8. Explain the effect of major macroeconomic problems on the economy.
ENGL220  Literary Worlds  Credits  3

This course introduces students to a variety of literary works, including poetry, drama, short fiction and the novel. Students learn to analyze the thematic and stylistic elements of literary works. They also learn to interpret literary works by developing a single point and supporting it with specific examples from the text. Students learn to identify historical, social, and intellectual trends that affect literary works. In addition, they will recognize how literature can enrich our lives by reflecting upon common personal and professional

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Identify the common literary terms.
2. Differentiate the characteristics of the literary genres: poetry, drama, short fiction, and the novel.
3. Analyze literary works to distinguish differences in style and/or theme.
4. Examine the effects of literature on an individual or group.
5. Compose coherent essays while analyzing and/or synthesizing various texts in a given time period or theme.
6. Implement practices used to document sources and avoid plagiarism.
ENGL311  Professional Writing

This course develops the written and presentation skills necessary for success in professional, supervisory, or managerial positions. Emphasis on communication in both on-paper and digital media is included. Students also learn to use a variety of formats, styles, and delivery systems to achieve the clear, concise, and professional communication required to communicate in global markets. To stress the importance of workplace communication, students create a major professional document as a team.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Use appropriate technologies to complete workplace documents and activities and convey professional messages.
2. Apply communication skills in planning and conducting meetings.
3. Employ the appropriate format, organizational strategy, delivery method and tone depending on purpose and audience, recognizing the diverse and global workplace.
4. Revise documents and presentational materials to improve style and clarity.
5. Collaborate with others to produce professional documents.
6. Use primary and secondary research and document sources to give attribution and avoid plagiarism using the current American Psychological Association (APA) Style.
7. Construct professional career-related and job search documents.
8. Construct formal and informal professional documents including graphics and presentational media that convey intended message.
9. Create a formal report including primary and secondary research and graphics.
ENVS125  Environmental Studies  Credits  3

This course focuses on issues pertaining to environmental awareness and sustainability. Students will gain an understanding of the various components of the Earth System and the complex relationship between humanity and the global environment. Students will analyze and discuss current environmental issues, as well as currently proposed solutions, and debate their likely impact upon present and future generations. Relevant concepts from natural and social sciences will be utilized to critically and creatively evaluate specific issues of environmental awareness and sustainability as they relate to business, health, and technology. Note: This course requires a $1,000.00 for students who participate in the Community

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Write and orally present results of independent and group projects.
2. Define major environmental problems occurring today and identify potential solutions to those problems.
3. Predict changes in the geosphere, atmosphere, hydrosphere, biosphere, and exosphere resulting from specific alterations in one or more of these subsystems.
4. Summarize the challenges to society resulting from population pressure, and propose solutions to address these challenges.
5. Apply basic scientific concepts and principles to relevant situations.
6. Apply basic observational methods and logical reasoning to propose hypotheses and devise methods to test those hypotheses.
7. Analyze data to determine potential regions of pollution in air, soil, and/or water.
8. Examine common energy sources with respect to factors such as safety, potential for pollution, and cost/yield ratio.
9. Weigh and critique the evidence for and against global and localized climate change.
10. Compare the costs and benefits to society of limitations in biodiversity.
FINC211  Corporate Finance  Credits  3

This course covers the fundamental principles of corporate finance. Students will be introduced to various methods of company analysis, the term structure of interest rates, the relationship between risk and return, time value of money principles, security analysis, cost of capital and capital structure, and capital budgeting techniques.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Interpret financial statements of a corporation using trend analysis, and industry comparisons.
2. Describe the financial environment relating to markets, institutions, and interest rates.
3. Illustrate the relationship between risk and return by applying the Capital Asset Pricing Model.
4. Apply the techniques of time value of money to investments and capital budgeting decisions.
5. Examine the capital structure of a corporation and its effect on corporation's cost of capital.
This advanced course deals with topics concerning financial management and strategy. Theoretical as well as practical topics are discussed. Topics include financial planning and forecasting, the management of capital, and risk analysis in capital budgeting, as well as the working theories of capital structure and dividend policy. Students increase their analytical and problem-solving abilities in finance through the use of case studies and integrated PC software in applying various topics facing the modern financial manager.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Demonstrate knowledge of working capital management issues.
2. Implement risk analysis in making capital budgeting decisions.
3. Apply financial planning and apply forecasting techniques in financial management.
4. Examine various sources of financing, and the advantages and disadvantages of each source
5. Demonstrate DUES in solving a financial management problem.
FINC215  Investment Planning  Credits  3

This course is an introduction to investment fundamentals, including risk and return; investment information sources; market indexes; analysis of the economy, industry and companies; and investments in stocks, bonds, and mutual funds. Students will also be introduced to international investing, active versus passive investment strategies, fundamental and technical analyses, and other investment vehicles such as options, warrants, warrants, warrants.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Examine the relationship between investment objectives and investment vehicles.
2. Identify sources of investment information.
3. Relate security markets, economic conditions, and companies’ performance.
4. Contrast investments in mutual funds, bonds, preferred stocks, common stocks, and foreign investments.
5. Discuss the risk of various investment vehicles and their rate of return.
6. Construct an investment portfolio and evaluate its performance using major indexes as benchmarks.
7. Demonstrate the active and passive strategies of investing.
8. Distinguish between fundamental and technical analysis.
9. Compare and contrast options, warrants, and convertibles.
FINC220  Money and Banking

This course is a study of the United States banking system, as well as how the government and the Federal Reserve Board influence bank operations and US monetary policy. Students will become acquainted with the principles of monetary theory and how the banking system is a key player in its implementation. Building on concepts learned in macroeconomics, topics will include the structure of the financial services industry; regulatory structure of the banking industry; the bank planning process; the functions of the central bank; and an introduction to international banking. Students will increase their analytical and problem-solving abilities in finance, while learning to analyze monetary and fiscal policy as practiced by the Federal Reserve. Students will also study banks’ financial statements and will be introduced to credit analysis, investment management, and loan administration.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Discuss the principles of money.
2. Classify the types of financial institutions in the United States.
3. Determine the creditworthiness of bank loan customers and evaluate the various loans made by banks.
4. Summarize the functions of central banks, especially the Federal Reserve System.
5. Interpret financial statements of commercial banks and evaluate their performance.
6. Describe the current bank-operating environment.
7. Summarize the functions of the international banking system and the role of U.S. banks in that system.
FINC222  Behavioral Finance  Credits  3

This class is an introduction to the effect of psychology on the behavior of people in the financial field, such as portfolio managers, financial planners, investors, brokers, etc. The forces that determine risk-taking behavior in the field of investing will be explored, forces that include greed, hope, and fear. The class discusses the effect of human reactions on important aspects of market behavior and price movements. Issues include the errors committed by financial practitioners who rely on rules of thumb when making investment decisions or processing information, the effect of investors’ biased reactions to public announcements about securities, and the effect of perceptions of risk and return characteristics of various asset classes on portfolio management and security selection. A comparison of technical and fundamental analysis strategies and their relationship with behavioral finance is also discussed. Cases demonstrating the application of behavioral concepts to finance will be used.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Differentiate the psychological forces affecting human reactions to financial information.
2. Discuss the effect of reactions on important aspects of market inefficiency, stock market prices, and their deviations from fundamental values.
3. Discover the mistakes made due to psychological factors, avoid making those mistakes, and profit from other people’s mistakes.
4. Examine the role which behavioral phenomena play in finance-related areas such as portfolio theory, asset pricing, corporate finance, and option pricing.
5. Demonstrate an understanding of behavioral finance by solving case problems.
FINC223  Entrepreneurial Finance  Credits  3

This applied approach course focuses on the financial life-cycle of a new business venture. Students become familiar with the primary financial activities associated with launching, managing and exiting a business. Application activities involve students in financial goal setting, financial report preparation and analysis, forecasting, financial management (including raising capital and proper cash management) as well as business valuation and exit.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Identify capital sources available to small businesses.
2. Prepare a business proposal with emphasis on financial projections.
3. Analyze financial performance of a new venture through financial statements, internal operating schedules, ratios, break-even analysis, and other analytic tools.
4. Identify the life cycle stage of a business and determine the appropriate financial strategy for each stage.
5. Explain laws and regulations governing securities and describe the process of due diligence.
6. Understand and apply business valuation concepts.
7. Examine and explain the critical factors behind exit and turnaround decisions.
FINC230  Financial Planning and Insurance  Credits  3

This course is a study of financial planning and wealth-creation techniques for individuals. Case studies will be utilized to evaluate and establish financial goals of individuals. Tax considerations, fringe benefits, investment techniques, insurance, and retirement and estate planning will also be discussed. Students will learn the application of well-established models and methods in personal financial planning and will be acquainted with concepts, logic methodology, and terms used in the field. Current thinking and developments in the field of financial planning will be presented. The subject of risk management will also be covered, including the various types of insurance: life, health, disability, long-term care, and property, as well as liability insurance. Regulatory, ethical, and legal issues will be discussed.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Prepare and interpret the personal financial statements.
2. Construct a personal budget for achieving financial goals.
3. Calculate personal taxes and integrate tax-planning strategies into a personal financial plan.
4. Differentiate the various strategies for managing cash and obtaining credit.
5. Examine the various types of personal risk and risk management alternatives for health, disability, life, long-term care, property, and liability.
6. Discuss regulatory, ethical, and legal issues facing financial planners and insurance agents.
FINC235  Financial Analysis for Business Managers  Credits  3

This case study-based course examines the fundamentals of financial analysis from a business manager’s perspective, focusing on the analysis of financial information when making strategic business decisions. Topics covered include the practical interpretation of financial statements along with the utilization of various analytical techniques including ratio, common-size and trend analysis. Critical thinking and problem solving will incorporate the analysis of competitor and industry financial information.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Prepare spreadsheets for budgeting and financial analysis
2. Identify items on and interpret financial statements, including income statements, balance sheets, and statements of cash flows through the application of ratios, break-even and leveraging analysis
3. Apply cash management techniques with the preparation of forecasts and budgets
4. Identify and apply time value of money and rates of return to capital investment decision-making
5. Determine the amount of risk in managing companies’ portfolios.
FINC301  Retirement Plan/Employee Benefits  Credits  3

This course covers the principles of retirement planning. Students will examine defined contribution plans and defined benefit plans for the private sector, as well as retirement plans for nonprofit and governmental entities. The class will also cover the retirement plan design, the plan’s installation and administration issues, retirement plan distributions, nonqualified executive benefit plans, and other topics.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Examine the legislative and regulatory environment of retirement planning.
2. Discover the sources of information used by professionals in the field.
3. Develop a method for identifying the needs and objectives of a business client, and match those to an appropriate retirement plan.
4. Explain the difference between various retirement plans, the advantages and disadvantages of each, as well as the suitability of each plan for various markets.
5. Illustrate investment properties which are relevant in retirement planning.
6. Analyze the process of designing, installing, and administering a retirement plan.
FINC310  Real Estate Finance  Credits  3

This course is a study of real estate as an investment and the strategies utilized in determining desirable properties. Students will discuss financing techniques including syndication, real estate investment trusts, mortgages, and seller-financed properties. Cash flow analysis and financial evaluation techniques will also be explored. Students will learn real estate concepts and financing techniques and will get exposure to the vast array of financing alternatives in real estate and how tax and legal concepts are applied to evaluate financing options for the acquisition of real estate investments.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Explain common real estate terminology.
2. Qualify a borrower for a mortgage loan and underwrite the loan's credit worthiness.
3. Distinguish the primary mortgage market from the secondary market and understand how each combine to create a national efficient marketplace.
4. Illustrate the major steps needed to process and close the loan.
5. Classify the main elements that impact the general level of mortgage interest rates.
6. Examine key economic indicators used to forecast the general direction of interest rates.
7. Solve common real estate problems that deal with loan qualification, computing monthly payments, amortizing loans and comparing refinance alternatives.
8. Compute the market value of income producing commercial real estate using a capitalization technique employed by commercial appraisers and underwriters.
FINC320  International Finance  Credits  3

This course is a study of the operations of the international finance community. The course will emphasize the flow of funds, exchange rate determination and forecasting, management of economics, translation and transaction exposures, and the financing of international trade. The international monetary system, foreign exchange trading, and the problems that occur in international markets will also be discussed. There will be a discussion of the assistance that the banking system provides to the continuing globalization of business.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Examine the methods used to fund the international flow of goods and services.
2. Illustrate the operations of foreign markets.
3. Analyze the risk associated with foreign trade and the measures used to hedge that risk.
4. Explain the operations of the World Bank, the IMF, WTO, and describe how the use of competitive alliances and global networks has increased the importance of foreign trade to the world’s economies.
5. Apply the methods of forecasting exchange rate movements and examine how governments can influence currency valuations.
This class covers the estate planning process and its goals. The methods of estate transfer at death as well as during life are discussed. The various tax issues that arise with estate planning are examined. Other estate planning issues and considerations such as estate liquidity and postmortem actions are also covered.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Explain the meaning and the purpose of estate planning.
2. Formulate the basic steps of the estate planning process.
3. Assess lifetime transfers by gift versus transfer at death by contract.
4. Compare the tax consequences of various estate planning options.
5. Analyze what is involved in managing and distributing an estate.
FINC402  Portfolio Management  

This course is an advanced study of portfolio construction, management, and protection. The topics covered include setting portfolio objectives, formulating an investment strategy, having a plan for portfolio monitoring and revision, protecting the portfolio when appropriate, and evaluating its performance. The risk-return characteristics of various investment classes are revisited. This is accomplished by covering the mathematics of diversification, a calculation of the correlation and covariance between various asset returns, and the use of these statistical tools in reducing the risk of a portfolio. The revision and evaluation of equity portfolios as well as fixed-income portfolios is presented. Other topics include international diversification, the efficient frontier, market efficiency, and options.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Classify portfolio objectives and the components needed for meeting the objectives.
2. Assess the advantages and disadvantages of the various types of securities that can comprise a portfolio.
3. Calculate the correlation and covariance between the returns of various asset classes, and use those statistical relationships to construct a less risky portfolio.
4. Evaluate portfolio performance using various measures such as Sharpe's and Treynor's risk-adjusted return measures.
5. Revise a portfolio to better meet its objectives when market conditions change.
6. Explain the use of foreign securities to reduce total portfolio risk.
7. Analyze the various forms of hedging and determine when they should be used.
FINC403  Health Care Finance  

This course is an in-depth study of health care financial information. This includes analyzing and interpreting financial information, setting fees, understanding different payment methods health care organizations receive for services rendered to patients, and revenue and receivable management. Other topics include strategic financial planning, the budgeting process, cost variance analysis, and capital project analysis. The class will also cover the difference between for-profit and not-for-profit health care organizations, the tax-status of health care organizations, and the function of managed care organizations.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Design a strategic HCO financial plan.
2. Analyze financial statements of health care organizations (HCO).
3. Analyze and compute financial ratios and compare to HCO industry averages
4. Integrate cost information into decision-making to determine product costing.
5. Compare the various health care delivery systems.
6. Evaluate capital budgeting projects through the use of various cash flow methods.
7. Determine the appropriate fee schedule from among different payment methods.
8. Prepare a HCO budget and analyze variances.
GEOL120  Astronomy

The general concepts of modern astronomy and cosmology are introduced in this class. Students will learn about the general structure of the Solar System including the distribution and physical characteristics of the Sun, satellites, planets, dwarf planets, and small solar system objects. The similarities and differences between the Earth and other astronomical bodies will be discussed. Theories will be debated concerning the origin and fate of the Universe, the Solar System and its place within the Universe, and the probability of life beyond Earth. Telescopes will be utilized to view objects within our Solar System. A $50.00 off-site field trip and insurance fee is charged in this course.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Write and orally present results of independent and group projects.
2. Describe the basic physical attributes of the Sun, planets, dwarf planets, satellites, and small solar system objects within our Solar System.
3. Name and recognize all of the planets and dwarf planets within the Solar System as well as a select group of satellites and small solar system objects.
4. Locate and identify a variety of objects in the night sky through the naked eye, binoculars and/or telescopes.
5. Describe and summarize the different regions of the Solar System.
6. Apply basic scientific concepts and principles to relevant situations.
7. Apply basic observational methods and logical reasoning to propose hypotheses and devise methods to test those hypotheses.
8. Calculate distances to celestial objects within the Solar System, the Milky Way Galaxy, and the Universe.
9. Examine the orbital path of objects and utilize these paths to anticipate the location of planetary bodies relative to each other within the Solar System.
10. Consider the potential for life beyond the boundaries of Earth and hypothesize as to potential locations for life within our Solar System.
Students are introduced to the scientific field of geology. Students also apply the scientific study of geology in a lab setting. The basic principles of biology, chemistry, mathematics and physics are integrated into a concise and straightforward application to the study of the Earth and earth processes. Topics will include an overview of rock and mineral identification and formation, weathering and erosion, earthquakes, volcanism, erosion and depositional environments, surface water and groundwater studies, and plate tectonics. A $50.00 off-site field trip and insurance fee is charged in this course.

**Learning Outcomes:**

After successfully completing this course, the student will be able to:

1. Write and orally present results of independent and group projects.
2. Describe how geologic processes shape the surface of Earth, including river, desert, coastal, mountainous, and glacial features.
3. Describe how geologic processes shape the subsurface of the Earth distinguishing between subcontinental, submarine, and sublithospheric regions.
4. Predict the likelihood of natural disasters occurring in various regions based on plate tectonics and the geologic history of the area.
5. Explain depositional and erosion landforms and their impact on surrounding ecosystems based on knowledge of groundwater and surface water properties.
6. Apply basic scientific concepts and principles.
7. Apply basic observational methods and logical reasoning to propose hypotheses and devise methods to test those hypotheses.
8. Prepare geologic maps, cross sections, and/or sketches to depict and help interpret the current geologic setting and/or geologic history of an area.
9. Classify common minerals and rocks based on their individual physical properties, including the three rock types and the geologic processes associated with their formation.
10. Recommend solutions to current problems faced by individuals, corporations, and/or governments based on geologic knowledge learned.
Students gain an essential understanding of the discipline and approach to the management of projects in a global environment. Topics explained include project definition, resource planning, project scheduling with Gantt charts, project control, as well as planning and scheduling with limited resources. Topics are explored from both a quantitative and qualitative perspective. Students learn and utilize project software throughout the course. Various techniques used in planning, scheduling, ROI, and controlling projects will be explored and applied through the use of simulations. A $60.00 simulation access fee is charged in this course.

Learning Outcomes:

Course Learning Outcomes
1. Discuss the role of the Project Management Institute (PMI).
   a. Role of the project manager as outlined by PMI
   b. Ethical and social responsibilities outlined by PMI
2. Examine a project life cycle and be able to differentiate its components.
3. Describe and present a project initiation strategy which includes:
   a. project selection
   b. selection of project manager
   c. project organization
   d. project planning
   e. Scope definition
   f. negotiation and conflict resolution strategies
4. Discuss project implementation strategies by preparing
   a. budgeting/costs estimates
   b. schedules
   c. resource allocation
   d. information systems
   e. project control processes
5. Summarize project termination procedures including
   a. project auditing and evaluation
   b. project termination
   c. handling unresolved issues
   d. assessing multicultural issues
6. Describe the risk management process and procedures
   a. Risk evaluation
   b. Risk matrix
GPMT400 Project Financial/Risk Analysis

This class delves into the financial and risk management of project management in a global environment by focusing on activity based forecasting, estimating management reserve, budgeting, risk management and cost associated with projects. Additional topics include identifying and categorizing risks, developing a comprehensive risk management plan, earned value management, and determining proper risk response strategies. It also includes other project management tools and methodologies used in managing global projects. This class is designed to provide students with a metric for an in depth assessment of their desire and commitment toward pursuing a career in global project management in the beginning of their

Learning Outcomes:

Upon completion of this course, the student will be able to:

1. Using earned value describe the relationship between a project schedule and budget.
2. Utilizing cost and schedule reports to analyze project performance.
3. Given past project performance develop Estimates At Complete (EAC).
4. Analyze Activity Based Management’s (ABM) role in forecasting monthly cost expenditures.
5. Given project scenarios, discuss risk mitigation activities to reduce the probability and impact of uncertainties.
6. Explain the theory behind the cost, schedule, and scope triangle.
7. Identify risk management tools and techniques.
8. Define quality tools and terms.
GPMT446  Project Quality Management  

Students will gain insight and knowledge into project product quality and process improvement for creating project or program deliverables. Specific topics include six sigma, lean, quality control, testing, continuous improvement and requirements verification. Special emphasis will be placed on customer satisfaction within a project environment.

Learning Outcomes:

1. Assess, analyze and summarize project quality requirements and the use of project management tools and techniques
2. Create a project quality plan.
3. Analyze and explain project quality tools and how they align with the overall project plan.
4. Analyze the history of quality management and how it relates to project quality management.
5. Evaluate, analyze and associate the quality assurance process with contract requirements verification to ensure customer satisfaction.
6. Assess and explain the difference between product and process standards in a project environment.
GRMN111 Introduction to German

This first semester German course is an introduction to listening, speaking, reading and writing skills, and German-speaking cultures. The course recognizes the practical importance of language with special emphasis on speaking skills. It assumes no previous knowledge of the language. Students learn basic vocabulary and language structure, and begin exploring diverse segments of German-speaking cultures.

Learning Outcomes:

1. Select the appropriate German language elements necessary to communicate effectively at a beginning level
2. Interpret at a beginning level both written and oral German language messages
3. Construct written and spoken German sentences, paragraphs, and workplace messages using appropriate nouns, articles, verbs and adjectives.
4. Compare the society and culture of diverse segments of German-speaking peoples
GRMN121  Beginning German II  

Credits  3

This second semester German course is a continuation of language skills and cultural understanding in GRMN111. The course recognizes the practical importance of language with special emphasis on speaking skills. Students expand their vocabulary, language structure, and continue examining diverse German-speaking cultures.

Learning Outcomes:

1. Demonstrate a beginning level of competence in German structure and usage.
2. Comprehend spoken and written German at a beginning level.
3. Construct written and spoken German language messages at a beginning level using appropriate grammatical units.
4. Demonstrate knowledge of the society and culture of diverse segments of German-speaking peoples.
GRMN211  Intermediate German II  

The third semester German course is a continuation of language, skills and cultural understanding at an intermediate level. The course recognizes the practical importance of language with special emphasis on speaking skills. Students continue to expand their vocabulary and language structure, and deepen their understanding of diverse German-speaking

Learning Outcomes:

1. Demonstrate an intermediate level of competence in German structure and usage.
2. Construct written and spoken German sentences, paragraphs, essays and workplace messages using appropriate grammatical units.
3. Comprehend spoken and written German at an intermediate level.
4. Demonstrate appreciation and understand the society and culture of diverse segments of German-speaking peoples.
GRMN211  Intermediate German II  

The fourth semester German course is a continuation of language skills and cultural understanding from GRMN211. The course recognizes the practical importance of language with special emphasis on speaking skills. Students continue to expand their vocabulary and language structure, and build a well-rounded view of diverse German-speaking cultures.

**Learning Outcomes:**

1. Select the appropriate German language elements necessary to communicate effectively at an intermediate level.
2. Interpret at an intermediate level both written and oral German language messages.
3. Construct written and spoken German sentences, paragraphs, essays, and workplace messages using appropriate grammatical units.
4. Demonstrate an intermediate level of competence in German structure and usage.
5. Comprehend spoken and written German at an intermediate level.
6. Demonstrate a deeper understanding of the society and culture of diverse segments of German-speaking peoples and be able to compare them.
GRMN311  German for the Professions  

A course designed for students pursuing the language specialty. This course follows a language needs approach which consists of developing content based on the needs and interests of students and their prospective majors. Students will relate information studied in other subjects to their learning of foreign language. Concentration will be on preparing students with specific language and usage in relevant cultural contexts in their intended careers. Instruction will utilize target language.

Learning Outcomes:

1. Understand spoken German in a variety of authentic contexts.
2. Utilize oral communication skills within a context of common business/technical and medical situations.
3. Practice “need-to-know” language using key vocabulary essential to real situations in the business/technical and medical field.
4. Promote cultural awareness of the German community in order to better communicate with and relate better to patients, clients, and fellow workers.
5. Appreciate the usefulness and vitality of German in today’s world.
This course introduces the student to the contents of the health record. The student will analyze, synthesize and evaluate the contents of the health record gaining a detailed understanding of documentation requirements, data governance, health law, health information technologies, analytics and decision support, health information exchange, revenue management. The student will comprehend the difference between data and information, classification systems and nomenclatures, and primary and secondary data sources. The student is introduced to HIPAA (the Health Information Portability and Accountability Act); legal and ethical issues pertaining to the contents of the health record, privacy, confidentiality and security, and professional ethics. The student gains comprehension of health care information systems acquisition and evaluation, data integrity, data security, and work process design. Through hands-on experiences the student will gain a detailed understanding of health information specialty systems for release of information, coding, chart management, registries, etc. A fee of $70.00 is charged in this course for NEEHR Perfect access and use. This course requires two hours of lecture and two hours of lab per week (4 contact hours). Note: A grade of C or better is required to pass this course successfully.

**Learning Outcomes:**

Upon successfully completing this course, the student will be able to:

1. Recognize data content, structure, and standards (information governance). (2)
2. Describe information protection methods. (2)
3. Recognize the tools and trends of data use. (2)
4. Explain healthcare compliance methods. (2)
5. Summarize health information leadership strategies. (2)
6. Define revenue management processes. (1)
HINT201  Health Information Technology  Credits  3

This course provides a detailed understanding of health information systems (administrative, patient, registration, ADT, HER, PHR, lab, radiology, pharmacy and others) commonly available and in use in the U.S. health care delivery. An emphasis is placed on confidentiality, security and privacy policies and procedures. Students will work with an EHR to complete HIM processes within this course. Students are provided an overview of the technology selections process including negotiation and evaluation of a HIM technology. Students are introduced to Systematized Nomenclature of Medicine (SNOMED-CT) including a brief overview of its role in the health care delivery system as the basis for an electronic health record. This course also provides an introduction to data collection, warehousing and system architecture. A fee of $70.00 is charged in this course for NEEHR Perfect access and use. This course requires two hours of lecture and two hours of lab per week (4 contact hours).

Learning Outcomes:

1. Demonstrate the application of systems and policies to health information systems and functions and health care data requests.
2. Use document archival, retrieval, and imaging systems available for use in the healthcare industry.
3. Illustrate maintenance and monitoring of data storage systems available for use in the healthcare industry.
4. Assess professional and practice-related ethical issues as they pertain to the use of health information technology.
5. Analyze the structure and use of health information (individual, comparative, and aggregate).
6. Compare and contrast health information media (such as paper, computer, web-based) available for use in the management of health data.
7. Compare and contrast data definitions, vocabularies, terminologies, and dictionaries and their roles in health data management.
8. Demonstrate data storage and retrieval systems and processes currently used in the management of health data (such as storage media, query tools and applications, data mining, report design, and search engines).
9. Employ health record data collection/capture tools (forms, screens, etc.) available for use in the management of health data.
10. Show the difference(s) between data quality and data integrity.
11. Apply data security protection methods (such as authentication encryption,
decryption, and firewalls).
12. Recognize data security and integrity concepts, data security and integrity processes and monitoring, data recovery and risk management and the role of data security in system architecture and design, system acquisition and evaluation, screen design, and data retrieval and maintenance.
13. Compare and contrast healthcare data sets (such as OASIS, HEDIS, DEEDS, UHDDS, UACDS, NEDSS, and NMMFS).
HINT209  Quality Assurance in Health Care  Credits  3

This course is an introduction of the methods used to define, describe, recognize and apply total quality management in health care. The principles of the quality assessment process and risk management will be emphasized. The course will provide an opportunity for the student to gain skills in collecting and analyzing data through a team approach. A fee of $70.00 is charged in this course NEEHR Perfect access and use. Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Apply the internal and external documentation requirements of HIM. (3)
2. Apply legal, privacy and security measures to comply with quality standards. (3)
3. Identify clinical documentation and compliance activities that meet requirement standards. (3)
4. Explain analytics, decision support, research methods, information integrity, and data quality. (2)
5. Recognize leadership functions and roles related to quality measures. (2)
HINT211  Health Care Management Foundations

This course provides a foundation in management principles with special application and focus on the health care industry. The course will focus on organizational resource management in the health care industry including strategic planning, leadership, change management, human resource management, training and development, organizational development, financial management, ethics, project management and contract management. Case analysis will be applied through the discussion of various health care management-related situations. Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Facilitate an ethical culture of diversity. (4)
2. Identify information management principles used for strategic planning. (3)
3. Identify leadership roles as it pertains to change, human resources, strategic and organizational management. (3)
4. Validate finance, project and vendor/contract management methodologies. (3)
5. Describe appropriate methods for training and development. (2)
HINT215  Applied Statistics for Health Information  Credits  1

This course provides the student with the knowledge and application of statistics and use of
spreadsheets to compile data and present information. In this course students gain
understanding and apply knowledge of health care statistics and research through the study of
indices, databases, and registries, vital statistics, health care and descriptive statistics, data
selection, interpretation and presentation of data and information research techniques. The
course requires that the student compute health care statistics. Note: A grade of C or better is
required to pass this course successfully.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Apply graphical tools for data presentation. (3)
2. Validate the reliability and accuracy of secondary data sources. (3)
3. Report healthcare statistics. (3)
4. Utilize enterprise-wide information and assets in support of organizational strategies
   and objectives. (3)
5. Apply health information technology, analytics and decision support. (3)
This course introduces students to the International Classification of Diseases 10th Revision, Clinical Modification (ICD-10-CM) volumes I and II, and International Classification of Diseases 10th Revision, Procedural Classification System (ICD-10-PCS). The focus of this course is diagnostic coding and inpatient procedural coding. Students gain a detailed understanding of the Official ICD-10-CM/PCS Guidelines for coding and reporting and apply these guidelines in a structured context for accurate code assignment. Emphasis is also placed on coding compliance and adherence to official guidelines. Students gain an understanding to the importance of data quality and data integrity. Students compare and contrast the new ICD-10-CM/PCS to ICD-9-CM (the previous classification system). Students are introduced to other classification systems such as, DSM-IV and ICD-O. Students will learn how to maneuver in different computerized encoding systems by assigning codes and using various references available. A fee of $20.00 is charged in this course for 3M Encoder. Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Map terminologies, vocabularies and classification systems. (4)
2. Demonstrate an understanding of clinical documentation components. (3)
3. Adhere to guidelines, policies, procedures for accurate ICD coding. (3)
4. Apply diagnostic and procedural codes and groupings according to current ICD coding guidelines. (3)
5. Define the clinical data required by various payment and reimbursement systems. (1)
HINT222  Procedural CPT/HCPCS Coding  Credits  3

This course introduces students to procedural coding utilizing the current editions of the Current Procedural Terminology, Health Care Common Procedural Coding System Level II code books and computer assisted coding software. The course will focus on utilizing these coding systems along with the application of current coding guidelines to determine accurate outpatient procedural codes based on documented clinical data. Students will develop appropriate physician queries to resolve clinical data discrepancies and analyze computer generated codes for accuracy. Chargemaster maintenance in regards to procedural coding and the development and application of coding procedures will also be discussed. A fee of $20.00 is charged in this course for 3M Encoder. Note: A grade of C or better is required to pass this course.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Map terminologies, vocabularies and classification systems for information exchange. (4)
2. Adhere to guidelines, policies, procedures for accurate CPT and HCPCS coding. (3)
3. Apply diagnostic and procedural codes and groupings according to current CPT and HCPCS guidelines. (3)
HINT250  Introduction to Reimbursement Systems  

This course is an introduction to health care reimbursement systems used throughout the United States. Students will gain a detailed understanding of various payment methodologies currently used (i.e. managed care, third party payers, federal programs, etc.), and apply this understanding to the monitoring and management of the revenue cycle. Students will verify completeness of clinical documentation, manage the use of clinical data systems used in claims management and utilize the principles of healthcare finance to monitor healthcare facility revenue. Current HIPAA guidelines will be covered along with financial ethics and the identification and eliminations of financial fraud and abuse. Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Communicate healthcare billing and reimbursement processes and procedures (such as CMS1500 and CMS1450/UB04 claim forms, Explanation of Benefits, Advance Beneficiary Notices, and Electronic Data Interchange) practiced across the continuum of care.
2. Illustrate why professionalism is important in health care reimbursement.
3. Compare and contrast commercial, managed care and federal insurance plans.
4. Define third party payers.
5. Analyze and appraise payment and reimbursement systems in healthcare delivery systems in the United States.
6. Break down payment methodologies and systems (such as capitation, prospective payment systems, Resource Based Relative Value Scale).
7. Analyze and perform chargemaster maintenance.
8. Combine knowledge-based research techniques (such as library, MEDLINE, web-based) and common software applications (such as word processing, spreadsheet, database, graphics) to facilitate learning outcomes.
9. Assess professional and practice-related ethical issues as they pertain to healthcare reimbursement systems.
10. Interpret regulatory guidelines (such as Local Coverage Decisions/Local Medical Review Policies, peer review organizations/Quality Improvement Organizations) and discuss their role in the payment process.
11. Interpret compliance strategies and reporting.
13. Carry out reimbursement monitoring and reporting.
14. Discuss diagnostic and procedural groupings (such as DRG, APCs, ASC Groups, RUGs, SNOMED), casemix analysis and indexes, coding compliance strategies, auditing and reporting (such as CCI, OIG Work Plans), and coding quality monitors and reporting.
15. Explain billing and reimbursement for healthcare services using codes.
16. List classifications, taxonomies, nomenclatures, terminologies and clinical vocabularies used in healthcare reimbursement systems.
HINT251  Health Care Reimbursement Applications  Credits  3

This course continues with computer applications in facility claims processing and in physician billing for health care carriers such as Blue Cross/Blue Shield, HMO’s, Medicare, Commercial, Worker’s Compensation, Disability, and the Federal Employees’ Program. Current hospital and physician software packages will be used. The course provides a “hands-on” approach in which students will learn all formats and techniques necessary in the claims process for hospitals, nursing homes, freestanding facilities, rehabilitation centers, and physician offices. A fee of $200.00 is charged in this course for MedTrack Access and Use. This course requires two hours of lecture and two hours of lab per week. Note: A grade of C of better is required to pass this course successfully.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Generate clean CMS1450 (UB-04) and CMS1500 claims using current hospital and physician practice management (patient accounting) software.
2. Practice accounts receivable management.
3. Demonstrate principles and applications of CPT and HCPCS coding systems.
4. Demonstrate principles and applications of the ICD-10-CM/PCS classification system.
5. Analyze physician practice data as based on system reports.
6. Create accurate and valid databases for facility services and claims processing.
7. Combine knowledge-based research techniques (such as library, MEDLINE, web-based) and common software applications (such as word processing, spreadsheet, database, graphics) to facilitate learning outcomes.
8. Identify the major health carriers and their respective claims management requirements.
9. Identify and apply ethical and legal issues as applied to medical insurance reimbursement.
10. Translate the CMS1450 (UB-04) paper claim to the electronic Health Insurance Portability and Accountability Act of 1996 Accredited Standards Committee (HIPAA ASC) 837 Institutional electronic claim format.
11. Translate the CMS1500 paper claim to the electronic Health Insurance Portability and Accountability Act of 1996 Accredited Standards Committee (HIPAA ASC) 837 Professional electronic claim format.
12. Explain the components and benefits of a compliance plan and the impact of a compliance plan on the quality of patient care and the possibility of fraud or abuse.
HINT294  Coding Professional Practice Experience (Lecture)  Credits  2

This course is part of the first PPE for the health information technology and the health information management degree programs. This lecture portion of the practicum will cover how coding interfaces with reimbursement methodologies. This course provides professional practice experience in medical coding with respect to and review of the revenue cycle. Students successfully completing this course along with HINT294L are academically prepared for the CCA (Certified Coding Associate) certification exam through the American Health Information Management Association (AHIMA). A fee of $90.00 is charged in this course for 3M Encoder and for NEEHR Perfect access and use. Note: This course along with HINT294L requires lecture with use of computerized encoding systems. Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Incorporate principles and applications of coding systems (such as ICD, CPT, DSM, HCPCS, etc.).
2. Recommend and defend diagnostic and procedural groupings (such as DRGs, APCs, RUGs, etc.) and severity of illness systems.
3. Compare and contrast data definitions, clinical vocabularies, terminologies, classifications, taxonomies, nomenclatures and dictionaries.
4. Conduct data monitoring and compliance reporting.
5. Incorporate healthcare information requirements and standards, such as the type and content of the health record, health record documentation requirements, and health record monitoring and compliance reporting.
6. Enforce coding compliance strategies, auditing, and reporting (such as CCI, OIG Work Plans).
7. Critique coding quality monitors.
8. Appraise payment methodologies (such as capitation, prospective payment systems, RBRVS), reimbursement monitoring and reporting, and reimbursement compliance strategies and reporting.
9. Design and facilitate chargemaster maintenance.
10. Compare and contrast billing and reimbursement processes and procedures (such as claims, EOB, ABN, electronic data interchange).
11. Assess professional and practice-related ethical issues as they pertain to the medical coding and reimbursement process.
12. Summarize healthcare delivery systems, including
   a. The organization of healthcare delivery in the United States,
   b. Healthcare organizations’ structure and operation,
   c. External standards, regulations, and initiatives (such as licensure, certification, accreditation, ARRA and HIPAA),
   d. Payment and reimbursement systems, and the revenue cycle,
e. Healthcare providers and disciplines.
13. Communicate confidentiality, privacy, and security policies, procedures, and monitoring initiatives as they relate to clinical coding and reimbursement practices.
14. Combine knowledge-based research techniques (such as library, MEDLINE, web-based) and common software applications (such as word processing, spreadsheet, database, graphics) to facilitate learning outcomes.
HINT294L  Coding Professional Practice Experience (Lab)  Credits  2

This course is part of the first professional practice experience (PPE) for the health information technology and the health information management degree programs. This laboratory portion of the practicum will provide extensive experience with various computerized encoding systems and practice coding with real world charts following official coding guidelines along with experience in chargemaster development and case mix analysis. Students successfully completing this course along with HINT294 are academically prepared for the CCA (Certified Coding Associate) certification exam through the American Health Information Management Association (AHIMA). Note: This course along with HINT294 requires lecture and laboratory with use of computerized encoding systems. Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Incorporate principles and applications of coding systems (such as ICD, CPT, DSM, HCPCS, etc.).
2. Recommend and defend diagnostic and procedural groupings (such as DRGs, APCs, RUGs, etc.) and severity of illness systems.
3. Compare and contrast data definitions, clinical vocabularies, terminologies, classifications, taxonomies, nomenclatures and dictionaries.
4. Conduct data monitoring and compliance reporting.
5. Incorporate healthcare information requirements and standards, such as the type and content of the health record, health record documentation requirements, and health record monitoring and compliance reporting.
6. Enforce coding compliance strategies, auditing, and reporting (such as CCI, OIG Work Plans).
7. Critique coding quality monitors.
8. Appraise payment methodologies (such as capitation, prospective payment systems, RBRVS), reimbursement monitoring and reporting, and reimbursement compliance strategies and reporting.
9. Design and facilitate chargemaster maintenance.
10. Compare and contrast billing and reimbursement processes and procedures (such as claims, EOB, ABN, electronic data interchange).
11. Assess professional and practice-related ethical issues as they pertain to the medical coding and reimbursement process.
12. Summarize healthcare delivery systems, including
   a. The organization of healthcare delivery in the United States,
   b. Healthcare organizations’ structure and operation,
   c. External standards, regulations, and initiatives (such as licensure, certification, accreditation, ARRA and HIPAA),
   d. Payment and reimbursement systems, and the revenue cycle,
e. Healthcare providers and disciplines.
13. Communicate confidentiality, privacy, and security policies, procedures, and monitoring initiatives as they relate to clinical coding and reimbursement practices.
14. Combine knowledge-based research techniques (such as library, MEDLINE, web-based) and common software applications (such as word processing, spreadsheet, database, graphics) to facilitate learning outcomes.
HINT297  HIT Professional Practice Experience (Lecture)  Credits  2

This course is part of the second professional practice experience (PPE) for the health information technology and the health information management degree programs. This lecture portion of the PPE will enforce principles of health information technology through extensive analysis of case studies and completion of other assignments. This course will provide a review session for the Registered Health Information Technology (RHIT) national certification examination through the American Health Information Management Association (AHIMA). Note: A grade of C or better is required to successfully complete this course.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Apply data privacy, confidentiality, and security measures related to health information. (3)
2. Describe leadership processes that correlate with work design, process improvement and financial management. (2)
3. Explain health record content, documentation and data management as it pertains to health information management. (2)
4. Summarize health information technologies, integrity and data quality. (2)
HINT297C  Professional Practice Experience (Clinical)  Credits  2

Contact your Advisor at least one semester prior to enrolling.
This course is part of the second professional practice experience (PPE) for the health information technology and the health information management degree programs. This experiential portion of the PPE will provide supervised professional practice projects structured to allow students learning experiences with the health information services department of a hospital or other health care organization (requiring at least 40 hours of experience per semester coupled with simulation activities). Principles of health information technology will be applied through observation and/or mentorship, and participation in a variety of health information management functions and simulations. The major emphasis is on the acquisition of knowledge, analysis of technical procedures and development of skills for the performance of those technical procedures. A $20 insurance fee and a technology fee for the academic electronic health record system is charged in this course. This course is an experiential course and requires 80 hours of experience in addition to simulation activities per semester. This course may require student travel. To meet course requirements the student will be required to be available during normal business hours (i.e. 8:00 am to 5:00 pm) for activities which may potentially include site visits, conduction of professional interviews, field trips, simulation, individual mentoring with a preceptor, or on-campus residency. Students located outside of Michigan may be required to travel to Michigan their PPE at their own expense or complete an alternate PPE. Note: Any unexcused non-attendance or dismissal from a clinical experience will result in a grade of F. Note: A grade of C or better is required to successfully complete this course.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Propose leadership processes that correlate with various leadership roles. (6)
2. Evaluate data content, structure and standards as it pertains to health information management. (5)
3. Analyze compliance as it pertains to regulations and standards related to health information management for accreditation, licensure, and/or certification. (4)
4. Demonstrate information protection related to access, disclosure, archiving, privacy and security. (3)
5. Apply informatics, analytics, and data use as it relates to information integrity, data quality, and health information technologies.(3)
HINT335  Coding and Revenue Cycle Management  Credits  2

This course builds upon previous coding and reimbursement topics to prepare the Health Information Management graduate in the management of coding, auditing, and revenue cycle. Topics such as benchmarking, documentation requirements, and strategies for success both in quality and quantity of coding/auditing services from multiple viewpoints such as acute care, outpatient services, physician offices and third party settings are addressed. Note: A grade of C or better is required to successfully complete this course. Note: A grade of C or better is required to successfully complete this course.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Construct processes, policies, and procedures to support coding, audits, fraud surveillance, and reimbursement. (6)
2. Create methods (such as a plan, tool or process) to manage clinical documentation improvement components. (6)
3. Recommend methods to manage revenue cycle and reimbursement systems. (5)
4. Evaluate the accuracy of diagnostic and procedural coding. (5)
5. Examine health record content and documentation for compliance with guidelines, standards and laws. (4)
HINT340  Privacy, Security, and Training in Health  Credits  3

This course builds upon previous privacy and security topics and prepares the student to work with health regulations and standards including data governance compliance. This course will focus on access, disclosure, and storage of protected health information. Data privacy, security, and confidentiality will be discussed in detail along with information integrity and quality. Ethical standards of practice related to privacy and security will be covered and training programs related to this topic will also be addressed: A fee of $70.00 is charged in this course for NEEHR Perfect access and use. A grade of C or better is required to successfully complete this course.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Develop educational employee programs related to privacy, security, and confidentiality that comply with ethical standards of practice. (6)
2. Interpret HIM data privacy, confidentiality and security measures. (5)
3. Analyze laws and regulations related to the practice of HIM. (4)
4. Demonstrate health record documentation, guidelines, and standards to maintain compliance (3)
5. Discover threats to data integrity and validity. (3)
6. Manage protection of health information through access, disclosure, confidentiality and security measures. (3)
HINT350 Clinical Information Systems Credits 3

The application of clinical systems will be discussed and demonstrated, including clinical decision support systems, electronic health records and other computer based health records systems, nursing management systems, ancillary service systems, patient data bases (private practice and facility) at point of service, master, and enterprise levels. Planning and evaluation (including financial capital and operating and regulatory matters affecting clinical information systems are considered. Strategies and theories for user performances management in the clinical setting are discussed.
A fee of $70.00 is charged in this course for NEEHR Perfect access and use. Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Recommend change, financial, project and vendor/contract management techniques to promote leadership development. (5)
2. Map classification systems, manage data and secondary data sources to meet customer needs. (4)
3. Apply information integrity and data quality measures to ensure best practices in health information exchange. (4)
4. Plan strategies for educating consumers on health information technology. (3)
5. Identify health information technologies and associated strategic planning activities. (3)
HINT400  Management Information Systems  Credits  3

This course will concentrate on concepts related to information systems resource management, cost/benefit analysis, overview of information systems topology, technology assessments and strategic planning of information systems. Application of the concepts will be presented in terms of systems theory, hardware requirements, personnel requirements, vendor negotiations, software, database, telecommunications, and use of the internet. Note: A grade of C or better is required to pass this course.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Develop contract negotiation and enterprise information management skills. (6)
2. Leverage data to support content structure and standards in healthcare. (5)
3. Assess health information technologies for informatics, analytics and data use. (5)
4. Recommend strategic, organizational, and project management principles to encourage leadership development. (5)
5. Examine how information management plans contributes to strategic planning. (4)
HINT420  Data Analysis and Research in Health Information  Credits  3

This course relates to the creation and use of business health intelligence utilizing technology, statistics, and the research findings. The selection, implementation, use and management of the most appropriate technology solutions for analytics and decision support is discussed. Students will select appropriate data to analyze trends, interpret, make decisions, and present in varying formats. Principles of research (including Institutional Review Board processes), clinical literature evaluation, and inferential statistics will be used to support data integrity for valuable business health intelligence. Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Interpret statistics for health care decision making (5)
2. Evaluate methods and strategies to promote analytics and decision support (5)
3. Recommend health information technologies for informatics, analytics and data use (5)
4. Format data governance, data management and secondary data sources to support data content structure and standards (4)
HINT485  Information Governance  Credits  3

This course will concentrate on concepts related to all aspects of information governance pertaining to healthcare. The student will gain a better understanding of concepts to support the continuum of care that meet quality measurement initiatives, cost reduction incentives and population health programs. This course will help the student understand the importance of information governance as an organization-wide framework for managing information throughout its lifecycle and supporting the organization’s strategy, operations, regulatory, legal, risk, and environmental requirements. Information governance establishes policy, prioritizes investments, values and protects information assets, and determines accountabilities for managing information, making it an imperative for health care. Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Propose health information technologies, exchange, integrity, and data quality for informatics, analytics and data use. (6)
2. Create data content structure and standards related to health record, data governance and data management. (6)
3. Advocate for the use of enterprise information as a key strategic resource. (5)
4. Assess strategic and organizational information governance methods. (5)
5. Examine HIM leadership roles related to information governance. (4)
This course examines the history of world civilizations, from the beginnings of history in the Ancient Near East through the Renaissance, with a special emphasis on the ways that the events of the past shape the present and future. Students will learn about the historical causes and effects that accompany the rise and fall of world civilizations. Students will also learn about individuals who changed history. In addition, students will analyze the achievements of world civilizations, both Western and non-Western. The impact of ideologies and environmental crises will be put into perspective.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Interpret major events and movements throughout the world from the beginnings of history in the Ancient Near East through the Renaissance.
2. Analyze the chronology of significant events in human history.
3. Compare the major components of multiple societies and understand the roots of his or her own society within that historical context.
4. Discuss the historical construction of social, political, religious, economic, intellectual, technological, and artistic differences and similarities between groups and regions over time.
5. Demonstrate an ability to identify and interpret a wide variety of primary sources including but not limited to personal and public documents, visual and oral representations, popular and material culture.
6. Demonstrate an ability to analyze the historical method and construct a historical argument.
This course examines the history of the modern world, from the Renaissance through the present, with a special emphasis on the ways that the events of the past shape the present and future. Students will analyze the achievement of modern and post-modern world civilizations within the context of exploration, colonialism, independence movements, the new world order, and the increasing destructiveness of warfare. Population increase, ethnic solidarity, religious divisiveness, technological advances, and the rise and fall of ideologies are

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Interpret major events and movements in the modern world from the Renaissance through the present.
2. Analyze the chronology of significant events in human history.
3. Compare the major components of multiple societies and understand his or her own society within that historical context.
4. Discuss the historical construction of social, political, religious, economic, intellectual, technological, and artistic differences and similarities between groups and regions over time.
5. Demonstrate an ability to identify and interpret a wide variety of primary sources including but not limited to personal and public documents, visual and oral representations, popular and material culture.
6. Demonstrate an ability to analyze the historical method and construct a historical argument.
HIST211  Early United States History  Credits  3

This course teaches a survey of the history of the United States from pre-history through the Reconstruction period. Students will learn the foundations of democracy, including the development of the Constitution, and how the principles of the Declaration of Independence were tested by the Civil War. Students will learn how the Reconstruction period set the stage for civil rights abuses that persisted long after it.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Interpret major events and movements on the North American Continent from before European contact through Reconstruction.
2. Discuss the historical construction of social, political, religious, economic, intellectual, technological, and artistic differences and similarities between groups and regions over time.
3. Analyze the chronology of significant events in U.S. history from the thirteenth century through 1865 with special consideration of a global context.
4. Demonstrate an ability to identify and interpret a wide variety of primary sources including but not limited to personal and public documents, visual and oral representations, popular and material culture.
5. Demonstrate an ability to analyze the historical method and construct a historical argument.
HIST212  Modern United States History  Credits  3

This course teaches essential concepts of U.S. history from the end of Reconstruction through the growth of modern America. Students learn how the United States came to prominence as a world power through the events of the two world wars. Students will also learn the genesis of world events leading to September 11, 2001, and will evaluate future

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Interpret the major events and movements in the United States from 1865 through the present.
2. Discuss the historical construction of social, political, religious, economic, intellectual, technological, and artistic differences and similarities between groups and regions over time.
3. Analyze the chronology of significant events in U.S. history from 1865 through the present with special consideration of a global context.
4. Demonstrate an ability to identify and interpret a wide variety of primary sources including but not limited to personal and public documents, visual and oral representations, popular and material culture.
5. Demonstrate an ability to analyze the historical method and construct a historical argument.
HITN215  Applied Statistics for Health Information  Credits  0

This course provides the student with the knowledge and application of statistics and use of spreadsheets to compile data and present information. In this course students gain understanding and apply knowledge of health care statistics and research through the study of indices, databases, and registries, vital statistics, health care and descriptive statistics, data selection, interpretation and presentation of data and information research techniques. The course requires that the student compute health care statistics.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Analyze health data from various sources.
2. Apply healthcare statistical methods.
3. Utilize statistics in meeting organizational objectives.
4. Apply tools for data presentation
5. Identify analytics/decision support practices.
6. Explain the role of health information technology in managing information.
HLTH110  Medical Terminology  Credits  3

This course introduces the concept of a system-based approach to learning the professional language of those who are directly or indirectly engaged in health care. Word building through knowledge, use of prefixes, suffixes, root words, and combining forms is a central theme of this course. Spelling, pronunciation, abbreviations, medical symbols, and use of a medical dictionary are also emphasized. Note: A grade of C or better is required to pass this course.

**Learning Outcomes:**

Upon successfully completing this course, the student will be able to:

1. Translate medical language.
2. Evaluate medical terms to reinforce knowledge of basic anatomy and physiology.
3. Understand the origin of common medical terms.
4. Spell, pronounce, define, and identify words and word parts.
5. Use medical terms and abbreviations correctly in written work.
6. Identify scholarly articles related to medical terminology.
7. Define the complete meaning of a medical abbreviation.
HLTH202  Death and Dying

Credits  3

This course examines issues and concerns involved in helping patients and family members facing the problems of terminal illness and death. Students will be introduced to death-related issues for everyday life, including suicide, bereavement, euthanasia, and hospice care. Living will and advanced directives are discussed. This course also examines current medical concerns regarding the care and treatment of a terminal patient.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Analyze and compare the changing social, psychological, cultural, religious, spiritual, ethical and historical changing patterns of death beliefs and traditions related to varying modes of death, across the lifespan.
2. Investigate individual and family grief and bereavement issues through recognition of theories, models of coping, spiritual, religious, and cultural beliefs, and end of life practices and institutions, including care facilities, burial practices, funeral homes, crematoriums, and cemeteries.
3. Describe the physiology of death and dying.
4. Compare the effectiveness of the medical model of dying and palliative model of dying on end of life care from an individual, family, and cultural perspective.
5. Assess the impact of legalities and legal instruments on end of life decision making for individuals and families from diverse religious and cultural backgrounds.
HLTH210  Health Care Organizations and Systems  Credits  3

This course provides the student with an introduction to health care organizational systems and related resources. Discussions will include history and development of health care in the United States. Students gain a theoretical understanding of various health care provider roles in the overall organizational planning, management, quality, and assessment pertaining to major health policy issues and disciplines in the United States. Topics will compare and contrast the delivery of health care to those of other countries.

Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Synthesize the knowledge of the delivery, organization, and structure of healthcare services in the United States with identification of various healthcare roles, functions, and professional disciplines.
2. Assess professional and practice-related ethical issues pertaining to healthcare delivery in the United States.
3. Assess and debate healthcare organizations’ structure and operation and the impact on cost, quality, and access.
4. Compare and contrast the US healthcare system with other healthcare systems.
5. Compare and contrast external healthcare standards, regulations, and initiatives with governmental mandates.
7. Apply knowledge-based research techniques and software applications commonly utilized in healthcare.
HLTH220 Pharmacology

This course focuses on the principles of understanding basic Pharmacology and the effects medications have on the body and disease. Names of the top fifty most commonly used medications, their classification, and side effects will be discussed. Safety with respect to calculation and administration of medications will be emphasized. A grade of C or better is required to pass this course.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Formulate effective communication in reports of the action, rationale for use, common and/or life-threatening side effects and patient teaching issues for each major classification of medications.
2. Rank major classifications of pharmacotherapeutics by prototypes as used in the treatment of commonly occurring diseases.
3. Evaluate pharmacological terminology pertinent to specific categories and classifications of medications in relation to drug effects on commonly occurring diseases.
4. Differentiate pharmacology use and its effects across the lifespan, when administering medications to culturally diverse populations for commonly occurring diseases.
5. Distinguish between legal and ethical principles related to research and practice of medication administration.
6. Compare and contrast physiology and pathophysiology that must be considered in assessing correct dosages administered to “at risk” populations such as the fetus, infant, child, pregnant woman, and the frail elderly.
7. Predict potential drug-drug interactions and drug-food interactions based on physiologic responses to pharmacological agents and apply critical thinking skills for appropriate intervention.
8. Explain the correct measures to ensure the prevention of medication errors, employing critical thinking skills to determine the effectiveness of medication administration on care outcomes.
9. Identify the roles of the healthcare professional in relation to medication administration and education in both acute care and community health settings.
10. List the five concepts of human functioning to assess appropriate/inappropriate responses to therapy.
11. Cite historical perspectives contributing to the development of pharmacology.
HLTH230  Health Care Law and Ethics  

Credits  3

This course will provide the opportunity to explore basic law as it is applied to health related issues and the health care community. The student will be introduced to the concepts of medical ethics and will explore the major ethical issues currently facing health care professionals, with an emphasis on maintaining the highest legal, moral, and ethical standards in their profession.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Interpret and monitor current confidentiality policies and procedures, privacy and security in various healthcare settings.
2. Describe the legal and ethical impact of health information and records management laws and regulations (patient rights, advocacy, advanced directives, etc.)
3. Identify and articulate practical decision-making relative to ethical dilemmas commonly found in the current healthcare setting.
4. Describe the legal system and fundamental legal concepts applicable to the healthcare field.
HLTH235  Principles of Health Care Management

The focus of the course will be on the skills of health care managers, including leadership, communication, change management, and strategic planning. Understanding of human resource management, financial and physical resource management, and organizational development will be gained. In addition, students will compare and contrast issues to gain a better understanding of different types of health care organization’s governance, strategies, structures, conduct, and performance.

Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Construct a personal and professional development plan to increase the capacity to fulfill supervisory, managerial and leadership roles in a healthcare environment.
2. Assess personal ability to challenge assumptions and to question values, beliefs and policies underpinning change and healthcare management at individual and organizational levels.
3. Analyze skills, confidence and awareness necessary to identify and implement evidence-based management and leadership practices.
4. Integrate skills, attitudes and knowledge gained throughout the class, and apply in practice theory.
5. Identify leadership competencies, skills, knowledge and attitudes necessary to lead and manage change effectively.
6. Identify competencies to manage multidisciplinary and interprofessional teams.
HLTH245  Principles of Reimbursement Management  Credits  3

This course introduces the student to the role of health care reimbursement systems. Students gain an understanding of third party payers, payment methodologies, how charges are developed and maintained, and financial implications of reimbursement management. Students acquire knowledge of health claims processing policies and procedures, regulatory guidelines, compliance, and reimbursement's impact on the revenue cycle.

Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Analyze the healthcare billing and reimbursement processes with an emphasis on billing policies/procedures practiced across the continuum of care.
2. Rank the importance of commercial, managed care and federal insurance plans.
3. Assess payment methodologies and systems and evaluate impact of third-party payment and reimbursement.
5. Compare and contrast various ethical dilemma-solving methods utilized in reimbursement management and compare potential positive and negative outcomes along with potential unexpected consequences related to each one.
6. Apply regulatory guidelines to billing and reimbursement processes.
7. Describe various reimbursement monitoring and reporting techniques.
8. Recognize auditing and reporting trails including coding quality monitors.
HLTH260  Introduction to Environmental Health

This course is a scientific introduction and exposure to knowledge relating to the origins of and methods of addressing concerns within our geological, atmospheric, hydrological environments, interactions between human activities, health and environmental systems. Students will use scientific method in defining and solving environmental health related problems. Characterization and control of physical, chemical, biological and radiological pollutants to air, water, soil, and food will be presented.

Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

Upon completion of the course the student will be able to:

1. Evaluate major program areas comprising the field of environmental health.
2. Assess official roles of the principal agencies and branches of government at various levels in managing environmental health.
3. Critique the process by which governmental health standards are developed.
4. Categorize the mechanisms by which disease-causing agents are spread through the environment.
5. Analyze control procedures utilized to protect public health and maintain environmental quality.
7. Describe risk assessment, risk communication and risk management and the uses of each.
8. Recognize economic, political and social components that must be considered in the development of environmental policy.
9. List the major chemical, physical and biological agents affecting human health and well-being.
This course provides the students with an increased understanding of the role of the health care professional within the larger public health system. The student will study the structure and function of the public health system at multiple levels. Synthesizing the didactic materials will allow the student to create proposals that address specific public health problems. Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Evaluate critical ideas and concepts in the broad, interdisciplinary field of public health, including core functions and goals, the history of public health, a population health perspective, and key areas of inquiry.
2. Assess population-wide needs and concerns of vulnerable populations.
3. Integrate principles of epidemiology with related health and health impairments, including rates and distribution of disease, the meaning of causation, and evaluation of effectiveness of interventions.
4. Assess ways in which biological, psychological, and social/cultural perspectives and factors impact disease production and health promotion across the lifespan.
5. Apply biological, psychological and social/cultural perspectives to public health programs and interventions that eliminate, prevent, minimize, and control the impact of disease on health.
6. Evaluate how social class, race, ethnicity, gender, age, geography, political and economic structures, and other variables affect disease burdens, health disparities, and access to health services.
7. Summarize the current public health and healthcare delivery systems, including the structures for and approaches to development of health policies, current policy debates, and models for analyzing health policy from both a global and national perspective.
8. Recognize ethical theories involved in dilemmas that arise in public health research, settings, programs, and interventions.
HLTH401 Health Care Research

This course will provide the fundamentals of statistical analysis as it applies to health care research. The student in this course will also develop a fundamental understanding of the research process with emphasis on critical reading of published research. Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Research using qualitative, quantitative, or mixed method approach.
2. Evaluate the role of Institutional Review Boards (IRBs) in research process.
3. Critique a variety of published research studies to assess the quality and rigor of the research design and methodology.
4. Evaluate basic history and primary tenets of ethical research and informed consent and the application in health research.
5. Perform comprehensive literature search.
6. Discuss value and significance of evidence-based research in health services.
HLTH460  Health Promotion and Education  Credits  3

The purpose of this course is to provide an overview of the field of health education and promotion and an opportunity to develop skills in needs assessment and program planning. The course will review the importance of health education and promotion in contributing to current public health programs and in addressing public health problems. The course will address how to use planning frameworks for conducting needs assessments and designing and evaluating health promotion programs.

Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Compare and contrast the impact which nurses, other healthcare professionals, the government, and voluntary consumer groups have on healthcare policy.
2. Evaluate theories of learning related to cognitive, psychomotor and affective domains.
3. Critique philosophical approaches to the professional practice of health education and promotion.
4. Analyze the common components of a complete teaching plan to guide health promotion for an individual and family members.
5. Analyze the impact of health beliefs, practices, and health status on formalized healthcare delivery.
6. Compare theory and research findings on health promotion, risk reduction, and disease prevention used to formulate teaching plans for health promotion.
7. Apply ethical and legal standards in the planning of health promotion and teaching exercises.
8. Assess the effectiveness of a teaching plan using various methods.
HRMG213  Human Resource Management  Credits  3

This course is an overview of the responsibilities of a human resource management department in a business setting. The elements of job analysis, recruitment, selection, training and assessment, are described. Additionally, compensation and benefits administration, labor relations and the legislative and legal decisions affecting human resource policy are explored. Various workplace situations are examined through the use of problem solving exercises and discussion.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Analyze the relationship between the legal, global, and competitive environment and human resource practices.
2. Explain the recruiting and staffing process.
3. Critique the role of human resources in the employer-employee relationship.
4. Examine the role of human resources in training and career development.
HRMG313 Staffing Organizations

This application-based course provides students with an in-depth view of the total selection process, based on a broad definition of selection. Specific topics covered include establishing the selection criteria, recruiting a diverse qualified pool of applicants, evaluating applicants relative to selection criteria that is reliable and employs valid measurements. Emphasis is placed on the reliability and validity of various selection methods to insure regulatory compliance.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Develop a viable recruiting plan for an employer facing a labor shortage.
2. Compare various testing methods: personality, abilities, skills and integrity testing as well as drug testing and an assessment of their reliability, validity, legal compliance, and effectiveness.
3. Develop specific knowledge, skills and abilities associated with carrying out staffing activities, (attracting, selecting, placing, and socializing employees.)
4. Describe various staffing activities with emphasis on recruitment, selection and equity.
5. Differentiate the various selection devices including application forms, job interviews, and assessment centers.
6. Examine the process by which organizations acquire and deploy the organization's workforce.
7. Examine the theories, policies and legal considerations relevant to recruitment and staffing.

Credits 3
HRMG330  International Human Resource Management  Credits  3

This case study course places international human resource management in its broader context of multicultural management, organizational behavior, strategic planning, international negotiations as well as ethics and social responsibility. Students explore international staff structures, expatriate practices and compensation as well as the skills necessary for international decision making through numerous simulations, exercises and

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Develop human resource plans, policies and processes to meet the strategic objectives of a multinational enterprise.
2. Construct a model of organizational effectiveness and talent management.
3. Analyze and assess talent acquisition needs within the context of multinational mobility
4. Analyze and apply competitive compensation and benefit strategies in a multi-national organization.
5. Assess and apply strategies for managing workforce relations and the risks of doing business in a multinational enterprise.
6. Compare and contrast the differences between domestic and international human resource management.
HRMG350  Training for Organizations  Credits  3

This course is designed to provide students with a solid understanding in the fundamentals of training and development. Students are exposed to the training process, from needs assessment to training methods and the role of evaluation. With the use of a case analysis approach students examine the broadening role of training in assisting organizations in the achievement of business goals. Other topics of study include: e-learning and technology, special challenges in today’s workforce and the future of training and development.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Analyze the training process from needs assessment through program evaluation
2. Analyze the need and role of training in connection with solving various problems within organizations.
3. Evaluate different types of training including competency models, e-learning, skill-building, corporate universities, web-based training
4. Explain the role of strategic training and development in the achievement of an organization’s business goals
5. Examine the challenges associated with training an increasingly diverse and decentralized workforce.
6. Explain the role of training in new organizational forms such as virtual organizations.
HRMG431  Negotiation and Dispute Resolution  

This course analyzes conflict in business and develops new approaches to negotiating with people from both similar and different backgrounds. Many dimensions of negotiation are discussed including interpersonal, organizational, collective bargaining, and cultural dynamics. Students review strategies in various conflicting situations including cooperative, competitive, and labor relations.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Select the negotiation strategy to be used in a given business scenario while identifying a negotiator's behavior and decision-making processes.
2. Analyze the array of interpersonal, organizational, and cultural variables that influence a negotiator's behavior and decision-making processes.
3. Design specific strategies and tactics based on the interests, positions, and standards of each party.
4. Evaluate the role of honesty, trust and communication in the negotiation process.
5. Develop comprehensive frameworks for evaluating negotiations processes.
6. Defend the negotiating tactics used in order to reach a compromise.
HRMG433  Compensation Administration  Credits  3

Students obtain an in-depth view of the total compensation system. They design, develop, and implement a complete compensation system, the aspects of which include establishing the compensation objectives, analyzing and evaluating jobs, establishing the organization’s pay policy relative to the external labor market, and utilizing the compensation system to adjust employee wages and benefits. Emphasis is placed on balancing internal consistency and external competitiveness, while equitably rewarding individuals’ contributions. The complete employee benefits package will be examined, including many non-wage elements such as health care, defined contribution plans, child care, etc. Compensation options to be explored will include wages, commissions, group and individual incentives, bonuses, stock options, pay for performance plans, international pay systems benefits, and executive payment packages.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Create compensation system objectives in support of an organization's strategic plan.

2. Evaluate external wage survey data relative to an organization's own jobs and set an organizational pay policy relative to the external labor market in support of the compensation system objectives.

3. Create an individual or group incentive plan to motivate employees to help achieve the organization's strategic objectives.

4. Design a communication plan for the new compensation system.

5. Create justifiable pay grades and ranges through the analysis of relative value of positions within an organization.

6. Utilize compensation system to adjust individual employee wages based on their individual performance and position in their pay range.

7. Understand incentive systems, option plans, executive payment packages and other non-wage compensation options.
Students will gain knowledge of the strategic relationship between the various Human Resource functions and the strategic business goals of the organization. The various interdependencies between the Human Resource function and the other divisions of the organization are given an in-depth analysis using case studies. Strategic recommendations developed from the case materials will focus on the interdependencies as they relate to managing change, mergers and acquisitions, workforce planning, compensation and managing a global workforce. A $50.00 Strategic HR Simulation access fee is charged in this course.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Formulate, evaluate, prepare and present case analyses that integrate the role of Human Resources in the attainment of strategic business goals.
2. Propose the most appropriate Human Resource strategies and objectives to address the business needs of the organization.
3. Evaluate alternative strategies and objectives that might be considered.
4. Examine the role of Human Resources in balancing the needs of the various stakeholders, the organization’s social responsibilities and the attainment of its strategic business goals.
5. Analyze the different types of strategic partnerships that exist between Human Resources and an organization.
HSAD221  Information Technology for Healthcare Managers      Credits  3

This course focuses on the history of health care informatics, current issues, and the critical role of e-health and information systems and management applications. Topics addressed include the analysis, design, selection, implementation and evaluation of health information systems such as medical record systems, ADT, clinical and financial information in a variety of settings such as health systems, hospitals, and medical practices. Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Select information technology for improving patient care through the use of evidence-based management techniques.
2. Recommend policies and procedures needed for information systems management.
3. Compare and contrast project management tools and techniques.
4. Implement alignment of an information system plan with the overall strategic plan of the organization.
5. Calculate ROI and cost-benefit ratio of EHR.
6. Discuss the benefits of electronic medical records.
7. Understand the various EHR data systems, including hardware, software and data elements.
8. Discuss e-health technology and emerging national, regional, and local policies regarding electronic medical records.
9. Interact and communicate with IT professionals concerning healthcare applications.
10. Identify managerial functions of the EHR such as patient scheduling, tracking patient activity, sending and receiving reminders, messages, and e-mails.
11. Describe the history of the electronic health record (EHR).
HSAD301  Cultural Issues in Health Care  

In this course, the student will be able to demonstrate an understanding of diverse cultures, values, and belief systems. Emphasis will be on diverse healthcare needs of varied communities, including global healthcare delivery issues, communication styles (language), religious and demographic differences of individuals who are consumers of healthcare practices. Note: A grade of C or better is required to pass this course successfully.

**Learning Outcomes:**

Upon successfully completing this course, the student will be able to:

1. Evaluate dietary practices and traditions of various cultures as they relate to health.
2. Compare and contrast methods of healing and healthcare practices in different cultures.
3. Compare and contrast sociocultural attributes of different groups.
4. Differentiate various death rituals and responses to death and grief.
5. Explain professional and practice-related ethical issues.
7. Identify high-risk behaviors in different cultures related to health issues.
8. Recognize verbal and nonverbal communication of various cultures.
HSAD302  Regulatory Health Care  

This course is an overview of several state and federal regulations in healthcare. Students will learn managerial processes of implementing, credentialing, and obtaining/maintaining accreditation of healthcare organizations. In addition, the impact natural and man-made disasters and emergency preparedness as a regulatory requirement will be discussed in this course. Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Evaluate professional and practice related ethical issues pertaining to regulations in healthcare.
2. Assess accreditation standards, regulatory and licensing requirements for various healthcare facilities.
3. Analyze environmental issues and the respective regulatory requirements which face healthcare facilities such as: facilities management, waste/material management, air quality, chemical hazards, electrical safety, corporate safety, fire safety, and emergency management.
4. Explain the role of reporting performance data and its impact on accountability for quality healthcare.
5. Determine compliance with employment laws, continuing education requirements and workforce education.
6. Describe reporting techniques and their relationships to requests of regulatory and government agencies.
7. Understand the role accreditation has in improving the health status of a community and encouraging appropriate resource utilization.
8. Recognize the organizational impact, including financial implications, of meeting regulatory requirements.
In this course, the student is introduced to current OSHA policies, procedures, and standards with an emphasis on areas most applicable to the healthcare setting. The areas of emphasis include blood borne pathogens, needle stick prevention, respiratory protection, ergonomics, healthcare lifting, hazardous materials, emergency/disaster planning and required recordkeeping. Note: A grade of C or better is required to pass this course successfully.

**Learning Outcomes:**

Upon successfully completing this course, the student will be able to:

1. Construct a recordkeeping process to meet reporting requirements for employees with occupational exposure.
2. Assess the process of a workplace safety inspection.
3. Analyze the structure of OSHA and its role in healthcare safety.
4. Describe strategies needed to eliminate or minimize occupational exposures in the healthcare environment by identifying key elements of an Exposure Control Plan.
5. Describe the purpose and key elements of the OSHA Hazard Communication regulation.
6. Define OSHA terms, concepts, and principles of key OSHA standards relevant to healthcare settings.
7. Recognize the roles, rights and responsibilities of healthcare employers and employees in complying with OSHA regulatory requirements.
HSAD402  Health Care Risk Management

In this course the student will examine issues related to risk management in health care. The methods to identify risk factors for the purpose of minimizing the potential for health care liability will be explored. In addition, students will analyze the role of the patient in self determination of care. The course will include the student designing a risk management program consistent with current risk management trends. Note: A grade of C or better is required to pass this course

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Formulate two risk management programs for a healthcare organization, including a cost/benefit analysis.
2. Analyze federal and state laws that promote patient safety.
3. Assess medical malpractice tort reform initiatives related to current medical malpractice claims and current malpractice trends.
4. Analyze current trends in healthcare risk management.
5. Compare and contrast areas of risk management in the healthcare environment including: ergonomics, safety, industrial hygiene, security and Occupational Safety and Health Administration (OSHA) mandates.
6. Summarize the patient bill of rights, including informed consent and the right to refuse recommended treatment.
7. Identify healthcare information management issues related to security, confidentiality, legality, and ethics.
8. Describe professional and practice-related ethical issues pertaining to healthcare risk management, including research on human subjects and patient autonomy.
HSAD403  Health Care Economics              Credits  3

This course introduces the student to the fundamental concepts of microeconomic theory and the relationship of these concepts to the health care industry. Included in the concepts are supply and demand with consumer choice, allocating resources in the health care industry, health care information and advertising, private insurance, technology and cost of health care, labor issues, types of health care firms, social insurance programs, government intervention and regulation, and comparative health care systems. The course will stress the costs and benefits of private and government sponsored health care programs. Note: A grade of C or better is required to pass this course

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Compare private healthcare programs with social healthcare programs.
2. Analyze the changing nature of healthcare and implications for medical practices, educators, researchers and future health care policy.
3. Analyze the impact of healthcare on various markets’ function.
4. Apply microeconomic principles of supply and demand to the healthcare industry.
5. Conduct a cost benefit analysis of a healthcare system.
6. Describe the effects of government intervention in the healthcare industry.
7. Identify professional and practice-related ethical issues pertaining to healthcare economics.
This course is an overview of both bioethical principles and ethical dilemmas that occur in various healthcare settings. The focus of the course is on the most important areas in bioethics including bioethical and moral principles, a basic framework for ethical decision-making, and a global view of ethical dilemmas. The use of case studies, various readings, and discussions on the provider-patient relationship will be emphasized throughout the course to assist the student in the development of a framework for ethical decision-making. Note: A grade of C or better is required to successfully complete this course.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Evaluate ethical concepts applicable to the healthcare setting.
2. Formulate ethical decision making processes for effective administration and fulfillment of an organizational mission.
3. Appraise future trends and ethical issues in healthcare.
4. Identify ethical public policy issues in a healthcare setting.
HSAD440  Healthcare Strategic Planning  

The purpose of this course is to provide the student with a strategic perspective and an understanding of the strategic process and structure. The student is introduced to the concepts, philosophies, and techniques of strategic planning, AND strategic management, as they are applied in a healthcare organization. A major portion of the course will deal with case analysis and application of principles and techniques. Note: A grade of C or better is required to successfully complete this course.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Evaluate an organization’s mission statement as it relates to the strategic vision.
2. Analyze the roles of key leaders in healthcare strategic planning.
3. Analyze the impact organizational culture on the strategic plan.
4. Apply analytical tools that support strategic planning including SWOT, GAP and Force Field analysis.
5. Interpret the strategic plan’s impact on operating performance.
6. Identify strategic planning initiatives across the continuum of care.
This course will use an interdisciplinary approach to explore the fine arts, philosophy, and historical perspectives within and among various Western and non-Western cultural traditions. Students will develop an understanding of the ways in which our thoughts, perceptions, and expressions are constructed. Students will also experience the humanities by investigating art, philosophy and cultural traditions beyond the classroom setting.

Learning Outcomes:

1. Evaluate major artistic, cultural, and historic themes, trends and movements
2. Construct patterns of meaning across disciplines through reading, writing, talking, listening, and thinking
3. Synthesize single events and items of information as they fit into our total history and shape our traditions
4. Apply course knowledge of humanities to non-classroom contexts
5. Examine historical periods for the social and political influences on the fine arts and philosophy
6. Define and use appropriate terminology when describing themes, trends, and movements
HUMN310  Global Cultures: China  Credits  3

This course provides students an opportunity to immerse themselves in Chinese culture. Students examine critically the ethical rationale by which cultures make their important decisions. Students will identify, analyze, and evaluate the cultural productions that shape our global community. They will also develop a global perspective—an understanding that interdependence demands a new critical consciousness.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:
1. Synthesize disciplines associated with general education by communicating across their boundaries to link parts.
2. Apply a critical consciousness to challenge personal cultural perspectives; evaluate the human impact on global resources and systems; examine the intersection of religion, race, class, and gender as they formulate identities; examine ethnocentrism and the pluralities of histories; celebrate differences and similarities; and gain knowledge within a cultural/conceptual framework.
3. Apply the disciplines studied to his/her professional life.
4. Distinguish and use thoughts and ideas that are outside his/her own patterns of meaning.
5. Illustrate forces that shape a culture.
HUMN312  Global Cultures: Japan

This course provides students an opportunity to immerse themselves in Japanese culture. Students examine critically the ethical rationale by which cultures make their important decisions. Students will identify, analyze, and evaluate the cultural productions that shape our global community. They will also develop a global perspective—an understanding that interdependence demands a new critical consciousness.

Learning Outcomes:

Upon successfully completing this course the student will be able to:

1. Synthesize disciplines associated with general education by communicating across their boundaries to link parts.

2. Apply a critical consciousness to challenge personal cultural perspectives; distinguish and use thoughts and ideas that are outside his/her own patterns of meaning.

3. Identify and appreciate the forces that shape a culture; examine the intersection of religion, race, class, and gender as they formulate identities.

4. Examine ethnocentrism and the pluralities of histories.

5. Celebrate differences and similarities between his/her own culture and the Japanese culture.

6. Assimilate background information necessary to respond to the realities of our global age.

7. Develop an understanding of and sensitivity to the nuances of the Japanese culture in the workplace and the ways it may affect an employee’s behavior in common workplace situations.
HUMN313  Global Cultures: India

This course provides students an opportunity to immerse themselves in Indian culture. Students examine critically the ethical rationale by which cultures make their important decisions. Students will identify, analyze, and evaluate the cultural productions that shape our global community. They will also develop a global perspective—an understanding that interdependence demands a new critical consciousness.

**Learning Outcomes:**

Upon successfully completing this course the student will be able to:

1. Synthesize disciplines associated with general education by communicating across their boundaries to link parts.

2. Apply a critical consciousness to challenge personal cultural perspectives; distinguish and use thoughts and ideas that are outside his/her own patterns of meaning.

3. Identify and appreciate the forces that shape a culture; examine the intersection of religion, race, class, and gender as they formulate identities.

4. Examine ethnocentrism and the pluralities of histories.

5. Celebrate differences and similarities between his/her own culture and the Indian culture.

6. Assimilate background information necessary to respond to the realities of our global age.

7. Develop an understanding of and sensitivity to the nuances of the Indian culture in the workplace and the ways it may affect an employee’s behavior in common workplace
HUMN314  Global Cultures: Latino Culture  

Credits  3

This course provides students an opportunity to immerse themselves in Latino culture. Students examine critically the ethical rationale by which cultures make their important decisions. Students will identify, analyze, and evaluate the cultural productions that shape our global community. They will also develop a global perspective—an understanding that interdependence demands a new critical consciousness.

Learning Outcomes:

Upon successfully completing this course the student will be able to:

1. Synthesize disciplines associated with general education by communicating across their boundaries to link parts.

2. Apply a critical consciousness to challenge personal cultural perspectives; distinguish and use thoughts and ideas that are outside his/her own patterns of meaning.

3. Identify and appreciate the forces that shape a culture; examine the intersection of religion, race, class, and gender as they formulate identities.

4. Examine ethnocentrism and the pluralities of histories.

5. Celebrate differences and similarities between his/her own culture and the Latino culture.

6. Assimilate background information necessary to respond to the realities of our global age.

7. Develop an understanding of and sensitivity to the nuances of the Latino culture in the workplace and the ways it may affect an employee’s behavior in common workplace
This course will provide an overview of information security from both the perspectives of the organization and that of personal computing. Topics include security management practices, physical security, security architecture, business continuity and disaster recovery planning, access control systems, security controls, cryptography, telecommunications and network security, operations security, law and ethics, and personal computer security.

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Discuss effective security management practices.
2. Discuss the rationale and methods for controlling access to network systems.
3. Describe cryptography and symmetric & asymmetric key cryptography
4. Discuss security models and operations security.
5. Discuss software application and database security issues.
6. Discuss disaster recovery, business continuity, and legal & ethical issues.
7. Describe the threats to physical security.
8. Discuss topics relevant to security for personal computers.
IAAS224  Implementing Network Security  Credits  3

This course will provide hands-on, practical techniques for implementing security in today’s environment. The current risks and threats to an organization’s data, along with methods of safeguarding this data, will be discussed. Students will build on previous knowledge to implement basic security services on any type of computer network. This course prepares students for the CompTIA Security+ exam.

Learning Outcomes:

Upon successful completion of this course the student will be able to:
1. Describe the security purpose and function of network devices and technologies.
2. Explain risk related concepts, and the importance of incident response procedures, business continuity plans, and disaster recovery plans.
3. Identify different types of threats and vulnerabilities, as well as defense techniques.
4. Carry out procedures to establish application, data, and host security.
5. Implement authentication, authorization, and access control services.
6. Apply various cryptographic tools.
IAAS245    Disaster Recovery    Credits  3

This course will provide an overview of characteristics of disasters, their impact on population, infrastructure, economy, and disaster management cycle. Topics include the role, organization, and management of business continuity planning in planning for and surviving the impact of disaster, continuing to operate to serve clients or customers, and rapidly recovering to full operations. Other areas of interest include the business impact analysis process, how to manage it, and how to use the analysis as the first step in business continuity

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Describe the information security lifecycle,
2. Explain the issues related to Prevention, Detection, and Response,
3. Justify the preferred approach for handling an incident
4. Explain cryptography, business continuity, and disaster recovery from a business perspective,
5. Make the decisions related to company data security and explain the impact of those decisions on an organization,
6. Decide what the most appropriate solution for a company is - building internal capabilities vs. outsourcing.
7. Develop, either individually or in a team, a DRP.
IAAS256  Windows Digital Forensics  Credits  3

This course surveys the technical knowledge of the Windows operating system that any digital forensic analyst should know to examine digital media. The course focuses on collecting and analyzing data from a Windows operating system to provide information that can be used for both civil and criminal litigation. User based activity and software/hardware artifacts are analyzed along with acquisition of digital media in a Windows based environment.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Describe Windows supported file systems (i.e.: Fat, NTFS, exFat)
2. Discuss Windows processes and what they mean to a forensic examination.
3. Identify, secure and image Windows based systems (PC’s, Physical and Virtual servers).
4. Identify and describe Windows forensics artifacts and what they mean to a forensic examination.
5. Research and discuss new and updated applications and what they mean to a forensic examination.
6. Evaluate Hardware and software required to build a digital forensics lab used for Windows investigations.
7. Perform a basic forensic examination on digital media of a Windows system.
IAAS321  Securing the Infrastructure  Credits  3

This course covers those skills necessary to further protect the network infrastructure. Topics covered include advanced TCP/IP, IPSec, securing routers and Windows and Linux computers. Also covered are contingency planning and understanding attack techniques. Upon successful completion of this course, students will have the prerequisite skills to take applicable certification testing.

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Analyze advanced TCP/IP within a Windows computer.
2. Implement and examine IPSec configurations.
3. Secure access to Linux services & harden Linux.
4. Implement Windows security configuration tools and secure Windows resources.
5. Configure router security and logging.
6. Analyze contingency planning goals.
7. Identify the attack points on the Internet.
8. Discuss attack techniques and methods to protect against them.
IAAS322  Network Defense/Countermeasure  

This course covers the technologies required to defend a network. Topics covered include implementing of firewalls, VPNs and intrusion detection systems, performing a risk analysis, and managing security policies. Upon successful completion of this course, students will have the prerequisite skills to take applicable certification testing.

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. describe the concepts of defensive technologies in creating a layered defense.
2. create a firewall policy based on provided statements.
3. apply firewall concepts and knowledge to a scenario.
4. configure and examine a complete VPN environment.
5. examine the principles of intrusion detection analysis.
6. describe the process of risk analysis.
7. examine a detailed, complete security policy template.
IAAS331 Database and Distributed Systems

This course covers Database management security issues such as securing the DBMS, enforcing access controls, backup and recovery, and related issues. Topics will include designing a database solution, creating databases, data types and tables, constraints, triggers, and aggregation and grouping.

Learning Outcomes:

Upon successful completion of this course, the student will:

1. Understand the fundamental principles of network security and implementation.
2. Understand the technologies used and principles involved in creating a secure computer networking environment.
3. Apply techniques for authentication to counter the types of attacks and malicious code that may be used against a network, the threats and countermeasures for e-mail, Web applications, remote access, and file and print services.
4. Apply a variety of security topologies and concepts used for providing secure communications channels, secure internetworking devices, and network medium.
5. Understand intrusion detection systems, firewalls, security policies, disaster recovery, and computer forensics and physical security concepts.
6. Demonstrate hands-on knowledge of database centric topics including; Database security, DBA security, attacks against Oracle and SQLSERVER.
IAAS332  Authentication and Audits  Credits  3

This course concentrates on the tools necessary for protecting user accounts and strengthening authentication. Topics include establishing secure account usage, monitoring and disabling accounts, controlling root access, and auditing user activity.

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Demonstrate how resources protect information from unauthorized access and users.
2. Demonstrate how to authenticate users and authorize rights of access.
3. Demonstrate how various authentication schemes work.
4. Demonstrate how access to information resources can be controlled using various access control models.
5. Explain the strengths and weaknesses of authentication schemes.
IAAS340  Biometric ID and Privacy Laws  Credits  3

This course will cover privacy laws in connection with biometric identification in the U.S. and in the rest of the world. Topics will include travel documents, e-passports, and next generation identity authentication. Biometric standards as established by the National Institute of Standards and Technology, privacy and interoperability will also be covered.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Understand the historical foundation and current status of information law and policies.
2. Understand the issues concerning the gathering, use and protection of information about individuals and organizations.
3. Understand the right to access information, the free flow and use of information and the techniques used to create an individual’s ‘digital persona’.
4. Understand the roles of government and private sector organizations in protecting information privacy.
5. Apply legislation to develop policies for information gathering and authentication and verification analysis using biometric devices.
IAAS345  Linux/MAC Forensics

This course surveys the technical knowledge of the Linux/Macintosh operating systems that any digital forensic analyst should know to examine digital media. The course focuses on collecting and analyzing data from a Linux and Macintosh operating system to provide information that can be used for both civil and criminal litigation. User based activity and software/hardware artifacts are analyzed along with acquisition of digital media in a Linux and Macintosh environments. This course is a current topics course that will continuously change to meet current IT security conditions.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Describe Linux and Macintosh supported file systems (i.e.: ext2, ext3, HFS, HFS+)
2. Discuss Linux and Macintosh processes and what they mean to a forensic examination.
3. Identify, secure and image Linus and Macintosh based systems (PC’s, Physical and Virtual servers).
4. Identify and describe Linux and Macintosh forensics artifacts and what they mean to a forensic examination.
5. Research and discuss new and updated applications and what they mean to a forensic examination.
6. Evaluate Hardware and software required to build a digital forensics lab used for Linux and Macintosh investigations.
7. Perform a basic forensic examination on digital media of a Linux and Macintosh
IAAS355  Network Forensics  

Network Forensics is a specialized area of IT Forensics that focuses primarily on the proactive approaches required for network based information gathering, legal evidence collection and intrusion detection. Learners will understand how the temporary state of network traffic creates a unique challenge in the field of Network Forensics. This course is a current topics course that will continuously change to meet current IT/Network security

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Describe and Analyze various network/system log files
2. Describe and demonstrate Passive Evidence Acquisition
3. Describe and demonstrate Active and Interactive Evidence Acquisition
4. Describe and demonstrate network packet capture and analysis.
5. Examine and report on intrusions both internal and external to a network.
6. Describe the following technologies:
   a. DNS Tunneling
   b. OSI Model for network forensics
   c. DHCP and MAC Address analysis
   d. Data Tunneling
   e. Web Proxies
   f. Encryption and SSL Interception
   g. Wireless Access Points
IAAS370  Mobile Device Forensics  Credits  3

This course will expose students to the highly specialized areas of mobile device forensics. The wide array of operating environments in use in the mobile device area creates a unique set of IT Forensics challenges. Mobile devices also introduce unique challenges due to the variability of the storage components used. This course is a current topics course that will continuously change to meet current IT security conditions.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Describe, discuss and perform logical and physical acquisitions of mobile devices.
2. Describe, discuss and perform manual examinations of mobile devices.
3. Recover deleted data from mobile devices.
4. Evaluate Hardware and software required to build a digital forensics lab used for mobile device investigations.
5. Describe and discuss the different types of evidence and interpretation of data formats on mobile devices.
IAAS375   File System/Operating Systems/Data Recovery  Credits  3

This course surveys the technical analysis of file systems, operating system artifacts and the recovery of data from file systems on digital media. Particular focus is given to the metadata of the file systems and what potential information they can provide. The course explores the file systems used by the following operating systems Windows, Linux and Macintosh as well as recovering data from these files systems.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Describe and discuss Windows based file systems.
2. Describe and discuss Linux based file systems.
3. Describe and discuss Macintosh based file systems.
4. Describe and discuss Optical Disc based file systems.
5. Recover data on various file systems using current methods and technologies.
6. Describe and discuss file system timestamps and their impact on digital forensic investigations.
IAAS420  Reverse Engineering Malware  Credits  3

This course surveys the technical challenges in reverse engineering malicious software in a corporate environment. Particular consideration is given to the tools and techniques used to reverse engineering software as well as assessing malware threats. The course explores a practical approach to examining malicious programs that run on Microsoft Windows systems; Web based malware and malicious document files.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Assemble tools to build a malware analysis/malware forensics lab.
2. Intercepting and analyzing system and network activity in the lab from malicious programs and documents
3. Perform behavioral analysis of a malicious windows programs and documents.
4. Perform static and dynamic code analysis of windows programs and documents.
5. Describe and discuss Packers, Unpackers and PE headers of windows programs.
6. Describe and discuss hooking, injections, browser scripts and malicious windows programs and documents.
IAAS450  Advanced Topics in Digital Forensics  Credits  3

This course explores the new technology and methodologies in digital forensics. Particular consideration is given to new and upgraded software and investigative techniques. The course will evaluate and explore new/upgraded software and what it means to the digital forensic examiner. New investigative techniques that have been created will also be examined.

**Learning Outcomes:**

Upon successful completion of this course, the student will be able to:

1. Evaluate emerging software technologies.
2. Evaluate emerging hardware technologies.
3. Evaluate emerging methodologies in digital forensics.
4. Research and write comprehensive reports on emerging technologies.
IAAS460  Digital Forensics Analysis and Report Writing EL  Credits  3

This course surveys the technical and reporting challenges of the digital media analysis workflow. Particular consideration is given to the reporting process of the digital media analysis work flow. The course focuses on analysis of digital media and creating comprehensive, human digestible reports based on the analysis. This course contains an experiential learning component for those whose major is Digital Forensics.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Conduct a full forensic examination on digital media, from evidence collection to testifying in court, for Windows/Linux and Macintosh systems.
2. Describe and discuss presenting acquired evidence and analysis in court.
3. Read and critique a digital forensic expert report.
4. Prepare questions to be asked and answered in a deposition.
5. Write an Affidavit, a comprehensive digital forensic report and supplemental
IAAS481  Information Security and Assurance  

This course will provide an introduction to the different technical and administrative aspects of Information Security and Assurance. Topics will include inspection and protection of information assets, detection of and reaction to threats to information assets, examination of pre- and post-incident procedures, technical and managerial responses, and an overview of the Information Security Planning and Staffing functions.

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Demonstrate a basic understanding of cryptography.
2. Demonstrate an understanding of capability and access-control mechanisms.
3. Develop authentication and security models.
4. Develop models for operating systems security.
5. Develop plans for enforcement of security policies.
6. Demonstrate application of the legal and ethical aspects of computer security.
IAAS482  Vulnerability Assessment  Credits  3

This course will provide methodologies for prioritizing information assets and threats to information assets. Topics will include risk analysis, architecture components of an incident response plan, legal and public relations implications of security and privacy issues, and the framework of a disaster recovery plan. Other areas of interest will include identifying explicit weaknesses and strengths of the security of various networking operating systems, discovering and recommending corrections to known vulnerabilities in network infrastructures, and recommending systems for the physical hardening of popular network components.

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Determine an appropriate methodology for determining an organization’s risk, weaknesses, and security posture.
2. Perform audits and assessments.
3. Conduct penetration studies and architecture reviews.
4. Examine weaknesses using current tools, including vulnerability scanners and OS fingerprinting tools.
5. Audit and make recommendations to improve the security posture of an organization.
This course will apply the framework for a disaster recovery plan. Topics will include developing enterprise and issue-specific security policies, design and implementations of a security infrastructure, and identifying a security team. Further areas of interest include the process of selecting necessary security personnel, recommending auditing components and goals of an information system for security, and designing a comprehensive disaster recovery/business continuity plan.

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of UNIX and Windows operating systems and corresponding Internet protocols.
2. Demonstrate low-technology reconnaissance.
4. Demonstrate various methods for attacking networks, including sniffing, spoofing, and Denial-of-Service attacks.
5. Demonstrate methods for preserving appropriate access while restricting malicious activity.
6. Develop procedures and policies for avoiding attacks and protecting the network.
IAAS487  Internet/Email/Electronic Discovery  Credits  3

This course surveys the technical and managerial challenges that the Internet and email play in the electronic discovery process. Particular consideration is given to the policies, procedures and examination of emails and Internet activity in the corporate environment. The course focuses on creating policies and procedures for email and Internet usage; analysis of Internet usage and email examinations to support civil/criminal litigation.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Describe, discuss and examine Internet browser based activity.
2. Describe, discuss and examine Social Media activity.
3. Describe, discuss and examine email activity.
4. Describe, discuss the eDiscovery process and implications to an individual/company.
5. Report and explain Internet/Email/eDiscovery findings to different levels of management.
6. Write and implement policies and procedures for Internet/Email activity.
IAAS491 Cryptography

This course presents cryptography as the essential tool for private communications over an unsecured, public medium such as the Internet. Cryptography is shown as the enabling technology for E-commerce, virtual private networks (VPNs), and secure operating systems. Major topics of the course include cryptographic algorithms, certificates, and Public Key Infrastructure (PKI). Other areas of interest include authentication, confidentiality, nonrepudiation, secret key cryptography, public key cryptography, digital certificates, ciphers, and digital signatures.

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Understand the different elements of network security, including the definition of adversary and network security.
2. Identify the different types of attacks, including message insertion, message modification, message replay, and denial-of-service attacks (DoS or DDoS).
3. Apply network security services: authentication, access control, confidentiality, integrity, non-repudiation, availability, anti-replay, anonymity, specification and verification of network protocols.
4. Apply cryptographic review, including substitution and transposition.
5. Apply symmetric key cryptography: DES, AES.
7. Develop network security designs, including IPsec, Hop Integrity, SSL/TLS, PKI, and Kerberos.
IAAS492  Legal/Ethical Issues in Information Assurance  Credits  3

This course will explore the legal and ethical issues in information and computer security and the scope of security management that the security professional must understand. Topics will include state and local codes and regulations, privacy issues, and decision-making processes faced by security managers that involve important legal and ethical aspects. Other areas of interest include personnel law and obligations, negotiations, contract management, constitutional rights of individuals, legal compliance, ethical standards and legal liability, and

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Demonstrate the use of a framework for discussing legal and ethical and controversial issues.
2. Demonstrate practice in internalizing (experiencing and understanding) various ethical situations that may arise as a practicing IT professional.
3. Understand the boundaries between what is technologically possible and what is socially responsible.
4. Apply conflict resolution to ethical disputes within groups, presentations, and Q&A sessions.
5. Apply policies and practices to state and local computer crime code topics, and appropriate behavior consequences.
LEGL101 Introduction to Legal Studies Credits 3

Students are introduced to basic legal vocabulary, the federal and state court systems, and legal ethics. They also become familiar with a variety of law-related working environments.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Recognize behavioral and ethical requirements that are imposed upon legal assistants, including confidentiality and prohibition of unauthorized practice of law.
2. Apply effective interpersonal skills by interacting appropriately and efficiently with clients, court/agency personnel, co-workers, and supervisors.
3. Explain legal terms commonly encountered in legal texts, research, writing, and documents.
4. Discuss relevant substantive and procedural legal concepts, as well as the roles of paralegals in specific subject matter areas.
5. Explain concepts relating to subject matter jurisdiction and court procedure.
LEGL204  Family Law  

Students are introduced to the practical skills required in divorce, paternity, child protection, guardianship, and other proceedings. Special emphasis is placed on interviewing, investigation, file organization, and drafting documents in preparation for litigation in each of these subject areas.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Use proper techniques to interact appropriately, ethically, and efficiently with clients, court/agency personnel, co-workers and supervisors.
2. Demonstrate how to effectively interview witnesses and clients, obtain records and documents, and organize evidence gathered for settlement or trial of divorce and other family law matters.
3. Apply substantive law regarding property divisions, spousal support, custody, parenting time, and child support to evidence gathered and organized in order to determine potential outcomes of a divorce proceeding, including settlement.
4. Prepare, file, serve, and respond to documents utilized in divorce proceedings from the time of filing through enforcement and modification of the judgment.
5. Demonstrate how to interact effectively with the Office of the Friend of the Court by conforming to its procedural requirements.
6. Apply substantive and procedural law applicable to other family law proceedings and to prepare, file, serve, and respond to documents utilized in those proceedings.
LEGL210  Business Law Foundations

Credits  3

This survey course covers the fundamental principles of business law, including the legal system, dispute resolution, government regulation torts, and crimes affecting business, contracts, sales, and agency. Court decisions are used to encourage analytical thinking.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Explain the legal environment in which business functions including methods of resolving disputes through the courts and alternative dispute mechanisms, the role of the US Constitution in the regulation of business and the power and function of administrative agencies in the regulation of business.
2. Describe the elements of contract formation, performance, breach and remedies.
3. Define various forms of business organization and analyze the advantages and disadvantages of each form of organization.
4. Apply concepts of business ethics and social responsibility to business decisions.
5. Differentiate criminal law from tort law.
6. Recognize the role of regulation in the areas of employment and labor law, consumer protection, environmental and international law.
7. Discuss agency relationships, how they are formed and the duties and liabilities of each party.
8. Define and distinguish various types of intellectual property and explain the importance of each.
LEGL211  Criminal Law  Credits  3

This course examines Criminal Law in the United States, with an emphasis upon its basic functions and principal components. The substantive elements of crimes and defenses are explored along with an examination of the impact of crime on society.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Employ effective interviewing skills, locate records and documents, and organize evidence gathered for presentation at all procedural stages of criminal prosecutions.
2. Identify the elements of and defenses to crimes, and the evidence required to prove those elements and defenses.
3. Apply substantive and procedural law to research, prepare, file, serve, and respond to documents encountered at all stages of selected criminal proceedings.
4. Recognize, research, and analyze the substantive and procedural issues that arise in criminal prosecutions under the constitution, statues, and court rules.
5. Prepare, file, serve, and respond to documents encountered during investigations, arrests, charging, arraignments, preliminary examinations, pre-trials, sentencing, and post-trial proceedings.
LEGL213   Torts        Credits   3

Students are introduced to areas of legal liability commonly encountered by individuals and business as well as to the methods of liability avoidance. Topics covered include intentional torts, negligence, strict liability, product liability, malpractice, premises liability, dramshop, consumer protection, and other areas of tort liability.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Identify factual scenarios that give rise to cases involving intentional torts, negligence, product liability, malpractice, premises liability, dram shop, consumer protection, and other torts.
2. Describe the defenses applicable to the torts covered in this course.
3. Identify the damages that result from the torts covered in this course.
4. Analyze the operation and effect of vicarious or strict liability in each substantive area of law covered in this course.
5. Employ methods of minimizing potential liability in each substantive area of law covered in this course.

2016-2017
LEGL215  Litigation  

Credits  3

This course is designed to familiarize students with the basic requirements of the Michigan Rules of Court and the litigation process. The purpose is to enable them to assist the attorney in preparation of legal papers and documents in a timely and comprehensive manner.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Describe the federal and state court systems and the stages in a lawsuit, including both pretrial and trial procedure.
2. Locate relevant court rules and apply them in the drafting of documents.
3. Employ required style and format in preparing various types of litigation documents.
4. Describe strategies and techniques used in the pre-trial phase of a lawsuit.
5. Apply rules relating to the unauthorized practice of law and other ethical rules which relate to litigation practice.
LEGL216 Legal Research

Students are introduced to the published sources of law and research strategies utilized to efficiently analyze legal issues and determine the current state of the law. Students learn to use print resources, as well as computer assisted research tools to access primary and secondary sources of law.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Identify and analyze legal issues presented by factual patterns
2. Prioritize legal issues presented by factual patterns.
3. Develop and use research strategies to efficiently find the correct source and current state of the law through the use of primary and secondary sources of law.
4. Efficiently utilize legal research tools, including print and electronic research tools, to find applicable law.
5. Restate, organize, and reconcile the law to resolve legal issues.
6. Apply the Uniform System of Citation and the Michigan Uniform System of Citation.
7. Demonstrate effective legal writing techniques.
LEGL218  Legal Writing  Credits  3

Students apply their legal research skills to draft pleadings, discovery documents, memoranda, briefs, correspondence and other documents commonly utilized in legal settings.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Identify and analyze legal issues presented by factual patterns.
2. Prioritize legal issues presented by factual patterns.
3. Demonstrate effective legal writing techniques by drafting pleadings, discovery documents, legal memorandum, correspondence and other legal documents.
LEGL220  Technology in the Law Office  Credits  3

This course provides an opportunity for students to use computer technology and its application within law firms and other entities engaged in the practice of law. It covers the use of technology in, e-discovery, office management, case management, litigation

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Describe computer applications commonly used in law offices and the role of the paralegal in applying these computer applications.
2. Construct a database for use in organizing and managing data, as well as updating and modifying the data.
3. Prepare database information in various report formats.
4. Develop a system for document organization and retrieval using appropriate software.
LEGL300  Evidence and Criminal Procedures  Credits  3

This application-based course examines procedural and evidentiary rules and cases relating to admissibility of criminal evidence. Students are introduced to preparing and filing documents involved in criminal litigation from initial client contact through sentencing and appeal.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Demonstrate effective interviewing skills
2. Examine and organize evidence gathered for presentation at all procedural stages of criminal prosecutions.
3. Apply applicable law to research, prepare, file, serve, and respond to documents encountered at all stages of selected criminal proceedings.
4. Describe and summarize the issues that arise in criminal prosecutions under the constitution, statutes, and court rules.
5. Identify and prepare, file, serve, and respond to documents encountered during investigations, arrests, charging, arraignments, preliminary examinations, pre-trials, sentencing, and post-trial proceedings.
LEGL301  Business Organizations

Students are introduced to legal problems encountered in business formation, operation, and acquisition, including the law concerning sole proprietorships, general and limited partnerships, corporations, and limited liability companies. They are also introduced to related business law concepts.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Analyze factual situations, function within the organizational structure, and determine the relative advantages and disadvantages of various forms of business organizations including sole proprietorships, general and limited partnerships, corporations, and limited liability companies.
2. Identify, resolve, and avoid common legal problems that arise during acquisition, formation, operation, and dissolution of business enterprises.
3. Identify, resolve, and avoid common legal problems that arise during acquisition and disposition of real and personal property.
4. Analyze and properly utilize negotiable and security instruments encountered in typical credit and secured transactions involving real and personal property.
5. Apply substantive and procedural law to practical business situations.
LEGL303  Bankruptcy Law  Credits  3

This course is a study of bankruptcy concepts relating to consumer bankruptcy filings under Chapters 7 and Chapter 13 of the Bankruptcy Code. The course focuses on practical aspects of bankruptcy practice, including drafting of forms and other documents.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Describe the role of the legal assistant in a bankruptcy practice.
2. Analyze ethical rules and issues affecting bankruptcy practice.
3. Distinguish the types of relief available to individuals and businesses under the Bankruptcy Code and non-bankruptcy alternatives.
4. Describe concepts relating to valuation of assets, exemptions, preferences, reaffirmation, redemption, and discharge ability of debts.
5. Explain forms and procedures used in selected types of bankruptcy filings, adversary proceedings, contested matters, and other bankruptcy litigation.
LEGL305  Real Estate Law EL

Credits  3

Students are introduced to various forms of property ownership. Students will draft legal documents used in real estate transactions as well as documents used in litigation reflecting various types of property ownership.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Interacting appropriately, ethically, and efficiently with clients, court/agency personnel, co-workers and supervisors involved in real estate transactions
2. Demonstrate skill in interviewing clients, obtaining documents, and organizing information gathered to successfully complete tasks required in real estate transactions and court proceedings relating to real estate
3. Prepare land contracts, initiate and respond to proceedings to enforce rights in real estate
4. Explain land descriptions, conduct title searches, and record documents
5. Prepare documents used in real estate closings
LEGL308  Estate Planning and Probate Law EL  Credits  3

Students are introduced to the process of estate planning, from initial client contact to asset identification and appraisal through drafting of estate planning documents, including wills, trusts, powers of attorney and medical advanced directives. Students also learn about estate administration, guardianships and conservatorship through the drafting of petitions and other court documents.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Interact appropriately, ethically, and efficiently with clients, court/agency personnel, co-workers and supervisors involved in estate planning, probate, and protective proceedings.
2. Demonstrate skill in interviewing clients, obtaining documents, and organizing information gathered to successfully complete tasks required in estate planning, the administration of estates, protective proceedings and court proceedings relating to estate planning, probate and protective proceedings.
3. Prepare documents commonly used in estate planning, probate administration and protective proceedings including wills, trusts, powers of attorney, advance directives and petitions.
4. Assist personal representatives and trustees in the performance of their duties.
5. Prepare, file, serve and respond to documents relating to probate proceedings.
LEGL320  International Business Law  Credits  3

This course provides a general introduction to the international legal environment affecting Americans doing business with foreign nationals, whether in the United States or abroad. Students develop an understanding of the legal environment and the most common problems experienced in international business transactions; learn a conceptual framework to understand the legal dynamics experienced in the international business arena; and develop an awareness of methods used to resolve international business disputes.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Assess the state of international commercial law.
2. Compare the major differences between public and private transactions performed in the international environment.
3. Analyze the implications that treaties such as NAFTA have on American business dealings.
4. Analyze the differences in international commercial law as distinguished from that in the United States.
5. Differentiate the methods of dispute resolution such as arbitration and conciliation, as they apply to international law.
6. Identify the differences in international legal systems used to settle disputes, such as code law and common law.
7. Describe the objective theory of jurisdiction as it applies to an American firm doing business within a foreign country.
LEGL334  Legal Aspects of Sport Management  

Students examine the laws that apply to sport management issues. Topics include contract law, agency law, tort law, constitutional issues, risk management, and alternative dispute resolution.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Identify factual scenarios that will likely give rise to Sport Management legal liability.

2. Identify potential legal issues--particularly in the areas of Tort Law, Contracts Law, Regulatory Law and Constitutional Law.

3. Identify the monetary damages and other types of legal liability that can result from Sport Management legal issues.

4. Employ methods of minimizing potential liability (i.e. Risk Management) in each...
LEGL401  Employment and Labor Law  Credits  3

This case study course focuses on the managing of employer/employee employment related issues through an examination of the major federal laws governing the employment relationship such as: National Labor Relations Act, Title VII of the Civil Rights Act, Age Discrimination in Employment Act, Americans with Disabilities Act, Fair Labor Standards Act, and the Occupational Safety and Health Act. Emphasis is placed on the critical thinking and problem solving skills required of business managers responsible for the hiring, directing and terminating of workers in both non-union and union environments.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Analyze court cases dealing with both labor and employment laws and assess their impact on the workplace.
2. Evaluate laws (or proposed laws) that govern the employment relationship from the perspective of both employers and employees.
3. Explain the collective bargaining process and its relationship to contemporary labor law which include the following: the three phases of the process, the roles of the various participants, the structural differences between labor and management in terms of labor relations activities, and the NLRB regulations that govern the process.
4. Examine the legal environment of the labor-management arbitration process.
5. Demonstrate a familiarity with the various administrative agencies’ regulations and statutory laws.
LEGL415  Advanced Litigation  

This is an advanced course in trial practice focusing primarily on the role of the legal assistant in case management. Particular emphasis will be given to discovery and trial

**Learning Outcomes:**

Upon successfully completing this course, the student will be able to:

1. Apply ethical principles relating to litigation practice.
2. Describe the role of the litigation paralegal in relation to discovery and case management.
3. Evaluate the effectiveness of various forms of informal and formal discovery.
4. Compose various documents used in formal discovery, including interrogatories, requests for admission, and requests for production of documents.
5. Manage information and documents generated through informal and formal discovery, including summarizing depositions and organizing documents.
6. Evaluate the relationship between discovery techniques and effective trial preparation.
7. Analyze legal issues relating to discovery using the Michigan Court Rules and other legal authority.
8. Describe litigation support systems used in multi-document and complex litigation
MATH130  Contemporary Applied Math

Credits  3

This course introduces students to systematic mathematical thinking in everyday life scenarios. Through a non-traditional exploratory approach, students apply mathematical concepts to social and professional situations. Students learn to apply mathematical problem solving to planning, scheduling, efficient producing, and voting. Students learn the basic concepts of cryptography, logic, and number systems and their applications to computer science and the internet. Students will also utilize, discuss, and compare various consumer

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Perform conversions among binary, hexadecimal, and decimal number systems (computer math).
2. Apply the techniques of Graph Theory to model real-world scenarios and find optimal solutions.
3. Encrypt and decrypt messages using Caesar and Vigenère ciphers. Demonstrate an understanding of the vocabulary, complexity, and basic requirements of cryptographic systems.
4. Construct truth tables and circuit diagrams for simple and compound statements.
5. Compare, contrast, and apply commonly used voting methods: plurality, plurality with runoff, Hare, Borda, sequential pairs, and approval voting.
7. Compare retirement plans, investment options, and various sources of financing, by calculating simple and compound interest.
8. Use scheduling techniques to optimize efficiency and effectiveness.
9. Understand the elements and applications of identification numbers.
MATH135  College Algebra  

Credits  3

This course is intended to further develop students’ algebraic skills as well as prepare them for success in MATH210 (Business Calculus). The course focuses heavily on the necessary knowledge of mathematical concepts needed to solve a diverse and complex array of scenarios. These include polynomial, rational, exponential, and logarithmic functions and their properties. In addition, students will solve logarithmic and exponential equations, learn the symmetry of graphs, and sequences and series of numbers. Applications to the business, health, and/or technology professions will be emphasized throughout the course. Note: Online sections will have an $90.00 book fee included with tuition charges.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Perform function operations.
2. Solve logarithmic and exponential equations with particular focus on applications to the business, health, and/or technology professions.
3. Graph polynomial, rational, exponential, and logarithmic functions.
4. Solve exercises involving sequences and series.
5. Determine the domains of polynomial, rational, logarithmic, and exponential functions.
6. Apply properties of logarithms and exponents to simplify logarithmic and exponential expressions.
7. Simplify, add, subtract, multiply, and divide rational expressions.
8. Factor quadratic trinomials and ‘difference of squares’ binomials.
9. Apply computerized spreadsheet techniques and technology as appropriate to the course content.
This course introduces students to the fundamentals of non-calculus-based mathematics. Applications to Managerial Science and Computer Science serve as motivation for course material. Topics include the mathematics of finance (compound interest and annuities), optimization, and decision-making. The use of spreadsheets (Microsoft Excel) to handle more complex calculations will be introduced where appropriate. This course is strongly recommended for students in the Computer Science BS program. Note: Online sections will have a $90.00 book fee included with tuition charges.

**Learning Outcomes:**

After successfully completing this course, the student will be able to:

1. Solve a linear programming problem for the optimal solution.
2. Model and solve problems involving compound interest, present value, future value, and the amortization of a loan
3. Determine optimal strategies using game theory techniques.
5. Perform simulations using probability models.
6. Apply computerized spreadsheet techniques and technology as appropriate to the course content.
7. Solve systems of equations using matrices.
MATH150  Pre-Calculus  

Credits  4

This course is designed to prepare students for the traditional calculus sequence. Topics include: brief review of algebra, solving equations and inequalities, systems of linear and nonlinear equations, the properties and graphs of relations and functions (including polynomial, radical, rational, logarithmic, exponential, and trigonometric), zeros of polynomial functions, trigonometry, conic sections, polar coordinates. Online sections of this course will have book fees of $90.00.

Learning Outcomes:

1. Manipulate numbers and variables algebraically including the solving of equations.
2. Given a function (linear, quadratic, polynomial, rational, logarithmic, exponential, or trigonometric), generate its graph including domain, range, intercepts, symmetries, asymptotes, and increasing/decreasing.
3. Combine, translate, and manipulate (add, multiply, divide, compose, transformations, and find inverses) functions and generate the resulting graph.
4. Demonstrate knowledge of logarithmic and exponential properties by simplifying expressions and solving equations.
5. Use functions to build mathematical models in order to understand and predict physical phenomena.
6. Demonstrate full understanding of trigonometric functions including definitions, trig values of standard angles, radian and degree measure, identities, graphs, inverses, and applications.
7. Given a graph of a conic section (line, circle, ellipse, parabola, hyperbola), be able to determine its equation, and vice versa.
8. Solve systems of two equations with two unknowns.
9. Convert between polar and Cartesian coordinates and graph simple equations in polar coordinates.
10. Demonstrate an elementary understanding of complex numbers including graphing, adding, and multiplying.
11. Be acquainted with the central ideas of calculus (finding slopes of non-linear graphs and areas of regions under graphs via the process of taking limits).
MATH205  Applied Linear Algebra

This course introduces the fundamentals of linear algebra (i.e., the notation and algebra of vector spaces and matrices). Because these items have the ability to handle masses of data as a single unit with relative ease, they are of particular interest to those in computer science. Those applications to programming (e.g., 3-D game design, simulation, and biometric security) will serve as context throughout the course. Topics include matrix operations, linear transformations, vector spaces, and 3D geometry.

Note: Online sections will have a $90.00 book fee included with tuition charges.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Perform the following matrix operations: addition, subtraction, scalar multiplication and multiplication.
2. Find the inverse, transpose, and determinant of a matrix and perform LU-Factorization.
3. Solve a system of equations using augmented matrices, row operations, and Gaussian Elimination. Use linear systems to model and analyze applied situations.
5. Solve problems using applications of matrices such as coding, graph theory, and computer graphics.
6. Perform the following vector operations: sum, difference, dot product, scalar multiplication, cross products, and normalizing.
7. Solve problems dealing with 3-D geometry such as finding bounding boxes or bounding spheres, and finding intersections of geometric shapes in 3-D.
8. Compute eigenvalues and eigenvectors of a matrix.
9. Utilize technology as appropriate to perform matrix operations.
MATH210  Business Calculus

Credits  3

This course introduces students to calculus within the context of business applications. Particular focus will be given to questions involving optimization, marginal analysis, point of diminishing returns, and elasticity of demand. Calculus is a common prerequisite of many MBA programs. (Formerly MATH410)

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Apply the techniques of basic differential and integral calculus to business-related problems in the areas of optimization, marginal analysis, point of diminishing returns, and elasticity of demand.
2. Sketch graphs of functions using derivatives and asymptotes as aids.
3. Use the first and second order derivatives to solve optimization problems and to analyze the concavity of a function.
4. Perform implicit differentiation.
5. Evaluate definite integrals.
6. Apply the rules of differentiation to polynomial, rational, exponential and logarithmic functions.
7. Apply the rules of integration to polynomial, rational, exponential and logarithmic functions.
8. Find the derivative of a function using the limit of difference quotient.
9. Evaluate limits and identify any discontinuities of a function numerically, graphically and algebraically.
10. Apply computerized spreadsheet techniques and technology as appropriate to course content.
MATH215  Calculus I  

This is a first course in the standard calculus sequence covering differential calculus and an introduction to integral calculus. Topics include: limits and continuity, the definition of the derivative, rules and techniques of differentiation, applications of the derivative (e.g., L'Hôpital’s Rule, curve sketching, optimization, etc.), antiderivatives, Riemann sums, the definition of the definite integral, and the Fundamental Theorem of Calculus. Note: Online sections will have a $90.00 book fee included with tuition charges. Note: A grade of C or better is required to take the next course in the sequence.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Evaluate limits using a variety of methods.
2. Determine continuity and differentiability of a function.
3. Evaluate derivatives using limits, rules of differentiation, tables of derivatives, and implicit differentiation.
4. Employ derivatives to solve related rates, optimization, and other application problems.
5. Construct graphs of functions utilizing their first and second derivatives.
6. Interpret the behavior of functions based on their first and second derivatives.
7. Describe the behavior of the graph with respect to extrema, direction, and concavity.
8. Evaluate antiderivatives and indefinite integrals of elementary functions.
9. Employ antiderivatives to solve initial value problems and applications.
10. Employ finite sums to approximate total change and the area under a curve.
MATH216  Calculus II  

This is a second course in the standard calculus sequence covering integral calculus. Topics include: review of the definition of definite integral and the fundamental theorem of calculus limits, the definition of the integral, rules and techniques of integration, applications of the integral, improper integrals, conic sections and polar coordinates, sequences and series, and polynomial approximations of functions. Note: A grade of C or better is required to take the next course in the sequence.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Evaluate integrals using a variety of integration techniques.
2. Determine the appropriate method of integration for a given integral.
3. Employ integration to solve various application problems.
4. Demonstrate an understanding of the calculus of conic sections, parametric curves, and polar equations.
5. Solve first-order differential equations and first-order initial value problems.
6. Employ first-order differential equations to solve various application problems.
7. Determine the convergence or divergence of an infinite sequence, and the convergence or divergence of an infinite series.
8. Use understanding of sequences and series to represent, evaluate, integrate, and differentiate functions.
This course applies fundamental ideas in discrete structures and mathematical reasoning. Topics include elementary logic and set theory, functions and relations, induction and recursion, elementary algorithm analysis, counting techniques, and introduction to computability. Fundamental techniques include graph theory, Boolean algebra, and trees. Techniques and topics will form the foundation for subsequent programming language courses.

Learning Outcomes:

Upon successful completion of this course the student will be able to:
1. Translate and interpret symbolic logic and apply to language and mathematical proof.
2. Describe sets and set operations, identify properties of functions, categorize sequences, and compute values of summations.
3. Identify various growth rates of functions and categorize algorithms using Big-O notation.
4. Apply concepts of congruence to such things as modular arithmetic, number theory, and cryptography.
5. Apply methods of counting to problems involving permutations and combinations.
6. Apply concepts of graph theory including optimization of paths and circuits and applications with trees.
MATH317  Calculus III

This course is the third one in the standard calculus sequence. It covers three-dimensional Euclidean space including lines, planes and vector operations; multivariable scalar and vector-valued functions; partial derivatives; line and surface integrals; multiple integration; and Green’s, Stokes’, and the divergence theorems.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Construct curves, surfaces, and regions in two and three dimensions, in Cartesian, polar, cylindrical, and spherical coordinate systems.
3. Classify extrema and tangent planes of functions of two variables.
4. Apply double and triple integrals including changing the order of integration.
5. Apply theorems of vector calculus, including the Fundamental Theorem of Line Integrals, Green’s Theorem, the Divergence Theorem, and Stokes' Theorem.
6. Apply the computational and conceptual principles of calculus to the solutions of various scientific and business applications.
MATH350  Differential Equations with Modeling  

This course covers first order differential equations including graphical solutions, second order linear differential equations, systems of first order linear differential equations, theory and techniques of linearization, and first order systems of nonlinear differential equations. This course covers numerical methods with an emphasis on applied modeling applications including a modeling project which may use iterative methods.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Construct, solve, and apply a mathematical model.
2. Apply linear and separable first order differential equations.
3. Determine graphical and numerical solutions to first order differential equations.
4. Apply second order and systems of first order linear differential equations.
5. Solve first order non-linear differential equations by using linearization techniques.
6. Apply numerical methods.
7. Model scientific and business applications using differential equations.
MCMG300  Case Management Fundamentals  Credits  3

This course will provide an overview of the case management process and the job responsibilities. The student will become knowledgeable with current professional practice standards and required essential skills of the medical case manager. The course will emphasize case management ethical and legal principles, appropriate documentation and essential required skills while differentiating between the various roles of case managers. Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Define the roles, responsibilities and skills of the case manager.
2. Define multidisciplinary action plans
3. Discuss ethical principles, issues and dilemmas as they relate to case management.
4. Discuss the legal issues in case management.
5. Discuss standards of practice for case managers.
6. Explain the process of medical case management.
7. Examine the areas of documentation for the case manager.
8. Identify the risk areas in case management.
9. Differentiate between the different types of case management.
MCMG310  Community Services  

The course focuses on the resources available in the community through various state agencies, and on related services available to clients and their families with physical, cognitive and/or emotional disabilities. An emphasis is placed on how case managers coordinate community services and support for clients and families throughout the healthcare continuum. Woven throughout the course will be the impact of the Americans with Disabilities Act (ADA), Family and Medical Leave Act (FMLA), and related state and federal regulations. Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. List the areas of responsibilities of the community agencies, including funding and eligibility criteria.
2. Discuss the laws of Americans with Disabilities Act (ADA), Family and Medical Leave Act (FMLA), Rehabilitation Acts and how they affect case management.
3. Explain how to assess for the client’s independent functioning and vocational potential.
4. Identify the durable medical equipment and supplies needed for various medical conditions.
5. Describe transportation options for clients with various medical and mental conditions, impairments, and disabilities.
6. Differentiate between the types of rehabilitation programs.
7. Assess the various community health resources, including public educational system, and public entitlement programs.
8. Assess the home environment and plan the accommodations a client would require.
9. Determine the required medical and personal care needed in the home.
MCMG311 Adjustment to Disability

This course examines the various personal, psychological and social adjustments experienced by an individual with physical, cognitive, and/or emotional disabilities. The course will include in-depth discussion and analysis of the medical and psychological traits of disabilities. The student is expected to develop an understanding of treatment protocols and resources required to facilitate successful continuum of care for clients and their families. Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

Upon successfully completing this course, the student should be able to:

1. Define clinical and psychosocial aspects of disability and chronic illness including reactions to diagnosis, prognosis, family dynamics and multicultural issues.
2. Identify counseling strategies to address patient and family needs pertaining to handling medical management issues, coping skills and independent living options.
3. Identify assessment tools (medical, educational, vocational, independent living) to determine patient’s level of functioning at time of case management intervention and expectations of maximum level of functioning anticipated at end of treatment plan.
4. Determine members of case management team and their role in managing the patient’s treatment plan and facilitating case outcomes with specific attention to patient’s input and treatment goals.
5. Design case management plan to incorporate assessment of patient’s status, nature of disabling condition, medical treatment needs, and overall nature of intervention needed to achieve case outcomes within specified timeframes.
6. Develop action plan to address barriers to successful outcomes and follow-up assessments within specified timeframes.
MCMG312 Case Management Insurance/Utilization Review  Credits  3

This course provides an overview of various public and private insurances, payers and appeal processes that impact the client’s need for case management assistance. The course will include the process of conducting a utilization review addressing issues such as prior authorization, admissions, services provided, and the length of stay. An emphasis will be placed on creating and implementing a discharge plan. Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Define the terms used in the insurance/utilization review process.
2. Trace the utilization process from precertification to the appeal process.
3. Demonstrate an understanding of the different review types including preadmission review, concurrent review and retrospective review.
4. Differentiate between the most common utilization review criteria used today.
5. Determine the roles of the case manager, discharge planner and utilization reviewer.
6. Evaluate the various types and coverage of insurance.
7. Create a discharge plan for a client identifying the appropriate services and resources needed.
MCMG401  Case Work Reporting Techniques  

Credits  4

The course examines the methodology and processes utilized in client case management recording, report writing, client interviews, and resolving conflicts and barriers between clients and providers. The course includes processes related to gathering client-centered data, organizing and analyzing the information to write various reports and documentation. Additionally, students will conduct a cost benefit analysis to validate client services. Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. List information pertinent to case work recording and report writing.
2. Differentiate the types of reports required in the different case manager roles.
3. Discuss and/or demonstrate the methods to conduct an interview with the client, family, healthcare providers, and the payers.
4. Determine what the measurable case management goals should be based on the data that was gathered.
5. Measure the effect of case management services by preparing a cost benefit analysis.
6. Create an Initial Report including the referral reason, demographics, current medical status, past medical history, treating physicians, other healthcare professionals, medications, socio/environmental, financial/insurance, case management intervention, problems identified, case management recommendations and estimated hours of case management based on a specific client situation given by the instructor.
MCMG402  Disability Case Management

This course examines managing the care of a client with an illness/injury/disability and returning that individual to the work setting or an optimum level of function. The course focuses on the case manager role, function, and responsibility in the development of an evaluation of a multidisciplinary rehabilitation plan or program. Review of the employer’s role in prevention and recovery, and the work environment for ergonomics, safety, and industrial hygiene will be examined. At the conclusion of the course, the student will be able to prepare an individual written rehabilitation plan. Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Outline information pertaining to the nature of work to include the physical and cognitive demands for job performance, the work environment, accommodation options and/or resources, the option for accommodated work, and the availability of employment for disabled employee.

2. Define disability case management with consideration of the role of the employee, employer, physician, and insurance carrier.

3. Explain the similarities and differences of return to work under insurance programs, specifically workers compensation, auto no-fault, long-term disability and FLMA.

4. Identify the criteria used to evaluate and recommend interventions for treatment and rehabilitation to successfully return an employee to work after illness or injury, including a Functional Capacity Evaluation, Neuropsychological Evaluation and similar assessment tools.

5. Identify how the American Medical Association (AMA) “Guides to the Evaluation of Permanent Impairment” is used to identify and define level of impairment.

6. Differentiate between the types of government support available to an employee who is unable to return to employment due to a disability.

7. Present a rehabilitation plan to return the employee to work or an optimal level of functioning if return to work is not an option.
MCMG403  Case Management Special Populations  

Credits  3

The course is an overview of the special needs in providing case management for a number of special groups of individuals. These groups include substance abuse, vision/hearing impaired, mentally retarded/developmentally disabled, low birth weight babies, organ transplants, AIDS, closed head injuries, traumatic brain injuries, and paralyzed individuals. This course will focus on the Americans with Disabilities Act (ADA) and accommodations for these special populations. Note: A grade of C or better is required to pass this course successfully.

Learning Outcomes:

The successful student will be able to:

1. Identify the parameters of a special population group to include, but not limited to: consideration of nature of disability, anticipated functional limitations of disability, and role of multicultural factors.

2. Summarize laws and regulations related to health care and disability needs for individuals seeking health care, rehabilitation services, education and employment.

3. Address stereotypical responses to special populations by examining historical factors, typical expectations regarding the abilities of the population group and accommodation options.

4. Evaluate and differentiate the nature of services needed for special population groups to maintain adequate lifestyle pertaining to medical treatment, financial assistance, educational programming, and employment options.

5. Utilize community based resources for special population groups to design rehabilitation service plan with specified goals, anticipated outcomes, service payment options, and resources needed to achieve outcomes.

6. Complete and present rehabilitation service plan for specific case and include written and computer based materials for presentation.
MEDA254  Clinical Patient Care

In this course, the student is introduced to the theoretical and applicable procedures of ambulatory care practices including legal, and ethical clinical aspects of patient care. Emphasis is placed on obtaining accurate clinical and historical patient data, patient education and safety, assisting with medical office procedures and minor office surgeries, assigning diagnostic and procedural codes to corresponding conditions and procedures, and the application of sterile technique. In addition, the student will gain an understanding of body mechanics, patient assessment, physical modalities, electrocardiography, drug calculations and administration, and principles of IV therapy. Clinical experiences will encompass the physical and psychosocial developmental stages and needs of various patient populations. A $170.00 lab and insurance fee is charged in this course. Note: This course requires one hour of lecture and four hours of lab per week. DU scrubs are required for this course. A grade of C or better is required to pass this course successfully.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Perform a variety of patient education sessions, including pre-and post-treatment instruction, health maintenance and disease prevention.
2. Perform procedures, complying with comprehension of OSHA, Standard Precautions and HIPAA regulations.
3. Demonstrate professional behavior in the classroom and clinical setting.
4. Demonstrate correct performance in preparing and maintaining examination and treatment areas.
5. Demonstrate preparing the patient for routine procedures, specialty examinations, treatments, and minor office surgeries.
6. Apply pharmacology principles to prepare and administer oral and parenteral medications (excluding IV).
7. Demonstrate correct performance of selected clinical procedures and diagnostic tests.
8. Demonstrate correct personal body mechanics, as well as safe patient preparation and positioning.
9. Apply knowledge of anatomy and physiology, medical terminology, and common pathology to clinical assessments, diagnostic procedures, and treatments.
10. Discuss the principles of IV therapy.
11. Identify the various health care systems, areas of specialties, and community resources.
12. Recognize variations in the psychosocial developmental stages as well as cultural values of various patient populations.
MEDA255  Clinical Laboratory Procedures  Credits  3

This course will introduce the theory and techniques involved with basic laboratory procedures such as urinalysis, hematology, blood chemistry and microbiology. Emphasis will be placed on patient instruction, specimen collection, specimen processing, and documenting. Standard precautions, legal and ethical considerations, and OSHA standards are applied in the performance of venipuncture, capillary punctures, specimen handling and processing of bodily fluids, and equipment usage. A $170.00 lab and insurance fee is charged in this course. Note: This course requires one hour of lecture and four hours of lab per week. DU scrubs are required for this course. A grade of C or better is required to pass this course successfully.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Prepare microscopic slides with accuracy and efficiency.
2. Perform, interpret, and record laboratory test results of selected CLIA Waived tests.
3. Instruct the patient in pre- and post-collection techniques including clean-catch midstream urine, 24-hour urine and fecal specimens.
4. Apply guidelines of laboratory requisitions.
5. Demonstrate professional behavior in the classroom and in the clinical setting.
6. Demonstrate the proper technique for collection and processing of laboratory specimens.
7. Comprehend Standard Precautions, aseptic and sterile technique.
8. Identify necessary procedures for medical emergencies.
9. Identify blood components and their functions.

Required Course Materials: Students are required to obtain DU scrubs available through
MEDA259  Medical Office Applications  Credits  3

Students will master the administrative duties of medical office management. This will include communication skills both verbal and non-verbal, computerized office management, scheduling, accounting practices, financial management, third party billing and reimbursement, and daily operations. Students will have hands-on interaction in the use of electronic medical records. There is a $90.00 fee for NEEHR Perfect access and use. Note: This course requires two hours of lecture and two hours of lab per week. A grade of C or better is required to pass this course - successfully.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Generate paper and electronic health information to include organizing patient records and filing while applying appropriate legal, regulatory agency, and ethical guidelines.
2. Use multiple clinical and administrative functions in electronic medical records.
3. Demonstrate professional behavior in the healthcare setting.
4. Demonstrate written and verbal communication skills.
5. Perform basic accounting procedures.
6. Perform duties within legal, regulatory and ethical guidelines.
7. Discuss interpersonal skills and human behavior related to patients throughout the lifespan.
MEDA261  Phlebotomy Laboratory  

This course is designed to build on a focus of study that will prepare students for employment as phlebotomy technicians and is the first step in preparation to take a national phlebotomy certification exam. This course will provide the knowledge and skill necessary to safely and skillfully perform skin and venipunctures on patients. The course will include special testing and collection procedures, along with quality control and laboratory safety practices. A $170.00 lab and insurance fee is charged in this course. Note: This course requires one hour of lecture and four hours of lab per week. DU scrubs will be required for this course. A grade of C or better is required to pass this course successfully.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Correlate diagnostic and procedural coding to specific laboratory tests and procedures.
2. Demonstrate knowledge of the OSHA guidelines and safety rules.
3. Exhibit behaviors of a professional phlebotomist.
4. Preform dermal punctures, blood smears, and bleeding times under multiple conditions.
5. Preform multiple venipunctures using a variety of simulation equipment and techniques.
6. Perform 25 capillary punctures with accuracy.
7. Demonstrate correct technique for blood culture collection.
9. Apply basic laboratory terminology and abbreviations.
10. Explain professional and practice-related ethical issues pertaining to the phlebotomy profession.
11. Identify venipuncture complications and appropriate follow-up action.
12. Define HIV and HBV risks involved in patient care and specimen handling.
MEDA262  Phlebotomy Practicum

Contact Career Services at least one semester prior to enrolling. This course is designed to complete a focus of study that will enable students to take part in previously identified phlebotomy certification examinations. The student must complete a documented minimum of 100 successful venipunctures. Evaluation will be done by the facility supervisor, along with the internship coordinator of the University. No compensation shall be awarded for the internship, and the student must work a minimum of 120 hours during the scheduled time of the practicum. A $20.00 insurance fee and a $25.00 Internship/Practicum Management fee are charged in this course. Note: Any unexcused non-attendance or dismissal from a practicum experience will result in a grade of F. To meet course requirements the student will be required to be available during normal business hours (i.e. 8:00 a.m. to 5:00 p.m.) for site visits. DU scrubs and name badge are required for this course. A grade of C or better is required to pass this course successfully.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Use proper sterile technique and apply all guidelines of universal precautions during collection of specimens and performance of assigned laboratory tests.
2. Properly perform venipuncture, finger, and heel sticks with accuracy.
3. React calmly and professionally in emergency procedures, administering appropriate first aid measures.
4. Use and maintain various equipment and supplies.
5. Apply procedures to ensure accurate identification of patients and specimens.
6. Perform laboratory procedures in accordance with standard laboratory guidelines.
7. Perform administrative office procedures for effective patient management.
8. Complete accurate laboratory requisitions and lab reports, utilizing diagnostic and procedure coding criteria.
9. Communicate with patients and staff professionally.
10. Explain professional and practice-related ethical issues to the phlebotomy profession.
MEDA270  Chiropractic Assistant  Credits  3

This course is designed to prepare students for employment as chiropractic assistants. The course will introduce the student to the field of chiropractic and provide the knowledge and skills necessary to safely and appropriately assist Chiropractors with caring for patients. A $150.00 lab supplies fee is charged in this course.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Prepare a brief history of patient’s chief complaint.
2. Prepare a patient for an initial examination.
3. Perform basic palpation of common landmarks and describe in a daily note.
4. Demonstrate knowledge of diagnostic imaging procedures.
5. Demonstrate basic modalities of the chiropractic profession.
6. Apply research techniques and common software applications to facilitate learning outcomes and obtain information for chiropractic therapies.
7. Communicate effectively with physicians, patients, and staff members.
8. Discuss basic human nutrition, common nutritional deficiencies, and disease states associated with poor nutrition.
9. Describe Chiropractic Medicine’s fundamentals, principles and differences from allopathic medicine and techniques.
10. Describe diagnostic imaging modalities and indications in different clinical scenarios.
11. Pronounce and spell common chiropractic terms and conditions.
MGMT211 Management Foundations  

This course provides a foundation in basic management principles with special application and focus on the supervisory level of management. The four universal functions of management (planning, organizing, leading, and controlling) are explored. Students learn the theories and study their impact on the history of management practices. Proper case analysis process is also examined and applied through the discussion of various supervisory/managerial

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Describe management using the lens of history and theories.
2. Define, explain, and apply the planning function of management.
3. Describe, explain, and analyze the organizing function of management.
4. Define, discuss, demonstrate, and develop the leadership function of management.
5. Identify, review, and analyze the control function of management.
MGMT312  Creativity and Innovation          Credits  3

This course offers students the opportunity to explore how creativity and innovation affect today's corporate world. It provides an environment to stimulate students' spirits of adventure (which characterizes successful business people) and allows students to practice a variety of imaginative and critical thinking techniques while solving real community or corporate problems. Students apply case analysis techniques to the examination of organizations that foster and manage creativity.

Learning Outcomes:

Upon successful completion of this course, students should be able to:

1. Illustrate how the issues of creativity and innovation affect today's corporate world.
2. Explain the role of innovation in developing corporate growth strategies.
3. Illustrate how to identify and develop individual creativity in employees.
4. Explain how to foster a corporate culture that supports innovation.
5. Apply a variety of innovation theories and processes to real world situations.
6. Utilize proper case analysis techniques to the examination of various organizational issues that support a creative and innovative culture.
7. Demonstrate how continuous quality improvements rely on continuous innovation and imaginative problem solving.
8. Examine the complexities of change management, including environmental resistance, risk-taking, self-responsibility, dealing positively with setbacks, promoting paradigm shifts, and others.
MGMT314 Managing Change in Organizations

Credits  3

Students learn to recognize and analyze the disruptive environmental and internal forces that mandate organizational change. Through the analysis and synthesis of case exercises, students learn how to create the communication and implementation plans necessary to ensure that change is executed effectively while creating a culture that supports a Learning Organization.

Learning Outcomes:

Upon successful completion of this course, students should be able to:

1. Develop the plans necessary to move an organization from envisioning change to effectively executing change.
2. Evaluate leadership methods and the role of change agents in an evolving organization.
3. Analyze the impact of change on individuals and corporate culture.
4. Identify the internal and external forces of change.
MGMT321  Organizational Behavior

This course is designed to provide students with an understanding of organizations, by combining theory with application relating to motivation, group behaviors, power, politics, conflict, leadership, decision-making, communications, organizational design, and change. Students examine the application of psychology, sociology, and social psychology to organizational management.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Analyze the various concepts and theories applied through a comprehensive analysis of culture, climate, organizational structure, leadership, and communication.
2. Appraise and evaluate motivation and group theories as they relate to organizations.
3. Analyze the theory and practices of the human behavior in organizations.
4. Analyze change theories and trends as they relate to behaviors in organizations.
5. Develop analytical skills as they relate to solving behavioral problems in organizations.
6. Define motivation and describe the motivation theories.
7. Summarize the leadership theories and contrast them with recent approaches to leadership.
8. Define power and compare/contrast it with leadership.
9. Define conflict and describe the negotiation process.
MGMT357  Operations Management  Credits  3

This course examines the management of systems and processes that create goods and/or services. Quantitative modeling techniques are used to analyze the operations and control processes associated with productivity, capacity and quality assurance. Other topics explored include forecasting, inventory control, facility management, process technology and design as well as cost and waste reduction. Sustainable business practices as applied to operations are also addressed.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Develop an operations improvement plan
2. Evaluate the application of current and future technologies to operations management, such as ERP, SCM, CAD, CAM and knowledge management.
3. Analyze operation’s processes and their relationship with organizational functions, quality systems, productivity measures and contras, financial analysis and reporting.
4. Understand the concepts of operations planning and control, including forecasting, capacity assessment, scheduling, inventory, and material requirements.
MGMT370  Sustainability Principles and Practices  

This course presents the sustainability concepts as expressed in the “Triple Bottom Line” and focuses on building an understanding of the financial capital, ecological (environmental) capital and social capital of an organization. The relationship between the industrial/commercial infrastructure and the natural world is examined. Sustainable regulatory compliance standards are explored. The role of “Corporate Social Responsibility” and the development and measurement of “Social Capital” are examined using case studies and topic-focused presentations by leaders in the practice of sustainability. The integration of an organization’s operational functions in domestic and international settings provides a global perspective to these sustainability concepts.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Demonstrate theoretical knowledge of sustainability concepts applied to business organizations in wide variety of industries.
2. Examine and analyze sustainable business practices to determine their financial impact on the organization.
3. Identify and explain the regulatory compliance requirements and best practices relating to environmental setting of a business.
4. Analyze the market opportunities presented by proper and timely application of sustainable business practices.
MGMT375  Leadership Theory and Discovery                                    Credits  3

Students examine and apply theories of leadership with a focus on determining effective
strategies and styles of leadership needed to influence and coordinate the efforts of work team
members and organizations. Through the use of self-analysis critiques, students discover their
leadership styles and preferences.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Create a personal leadership development plan
2. Assess personal leadership opportunities and strengths to direct leadership
   improvement strategies
3. Analyze the importance of effective teams, relationships and networks within
   organizations as a means to achieve organizational goals
4. Apply leadership theories, styles and strategies to team and personal leadership
development
MGMT412  Quality Management  Credits  3

This course explores the current managerial philosophies of quality focus, customer orientation, and team participation. Emphasis is given to basic statistical tools, including SPC and DOE, and problem solving. Problem solving methodology in the context of ISO and QS certified environments will be addressed, as well as issues surrounding ISO and QS implementation, documentation, registration, and compliance. The Malcolm Baldrige Award, ISO-9000, and the Six Sigma quality systems will each be analyzed.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Apply selected quality standards to a business, municipality or other organization
2. Assess how current practices within an organization support or hinder the implementation of quality standards
3. Distinguish among various quality standards as applied in a variety of situations
4. Compare and contrast the origins and purpose of the Malcolm Baldridge National Quality Award, ISO9000 International Quality and the Six Sigma System
MGMT413  Sustainable Supply Chain Management  

This course examines the various components of the supply chain management (SCM) function with emphasis on inventory management and control, distribution and transportation as well as supplier relations. Sustainable business practices as applied to SCM operations are also addressed. Students learn techniques associated with purchasing, materials and procurement management, efficient inventory control, concepts of cost analysis, quality control, and MRP methods.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Formulate the design of a supply chain model that could be used in a global business.
2. Analyze the relationship of quality management principles and practices as applied to a firm’s global supply chain.
3. Explain the theory and concepts involved in supply chain management.
4. Explain the methods and practices of supply chain management in relationship to Enterprise Resources Planning and Customer Relationship Management programs.
5. Identify the objectives, methods, documentation, legal and ethical aspects of a procurement management system.
6. Explain the role of transportation in the materials distribution functions of a business with a global supply chain strategy.
7. Describe material management and purchasing organizational structures used in manufacturing, services and retail businesses.
MGMT420  Ethical Leadership and Corporate Social

This case-focused course examines the roles of leaders and their ethical responsibilities organizations in today's global marketplace. The impact of all levels of leaders on multiple stakeholders and the balancing of decision-making to maximize benefit to one's ecological environment, communities, shareholders, and workers are analyzed. The course features case studies in the areas on areas of governance, environmental management practices, and social/citizenship responsibilities.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Analyze current cases and make recommendations on various corporate citizenship issues including: board member duties, environmental issues, consumer welfare, social responsibility, business lobbying and political fundraising.
2. Explain the duties and responsibilities of board members for publicly traded corporations.
3. Assess the various causes for public criticism of corporations
4. Analyze the problems in government regulations and the various approaches to reforming the regulatory system.
5. Examine the nature and management of corporate citizenship.
6. Explore the role and impact of lobbyists and political fundraising on corporations and their relationships with government.
Students gain knowledge of the strategic planning process through the analysis of business cases and the development of a major business analysis project. The analysis requires a thorough review of industry and competitive conditions and situational analysis of the company (including financial trends) concluding with defendable recommendations for specific strategies and the development of objectives for strategic goal success. Note: International majors must analyze the global operations of the company for the major project. A $50.00 Strategic Management Simulation access fee is charged in this course.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Select the best strategy from alternatives and recommend objectives to maintain or improve an organization’s competitive position.
2. Evaluate the strategic alternatives of an organization.
3. Generate alternative strategies in response to an organization's current situation
4. Analyze an international organization's current situation
5. Use secondary research to identify the external and internal environment of an organization
MGMT450  Sustainable Global Business Design and Strategy  

This course is a study of sustainable business frameworks as drivers of business value creation and innovation. Sustainability development and implementation best practices are explored at the national and global levels using case analysis and presentations from select subject matter experts. The course includes studies of how government involvement fosters and supports business sustainability. Students examine the impact of Disruptive Innovation associated with advances in technology and their relationship with the strategies expressed by the Triple Bottom Line Concept. The course project provides the student with an opportunity to integrate the course content within the specialty with their management major by conducting and sustainability audit of an approved organization.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Demonstrate theoretical knowledge of sustainability concepts as they are applied to business operations in variety of industries operating in national and global environments.
2. Examine and analyze sustainable business strategies and practices to determine the methods used to manage the impact of disruptive innovations
3. Identify and explain the role of local, state and federal governments in the development of regulations, laws and incentives to foster and support business organizations as they adopt sustainability practices.
4. Analyze the value creation opportunities presented by proper and timely application of sustainable business practices.
MKTG210  Sport Marketing  

Credits  3

Students apply the fundamentals of marketing – target market, product, price, marketing channel, and marketing communication – to the sport industry. Students gain an understanding of sport as a product and its unique aspects.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Apply marketing concepts including target market, product, price, marketing channel, and marketing communication to the sport industry.
2. Discuss the unique aspects of sport marketing including how sport as a product differs from traditional consumer products and services, and the historical development of sport marketing.
3. Understand the needs of the sport consumer through analysis of demographics, psychographics, and behavioral patterns.
4. Apply the marketing planning process, including the establishment of goals and objectives, situational analysis, and preparation of the annual marketing plan.
5. Discuss the use of marketing tactics such as sponsorship, endorsement, merchandising, licensing, fundraising, special events, ticket promotions, marketing ratings, sales, venue & event marketing.
6. Analyze the role of media in the marketing communication element of a successful sport-marketing program.
MKTG211  Marketing Foundations  

Credits 3

This course explores the role of marketing in society and in the success of an organization. Students learn and apply the strategies, tactics and terminology used by market-oriented businesses. Through critical thinking exercises and case analysis, students become familiar with the primary tools of marketing including market segmentation, product, pricing, marketing communication, research, and marketing channel strategies.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Analyze the marketing mix and interpret the major decisions each component involves.
2. Compare marketing activities with the other functional areas of an organization.
3. Evaluate the concept of marketing segmentation and target market selection.
4. Explain the relationship between marketing and its environments, and its role in society.
5. Utilize secondary sources (i.e., library) in gaining insight into marketing problems and solutions.
6. Demonstrate the importance of quality and customer satisfaction for the firm in today's competitive environment.
MKTG212  Professional Selling  

This course introduces the theory and practical application of professional selling techniques with a focus on customer needs, behavior, and relationship building. Students learn the theory, practice, and procedures of successful selling while examining the personal attributes necessary for a successful sales career. Student presentation skills are enhanced through sales

**Learning Outcomes:**

Upon successfully completing this course, the student will be able to:

1. Prepare an effective sales presentation.
2. Demonstrate personal selling techniques learned in a role playing sales situation.
3. Discuss the nature of a professional sales career, including the opportunities, requirements, advantages and disadvantages.
4. Describe the different types of closes and trial closes in appropriate sales situations.
5. Describe the different methods of questioning for discovering prospect problems.
6. Discuss the importance and techniques of establishing rapport during the approach stage of the selling process.
7. Describe examples of objections and ways to counter them.
8. List the steps in the selling process.
MKTG213 Advertising Foundations

Students examine advertising as an integral part of the overall marketing function. Building on the introduction to marketing communication tools developed in Marketing Foundations, students learn specific advertising theory, terminology, and activities of the advertising industry and engage in specific advertising applications as they relate to the promotion of ideas, goods, and services.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Develop an advertising plan including objectives, budgets, media plans, and creative plans.
2. Evaluate the strategic functions of advertising within the broader context of marketing and business.
3. Discuss the social, ethical, and regulatory aspects of advertising.
4. Summarize the global effect of advertising on business, industry, and national economies.
5. Distinguish between the various media of advertising as to their nature and cost, as well as the advantages and disadvantages of each.
6. Associate functions of advertising agencies to how they contribute to the advertising process.
7. Outline the steps in creation of advertisements.
8. Describe the role advertising plays in the successful marketing of a product or an organization.
MKTG214  Public Relations Foundations  Credits  3

This course introduces the principles for managing relationships with the organization’s various audiences, including customers, employees, government, investors, and media. Students develop an understanding of public relations and learn to recognize, examine, interpret, and implement public relations activities and communications.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Interpret public relations practices including management and planning, ethics, research, communications, and public opinion.
2. Examine public relations activities as they appear in events and the media.
3. Write a proper news release.
4. Clarify public relations activities with strategic processes involving objectives, strategies, tactics, and budget processes.
5. Outline the practical communication applications of public relations as used to influence public opinion.
6. Relate public relations activities with key publics, including employees, multicultural communities, government, investors, consumers, and the media.
MKTG220  Principles of Customer Service  

Credits  3

Students acquire the skills and knowledge to create long-term customer satisfaction, while learning how to gain and retain customers and increase customer productivity. Customer expectations and service levels are explored and strategies to meet or exceed them are identified. Students also examine the methods that are used to carry out and measure the success of various customer service strategies including outbound and inbound telephone calls, service policies and practices, and the use of customer satisfaction surveys.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Develop a brief customer satisfaction survey that will define and measure customer satisfaction.
2. Analyze several alternative customer service strategies employed by organizations with an emphasis on developing proactive efforts and correcting errors.
3. Examine inter-relationships between customer service and other functional areas in organizations.
4. Evaluate methods that may be used to carry out customer service strategy including outbound and inbound calls.
5. Demonstrate ways to manage conflict in a customer service setting.
6. Examine and discuss the ethical issues involved in managing customer service.
This course develops the student’s familiarity with the role of sales management within the marketing plan. Students gain an understanding of the objectives of sales management and develop a working knowledge of the terminology, functions, and activities of sales.

**Learning Outcomes:**

Upon successful completion of this course, the student will be able to:

1. Develop sales force objectives, sales budgets and sales quotas.
2. Evaluate the rewards and responsibilities of a career in sales management.
3. Analyze the various methods used to motivate sales people toward higher performance.
4. Explain the role of sales management in the overall strategic planning process.
5. Apply sales forecasting and market demand analysis to sales management problems.
6. Describe the recruiting and selection process in sales force development.
7. Identify the various types of professional sales activities.
8. Identify sales and marketing costs related to the individual salesperson's performance.
The emphasis of this course is to develop the skills needed to produce an original advertising and publicity/public relations campaign using various media. Students are expected to develop and utilize the creative team to produce copy appropriate for specific media. They examine the principles that apply to print media and its production; broadcast media and its production; research and copy testing; and the laws that affect the copywriter.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Create copy for appropriate print and broadcast media for both advertising and publicity purposes.
2. Design and present a comprehensive advertising and publicity/public relations campaign using various media types.
3. Evaluate effectiveness of print and broadcast media.
4. Analyze appropriate research performed to test copy and determine targets.
MKTG310  Consumer Behavior  Credits  3

This course provides a comprehensive examination of consumer buying behavior as it relates to marketing strategy. Students learn current economic, psychological, and sociological factors that help explain consumer behavior; examine models, theories, and research that relate to consumer behavior; and apply consumer behavior principles to target marketing.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Develop strategies to increase consumer involvement in buying situations.
2. Distinguish among the various types of consumer behavior research models.
3. Illustrate personal motivation and involvement to the consumer buying process.
4. Illustrate interpersonal determinants to the consumer buying process.
5. Interpret the roles that race, culture, age and income (among others) play in predicting consumer behavior.
6. Associate learning, memory, and reinforcement to the buying behavior process.
7. Describe the demographic and geographic characteristics of the U.S. population and their effect on consumer buying behavior.
8. Describe the steps in the consumer decision-making process
This course provides exposure to and application of marketing channel strategies employed by organizations in making goods and services available to customers. Areas examined include the strategic role of distribution; interrelationships between distribution and other marketing mix variables; channel structure strategy; scope of distribution; leadership, motivation, and performance in marketing channels; and vertical marketing systems.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Formulate and analyze channel strategy options and critically evaluate how marketing channels relate to other strategic variables in the marketing mix.
2. Analyze the impact of the participants and functions performed within marketing channels on overall marketing strategy as well as those environmental forces affecting channels.
3. Analyze key strategic decisions faced by channel leaders in design and management of the channel.
4. Explain how marketing concepts such as product life cycle, product differentiation, product positioning, and product brand strategy, relate to channel strategy and management.
5. Examine the implications of the growing importance of services in the U.S. economy with respect to marketing channel strategy.
6. Examine the role and impact of technology in channel strategy and distribution management.
7. Demonstrate an understanding of the role of marketing channels and their importance in achieving effective and efficient marketing.
8. Apply various legal and ethical issues to marketing channel strategy and design considerations.
9. Differentiate between the various types of vertical marketing systems and key differences between VMS's and conventional channels.
10. Recognize and interpret the growing importance of viewing marketing channel strategy from an international perspective as well as environmental factors which affect international marketing channels.
MKTG314  Media Planning

This course examines the research, planning, selection, and evaluation of media available for use in the advertising process. Students explore the characteristics of the various media types, along with the selection and buying process.

**Learning Outcomes:**

Upon successful completion of this course, the student will be able to:

1. Design a media plan for an organization
2. Evaluate the various media used for marketing communication for availability, appropriateness and efficiency.
3. Explain and apply various techniques to select appropriate media.
MKTG320  Marketing of Services

This course provides an in-depth examination of marketing strategies, functions and programs specifically targeting service organizations. Students learn about consumer behavior in service encounters, and positioning of services in competitive markets. Pricing, distribution and promotional methods that both differ from and integrate with traditional product marketing practices are also examined. Using case studies, students learn to diagnose and analyze service marketing plans with techniques such as position mapping, service branding, cost and value-based pricing, integrated marketing communications and distribution channel analysis. The course also addresses ethical issues and best practices related to the marketing of services. The course culminates with the development of a marketing plan for a service business or organization.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Create a marketing plan for a service business, government or non-profit organization.
2. Using case study methods, analyze what elements of the marketing mix were applied and adapted to the marketing of services, correctly diagnosing problem and opportunity areas while recommending appropriate strategies or actions.
3. Compare and contrast the marketing of services from the marketing of consumer goods.
4. Examine the different needs and approaches required for marketing service in business to business (B2B), business to consumer (B2C) and business to government/institutional (B2G) and reciprocal environments.
5. Demonstrate an understanding of the concepts of pricing services, revenue forecasting and profit management.
6. Examine the common elements of effective service operations and support capabilities and explain the critical success factors used in evaluating the performance of marketing plan goals.
7. Identify and understand the legal, privacy, cultural and ethical issues connected with the marketing of services.
8. Understand the importance of Information Technology in contributing to the success
MKTG322  Digital Marketing  Credits  3

This course offers an overview of online marketing strategies and techniques. Main topics include operating in a global marketplace, online marketing to individuals with personalization services, traffic building and branding.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:
1. Understand the role of digital marketing and the integration of digital marketing, ecommerce, and technology in the overall marketing strategy of a company
2. Analyze the digital marketing tools utilized in designing and developing marketing programs
3. Develop digital marketing strategies and program/plan for a brand or organization
4. Understand and describe various methods of evaluating performance of and opportunities for digital marketing programs
MKTG342  Advanced Professional Selling

This course focuses on the theory and practical application of professional selling techniques. The student focuses on mastering the skills necessary to satisfy customer needs, build strong customer relationships, and to capitalize on the customer’s behaviors to the benefit of the organization. The Student continues the examination of the theory, practice, and procedures of successful selling and practices the personal and professional attributes necessary for a successful professional sales career. Student presentation skills and sales role-playing are a significant part of the development process.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Discuss the nature of a professional sales career, including the opportunities, requirements, advantages and disadvantages.

2. Discuss the importance and techniques of building strong customer relationships and establishing a strong rapport with customers to benefit the organization.

3. Construct a sales plan and sales presentation based on the needs and behaviors of specific target markets.

4. Successful complete sales presentations utilizing all the steps in the selling process.
MKTG345  Pricing Concepts and Methods

This course provides exposure to and the application of market pricing strategies and tactics employed by organizations to capture value in goods and services available to customers. Areas examined include the strategic role of pricing within the organization; value creation, pricing structure, pricing policy, pricing and the Product Life Cycle, price sensitivity, financial analysis, and the implementation of strategies and tactics.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Formulate and analyze pricing strategy options and critically evaluate how pricing relates to other strategic variables in the marketing mix.
2. Analyze the impact of pricing and its role in the creation of value to the customer.
3. Analyze key strategic decisions faced by organization leaders in the design and management of the pricing policy.
4. Explain how marketing concepts such as product life cycle, product differentiation, product positioning, and product brand strategy, relate to pricing strategy and management.
5. Examine the implications of the growing importance of services in the U.S. economy with respect to pricing.
6. Examine the role and impact of technology in pricing management.
7. Apply various legal and ethical issues to pricing strategy and design considerations.
8. Conduct a financial analysis of pricing decisions.
MKTG350  Sport Advertising and Promotion  

Credits  3  

Students explore the use of advertising, promotion and public relations to achieve sport marketing objectives. Focus is on building relationships and enhancing image perceptions among a wide variety of stakeholders, including community, industry, media journalists, customers and employees. Promotional techniques such as sport licensing, merchandising, sponsorships and endorsements will be examined in depth. Students plan an integrated sport communications campaign, incorporating traditional mass media, targeted electronic media and public relations (including the use of press releases), applying an understanding of ratings/shares to optimize media spending, and utilizing desk-top publishing to create graphic 

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Understand the theories, functions and operations of marketing communications within the sport marketing mix (4 P’s)
2. Develop a comprehensive sport communication plan, including objectives, target audience, message, media coverage, cost, and return on investment (ROI).
3. Enhance sport organization image, and build relationships with media, consumer and community stakeholders.
4. Define and fulfill the information needs of print, broadcast and digital media.
5. Prepare press releases and media guides, develop sport sponsorship proposals, and plan special sporting events.
6. Examine the ethical practices of sport marketing communication practitioners.
7. Discuss how technological advances have changed the role of the sport information specialist (SID) and media representative.
This course provides an in-depth study of marketing products between businesses. Students learn to identify the structure and distinguishing characteristics of business-to-business marketing; examine and analyze business-to-business buying behavior; apply demand analysis and segmentation techniques; and devise appropriate business-to-business marketing.

**Learning Outcomes:**

Upon successful completion of this course, the student will be able to:

1. Explain the differences between consumer marketing and business-to-business marketing.
2. Analyze business buying situations, including new task buying, straight rebuy and modified rebuy.
3. Evaluate the steps in the organizational buying process.
4. Differentiate organizational buying behavior from consumer buying behavior.
5. Explain derived demand characteristics.
6. Explain the buying center concept.
MKTG412  Marketing Research  Credits  3

Students will conduct, prepare, and present an actual situation analysis report for a firm using appropriate primary and secondary sources. The course reviews the nature, procedures, terminology, and application of research in solving marketing problems. Students learn the steps of marketing research, including problem definition, research design, sampling procedures, data collection methods, data analysis and interpretation, and the research report.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Develop, interpret, analyze, and prepare a comprehensive marketing research project for a product, service, or company including a marketing research plan, written report consisting of situational analysis, results of research, and recommendations based on research results.
2. Assess the importance and necessity of primary and secondary information in the marketing and business strategy planning process.
3. Implement appropriate methods of both primary and secondary market research.
4. Appraise appropriate data collection techniques and methodologies. Organizing the significant interrelationships of the steps utilized in the marketing research process.
5. Deliver a properly composed and effective executive presentation of the findings.
6. Integrate appropriate computer software to gather, organize, and analyze marketing research data, as well as prepare a professional written report of the findings and recommendations.
7. Develop, deliver, and analyze the results of appropriate primary research methodologies.
8. Interpret, analyze, and organize secondary information using the situational analysis questionnaire as a guide to prepare a written report and executive summary of findings for a product, service, or firm.
9. Identify credible and reliable sources of secondary information.
MKTG421  International Marketing

This course is a study of the opportunities and challenges encountered in international marketing, at various scopes and degrees of international involvement. Students explore how organizations participate in and are affected by international competition; identify and analyze international market segments and related cultural difference; assess market value; and develop marketing strategies relevant to various international segments. A $50.00 International Marketing Simulation access fee is charged in this course.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Integrate the international marketing knowledge learned into the development of a marketing strategy.
2. Explain the difference between international marketing activities with domestic marketing activities.
3. Analyze international market segments including cultural differences and how these cultural differences impact marketing strategy.
4. Explain the relationship between international environmental concerns and related marketing mixes.
5. Apply proper marketing terminology in international marketing problem solving situations.
6. Differentiate between the various approaches to domestic market expansion (i.e., domestic expansion concept, multinational concept, global concept.)
7. Identify the complications that political/legal differences add to international marketing.
The role of product manager is a pivotal one in most market-driven organizations. This course equips students to act as "champion" for a specific product, service or brand, with particular emphasis on the new product development process. Students gain skills in strategic analysis for new products, product enhancements and line extensions; management of cross-functional teams; financial analysis, including pricing, forecasting, margins and product mix. Innovation is studied as an integral part of the new product development process. The development of an annual product marketing plan is the culmination of this course.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Describe innovation and derive the link between innovation and organizational growth.
2. Analyze category, competition, customer and internal data to understand the drivers of innovation, new product development, and management plans and actions.
3. Design and manage an effective product planning process, including innovation, opportunity analysis, concept generation, project evaluation, product development and launch.
4. Integrate strategic and tactical decision-making in development of annual product plans.
5. Compute market potential and forecast sales volume for new and existing products.
6. Measure performance against marketing and corporate objectives (revenue, profit margin, market share) for new and existing products; rationalize under-performing products and develop appropriate strategies.
7. Describe the role of marketing management as it integrates with the other functional
MKTG435  Professional Negotiations  Credits  3

This course focuses on the art of negotiation to manage differences between individuals and groups. The professional sales environment is the primary application of models of negotiation and decision-making. The objective of the course is to provide students a conceptual and a practical understanding of negotiation process and enable the practical application to their professional and personal lives.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Analyze the array of interpersonal, organizational, and cultural variables that influence a negotiator's behavior and decision-making processes.

2. Evaluate the role of honesty, trust and communication in the negotiation process.

3. Defend the negotiating tactics used in order to reach a compromise.

4. Construct a negotiation strategy to be used in a professional sales environment while considering the individual interests, positions, and standards of each party.

5. Develop comprehensive frameworks for evaluating negotiations processes.
MKTG441  Strategic Marketing  Credits  4

This marketing capstone course focuses on decision-making. Students will integrate material learned in their marketing courses and apply the definitions, concepts, and marketing logic in the analysis of marketing problems. A variety of techniques including situation analysis, SWOT analysis, secondary research and appropriate financial analysis will be used within the case analysis format to develop marketing objectives, strategies, and programs. The course will include the use of simulations and the development of a formal marketing plan. A $50.00 Strategic Marketing Simulation access fee is charged in this course.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Create a comprehensive annual marketing plan.
2. Assess an organization's strengths, weaknesses, opportunities and threats by utilizing appropriate research and analysis including a SWOT analysis.
3. Design marketing programs to accomplish specific marketing strategies.
4. Assess alternative courses of action for addressing marketing problems and opportunities. Include the selection and evaluation of alternative segmentation, product, price, distribution, and marketing communication objectives, strategies, and tactics.
5. Construct marketing objectives and strategies including a sales forecast.
6. Assess the identified target market(s) including defining characteristics and unique, relevant needs.
7. Select appropriate measures to analyze the results of the plan.
8. Prepare a realistic budget and calendar to support and implement the plan.
NETW101  PC Operating Systems  

This course is a general overview of microcomputer operating systems. A basic understanding of computers and the use of Windows is assumed. Emphasis will be on mastering both the command line interface and the GUI interface of current microcomputer operating systems. Topics covered include installing and maintaining operating systems, creation of batch files or scripts, customizing and troubleshooting a computer system, and managing files and disks.

Learning Outcomes:

1. Describe computer operating systems including: processes, multi-programming, the development of operating systems.
2. Use essential text-based commands, and command-line interface including file and disk management: batch file use, customizing and configuring a system, managing memory.
3. Demonstrate how to perform the following with a Graphical User Interface: file and disk management; troubleshooting; customizing the environment; launching batch files and DOS sessions from windows environment; run system utilities such as defrag and backup.
4. Describe the procedure to install and upgrade Microsoft Windows operating systems.

5. Maintain a Windows installation by installing devices, run system utilities such as defrag and backup, and install patches and software.
6. Describe several operating systems currently used on PC’s, including DOS, Variations.
NETW141  MS Client and Server OS  Credits  3

This course covers installing, configuring, and administering Microsoft Windows client and server operating systems. The course includes extensive use of hands-on exercises.

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Discuss
   - Features of Windows client and server operating systems
   - Deploying Windows 7 in the enterprise
   - Basics of IP addressing and network connectivity
   - Components of Active Directory
   - Remote Access

2. Install, upgrade, and configure Windows operating systems

3. Use the Microsoft Management Console and Control Panel to create users and groups

4. Manage disk storage and the NTFS

5. Configure hardware and applications

6. Configure security policies

7. Manage access to network resources

8. Configure Remote Desktop and Remote Assistance

9. Monitor system performance

10. Configure backup options
NETW151  Cisco Network Fundamentals

This course introduces students to the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced. Students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes. Lab work is designed to simulate real-world networking. This course is the first of four networking courses to prepare students for the Cisco Certified Network Associate (CCNA) certification exam.

Learning Outcomes:

1. Identify and describe the role of protocol layers in data networks.
2. Explain fundamental Ethernet concepts such as media, services, and operations.
3. Identify and describe the importance of addressing and naming schemes at various layers of data networks in IPv4 and IPv6 environments.
4. Design, calculate, and apply subnet masks and addresses to fulfill given requirements in IPv4 and IPv6 networks.
5. Explain fundamental Ethernet concepts such as media, services, and operations.
6. Build a simple Ethernet network using routers and switches.
7. Perform basic router and switch configurations using command-line interface.
NETW152  Cisco Routing and Switching  Credits  3

This course describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. Students will learn to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. Lab work is designed to simulate real-world networking. This course is the second of four networking courses to prepare students for the CCNA certification exam.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Configure and troubleshoot basic operations of a small switched network.
2. Identify and describe enhanced switching technologies such as VLANs, VLAN Trunking Protocol (VTP), Rapid Spanning Tree Protocol (RSTP), Per VLAN Spanning Tree Protocol (PVSTP), and 802.1q.
3. Identify and describe the purpose, nature, and operations of a router, routing tables, and the route lookup process.
4. Identify and describe dynamic routing protocols, distance vector routing protocols, and link-state routing protocols.
5. Configure and troubleshoot basic operations of routers in a small routed network.
6. Configure and troubleshoot VLANs and inter-VLAN routing.
7. Configure, monitor, and troubleshoot ACLs for IPv4 and IPv6.
8. Configure and troubleshoot NAT operations.
NETW201  PC Maintenance and Management  Credits  3

This course introduces the student to a PC, its components, common troubleshooting techniques, and adjustments. Additional topics include PC and network security methods, computer hardware and software package selection, and managing the PCs within a company—keeping track of all serial numbers, warranties, and software licensing utilizing either a spreadsheet or database. This course is 90% hands-on. This course will not teach students to repair all problems; not all problems can be fixed. This course will also help prepare the student to take the CompTIA A+ examination.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Examine and define PC components, common troubleshooting techniques and adjustments.
2. Analyze symptoms to identify problems.
3. Demonstrate general preventative maintenance and repair on a PC including:
   4. Replacing/upgrading video and sound cards
   5. Replacing power supplies, motherboards and various other components
   6. Upgrading the PC's RAM and hard drive
   7. Evaluate selection and installation of computer hardware and software packages.
   8. Create and manage an interactive hardware listing which will keep track of all PCs, hardware and the software used on each PC within a company.
   9. Identify, install and configure laptop and portable devices.
10. Demonstrate proficiency with installation and configuration of printers and scanners.
11. Demonstrate problem solving techniques by troubleshooting software and its interaction with hardware.
NETW217  UNIX Operating System  Credits  3

(Formerly CISP217)
This course covers operating system concepts in the UNIX environment. Topics include
terminology, UNIX features and commands, UNIX system administration, and UNIX as a
network server.

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Describe the UNIX architecture.
2. Describe processes and threads, coordination and synchronization, scheduling,
   interrupts, and deadlock.
3. Construct UNIX commands to control hardware functions.
4. Describe memory management, input and output, and file systems.
5. Describe UNIX shell programs and processes.
6. Explain how UNIX is used as an operating system to control multi-user computer
   networks.
7. Compare the strengths and weaknesses of UNIX as a network server.
8. Describe how to perform system administration in a UNIX environment.
9. Demonstrate problem-solving skills by troubleshooting operating system problems.
NETW220  Data Communications and Networks  Credits  3

This course focuses on fundamentals of data communications systems and networks. Topics to be covered will include communications hardware and software, data transmission, protocols to include the LDAP, the OSI Reference Model, local area networks, wide area networks, and the Internet.

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Discuss the terminology, concepts, and capabilities of data communication systems.
2. Compare different data transmission media and discuss the factors that influence the choice of a medium.
3. Compare and contrast network topologies.
4. Discuss the uses of the Internet.
5. Explain data flow, transmission error sources, and methods of error detection and correction.
6. Describe the functions of the seven layers of the OSI Reference Model.
7. Discuss networking hardware, including: hubs, bridges, routers, modems, CSU/DSUs.
8. Discuss data security issues.
9. Demonstrate written proficiency by preparing a research paper on data communications topics.
NETW235  UNIX/Linux Server Administration  Credits  3

This course builds on previous experience in a Unix environment to provide students with all the standard and advanced techniques necessary to set up and maintain a secure, effective Linux environment. Emphasis will be on using Unix/Linux as a network server. Students will create and maintain users and groups, set up web, mail, and FTP services, and perform other Unix/Linux server administration tasks.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Create and maintain users and groups.
2. Create Web services.
3. Create Mail services.
4. Create FTP services.
5. Demonstrate Unix server administration tasks.
NETW241  MS Implement Network Infrastructure  Credits  3

This course covers installing and configuring network protocols and services, such as DHCP, DNS, WINS, Remote Access Services, routing, Network Address Translation, and Certificate Services in a Windows Server environment. The course includes extensive use of hands-on exercises.

Learning Outcomes:

Upon successful completion of this course the student will be able to:
1. Discuss and compare IPv4 and IPv6 addressing.
2. Configure Dynamic Host Configuration Protocol (DHCP).
3. Configure name resolution using Domain Name System (DNS).
4. Manage file server resources.
5. Configure Distributed File System (DFS).
6. Set up print services.
7. Configure Routing and Remote Access Services (RRAS), including routing and Virtual Private Network (VPN) access.
NETW243  MS Administer SQL Server  Credits  3

The course covers installation, configuration, administration, and troubleshooting the Microsoft SQL Server database management system. The course includes extensive use of hands-on exercises.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Describe basic relational database concepts.
2. Install Microsoft SQL Server.
3. Implement login security and database permissions.
4. Demonstrate the use of administrative tools to create and administer SQL Server databases.
5. Discuss database backup strategy and replication technique.
NETW251  Cisco Scaling Networks

This course describes the architecture, components, and operations of routers and switches in a larger and more complex network. Students learn how to configure routers and switches for advanced functionality. Students will learn to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, and VTP in both IPv4 and IPv6 networks. Students will also develop the knowledge and skills needed to implement DHCP and DNS operations in a network. Lab work is designed to simulate real-world networking. This course is the third of four networking courses to prepare students for the CCNA certification.

**Learning Outcomes:**

Upon successful completion of this course, the student will be able to:

2. Identify and describe the operations and benefits of the Spanning Tree Protocol (STP).
3. Configure and troubleshoot STP operations.
4. Identify and describe the operations and benefits of link aggregation and Cisco VLAN Trunk Protocol (VTP).
5. Configure and troubleshoot VTP, STP, and RSTP.
7. Configure and troubleshoot advanced operations of routers and implement RIP, OSPF, and EIGRP routing protocols for IPv4 and IPv6.
8. Manage Cisco IOS® Software licensing and configuration files.
NETW252  Cisco Connecting Networks  Credits  3

This course discusses the WAN technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols. Students will also develop the knowledge and skills needed to implement IPSec and virtual private network (VPN) operations in a complex network. Lab work is designed to simulate real-world networking. This course is the last of four networking courses to prepare students for the CCNA certification exam.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Identify and describe different WAN technologies and their benefits.
2. Identify and describe the operations and benefits of virtual private networks (VPNs) and tunneling.
3. Configure and troubleshoot serial and broadband connections.
4. Configure and troubleshoot IPSec tunneling operations.
6. Design network architectures, including virtualization and collaboration technologies.

7. Demonstrate problem solving techniques in troubleshooting network issues.
NETW311  Cisco Networking Advanced Routing  Credits  4

This course introduces advanced routing concepts. Students will be introduced to the knowledge and skills necessary to use advanced IP addressing and routing in implementing scalable and secure Cisco ISR routers connected to LANs and WANs. Topics include: EIGRP, OSPF, and BGP routing protocols; route optimization/redistribution; GRE tunnels; VPNs; and access technologies. Lab work is designed to simulate real-world networking. This course prepares students for the CCNP ROUTE (642-902) certification exam. (5 contact hours)

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Plan complex network requirements and design models for implementing advanced routing services in an enterprise network.
2. Implement EIGRP and OSPF in an enterprise network.
3. Exchange routing information between interior gateway protocols.
4. Implement IPv6 in an enterprise network.
5. Describe a basic implementation for branch office and mobile worker connectivity.
6. Implement BGP to allow an enterprise network to connect to an ISP.
7. Implement various mechanisms for controlling routing updates and traffic.
This course introduces network device security. Students will be introduced to the knowledge and skills necessary to install, secure, troubleshoot and monitor network devices and their associated networks to maintain integrity, confidentiality and availability of data and devices. Topics include: Using SDM, AAA/ACS, secure remote access, Site-to-Site Virtual Private Networks (VPNs), Cisco IOS Firewall/IPS, and strategies to mitigate Layer 2/3 attacks. Lab work is designed to simulate real-world networking. This course prepares students for the Cisco IINS (640-553) certification exam. (5 contact hours)

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1.1 Learning outcomes to
1. Describe the security threats facing modern network infrastructures.
2. Secure network device access and implement AAA on network devices.
3. Mitigate threats to networks using ACLs.
4. Implement the Cisco IOS firewall and IPS feature sets.
5. Implement site-to-site IPSec VPNs.
6. Develop and administer effective security policies.
7. Implement secure network management and reporting.
8. Mitigate common Layer 2 attacks.
NETW326  IP Telephony

This course is a survey of the basics of converged IP communications networks. It provides exposure to technologies common to many IP Telephony implementations, then focuses on the Cisco router based CallManager Express (CME) technology to illustrate situations common to small business environments. Specifically, students will learn Cisco CallManager Express (CME) architecture, components, functionality, and features as they configure Cisco routers, switches, and IP phones. They will also learn Voice over IP (VoIP) and Quality of Service (QoS) technologies and apply them in a Cisco CME environment. Upon successful completion of this course, students will have the prerequisite skills to take applicable

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Demonstrate proficiency with the Call Manager Express.
2. Connect to a PSTN network.
3. Connect from one router across a WAN to another router using CME.
4. Connect from one CME enabled router to another CME enabled router.
This course covers planning, implementing, and administering the Windows Server directory services infrastructure. Hands-on exercises are used to reinforce concepts.

**Learning Outcomes:**

Upon successful completion of this course the student will be able to:

1. Describe the purpose of and relationship between components of Active Directory.
2. Explain operations master roles.
3. Create components of Active Directory.
4. Delegate administrative control of objects in Active Directory.
NETW350  Configuring MS Exchange Server  Credits  3

This course covers installation, administration and troubleshooting of Microsoft Exchange Server. This course includes extensive use of hands-on exercises.

Learning Outcomes:

1. Install and configure Microsoft Exchange Server.
2. Manage messaging security.
3. Recover messaging servers and databases.
NETW411  Cisco Networking Advanced Switching  Credits  4

This course introduces advanced switching concepts. Students will be introduced to the knowledge and skills necessary to plan, configure and verify the implementation of complex enterprise switching solutions and the secure integration of VLANs, WLANs, voice and video into campus networks. Lab work is designed to simulate real-world networking. Topics include: VLANs, Loop Prevention, Layer 2/3 Switch Security, and high availability. This course prepares students for the CCNP SWITCH (642-813) certification exam (5 contact

Learning Outcomes:

Upon successful completion of this course the student will be able to:

1. Implement, monitor, and maintain switching in an enterprise campus network.
2. Implement appropriate spanning tree protocols in campus networks.
3. Describe and implement LAN security features.
4. Plan and prepare for advanced services in a campus infrastructure.
5. Configure and optimize high availability and redundancy on switches.
6. Implement VLANs in campus networks.
7. Describe Catalyst switches and their architecture.
8. Demonstrate teamwork and troubleshooting skills through the use of lab work and case problems.
This course introduces advanced troubleshooting concepts. Students will be introduced to the knowledge and skills necessary to (1) plan and perform regular maintenance on complex enterprise routed and switched networks and (2) use technology-based practices and a systematic ITIL-compliant approach to perform network troubleshooting. Topics include: Maintaining and Monitoring network performance, troubleshooting IPv4/6 routing protocols, VLANs, Layer 2/3 security, wireless, VoIP, video, IOS services, and AAA. Lab work is designed to simulate real-world networking. This course prepares students for the CCNP TSHOOT (642-832) certification exam (5 contact hours).

**Learning Outcomes:**

Upon successful completion of this course the student will be able to:

1. Plan and document the most common maintenance functions in complex enterprise networks.
2. Develop a troubleshooting process to identify and solve problems in complex enterprise networks.
3. Practice maintenance procedures and fault resolution in switched and routed environments.
4. Select tools that best support specific troubleshooting and maintenance processes in large, complex enterprise networks.
5. Diagnose and correct routing problems involving routing protocols and route redistribution.
6. Practice maintenance procedures and fault resolution in a secure infrastructure.
7. Diagnose and correct network integration issues affecting wireless connectivity, VoIP, and video.
NETW421  MS Server Applications Infrastructure  

This course covers deploying technologies that provide the infrastructure necessary to build and run enterprise applications and services. Topic areas include Microsoft Terminal Services, Web services infrastructure, and network application services such as Windows Sharepoint. This course includes extensive use of hands-on exercises.

Learning Outcomes:

1. Design an application infrastructure.
2. Configure Microsoft Terminal Services.
3. Configure a Web services infrastructure including Internet Information Services (IIS), File Transfer Protocol (FTP), and Simple Mail Transfer Protocol (SMTP).
4. Configure network application services, including Digital Rights Management (DRM) and Microsoft Windows Sharepoint.
5. Discuss server cluster concepts.
NETW435  Virtualization

This course covers planning, deploying, and maintaining server, desktop, and application virtualization. Topics include configuring and securing of virtualized computer and network environments. Commercial and open source virtualization platforms are compared, configured, and secured. Business related benefits of virtualization are discussed and applied. This course includes extensive use of hands-on exercises that simulate real-world computer/networking infrastructures.

Learning Outcomes:

1. Discuss the business benefits of virtualization.
2. Plan and design virtual environments.
3. Configure and maintain virtual desktops and servers using a variety of current software products.
4. Secure a virtual environment.
5. Discuss best practices for maintaining a virtual environment.
This course focuses on the design, management, and monitoring of network infrastructure. A variety of software tools will be used for hands-on exercises.

**Learning Outcomes:**

1. Design computer network infrastructure.
2. Use software tools to monitor network performance.
3. Use web-based tools to monitor security on the network.
4. Assess a given network for suitability and identify areas that could be improved.
5. Analyze the impact of desktop, server and cloud-based network management.
PHYS100  Applied Physics  Credits  2

This course introduces the basic physical principles relating to particle motion, transfer of energy, energy fields and waves, rotational motion, thermodynamics, electromagnetism, material properties, and relativity. Students will apply these principles to physical systems in the virtual or physical laboratory setting. There is an $80.00 fee which covers software and

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Evaluate real world problems and identify potential solution methodologies to these problems using the scientific method.
2. Apply physics concepts and equations to quantitatively solve real world problems.
3. Analyze the contributions of physics to developments in the student’s chosen degree program or profession.
4. Formulate basic technical documentation by applying laboratory writing skills.
5. Explain the mechanics of Newton’s laws, momentum, energy, and rotational motion.
6. Explain the basic physical properties of matter, heat, wave motion, electromagnetism, and light.
PHYS100L  Applied Physics Lab                      Credits  1

This course introduces the basic physical principles relating to particle motion, transfer of energy, energy fields and waves, rotational motion, thermodynamics, electromagnetism, material properties, and relativity. Students will apply these principles to physical systems in the virtual or physical laboratory setting. A $20.00 insurance fee is charged in this course. There is a $105.00 lab supplies fee for in-seat course offerings.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Apply the scientific method to evaluate real world problems and identify potential solution methodologies to these problems.
2. Apply physics concepts and equations to quantitatively solve real world problems.
3. Analyze the contributions of physics to developments in the student’s chosen degree program or profession.
4. Apply laboratory writing skills to formulate basic technical documentation.
5. Apply the mechanics of Newton’s laws, momentum, energy, and rotational motion.
6. Apply the basic physical properties of matter, heat, wave motion, electromagnetism, and light.
PHYS210  Fundamentals of Physics I  Credits  3

This course introduces the fundamental mechanics of physics. The physical properties of motion, matter, phases, thermodynamics, heat, vibrations and sound will be discussed. Methods for quantitative and qualitative analyses of physical properties will be introduced. This course is the first in a two-course sequence introducing students to the fundamentals of physics. There is an $80.00 fee which covers software and eBooks.

This course is offered for the Medical School Partnership. All PHYS courses completed for the Partnership require a “C” or better grade for successful completion.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Utilize mathematics to solve models that describe physical phenomenon and obtain meaningful answers.
2. Apply laboratory writing skills to formulate technical documentation.
3. Analyze real world challenges using critical thinking and the scientific method.
4. Evaluate potential solution methodologies to efficiently address these challenges.
5. Develop conceptual models to describe physical phenomena quantitatively.
6. Analyze the reasonableness of these solutions.
7. Relate the mechanics of Newton’s laws, momentum, energy, and rotational motion as related to living systems.
8. Conduct basic experimentation to confirm or disprove hypotheses.
This laboratory course introduces the fundamental mechanics of physics through hands-on and/or virtual laboratory experiments. Experiments involving physical properties of motion, matter, phases, thermodynamics, heat, vibrations and sound will be done. Methods, including the scientific method, for quantitative and qualitative analyses of physical properties will be introduced. This laboratory course is the first in a two-course laboratory sequence introducing students to the fundamentals of physics. A $125.00 lab fee is charged in PHYS210L.

Note: The lab portion designated as PHYS210V was taught in a virtual format.

This course is offered for the Medical School Partnership. All PHYS courses completed for the Partnership require a “C” or better grade for successful completion.

**Learning Outcomes:**

Upon successfully completing this course, the student will be able to:

1. Utilize mathematics to solve models that describe physical phenomenon and obtain meaningful answers.
2. Apply laboratory writing skills to formulate technical documentation.
3. Apply critical thinking and the scientific method to analyze real world challenges.
4. Identify and evaluate potential solution methodologies to efficiently address these challenges.
5. Develop conceptual models to describe physical phenomena quantitatively.
6. Analyze the reasonableness of these solutions.
7. Apply the mechanics of Newton’s laws, momentum, energy, and rotational motion as related to living systems.
8. Conduct basic experimentation to confirm or disprove hypotheses.
This course is the second in a two-course sequence introducing students to the fundamentals of physics. This course builds on the knowledge learned in Fundamentals of Physics I. The physical properties of electricity, magnetism, optics, relativity, and nuclear physics will be discussed. There is an $80.00 fee which covers software and eBooks.

This course is offered for the Medical School Partnership. All PHYS courses completed for the Partnership require a “C” or better grade for successful completion.

**Learning Outcomes:**

Upon successfully completing this course, the student will be able to:

1. Analyze real world challenges using critical thinking and the scientific method.
2. Evaluate potential solution methodologies to efficiently address real world challenges.
3. Develop conceptual models to describe physical phenomena quantitatively.
4. Utilize mathematics to solve these models and obtain meaningful answers.
5. Analyze the reasonableness of these solutions.
6. Apply the basic physical properties of matter, heat, wave motion, electromagnetism, and light.
7. Conduct basic experimentation to confirm or disprove hypotheses.
8. Apply laboratory writing skills to formulate technical documentation.
PHYS220L  Physics II Lab  

This laboratory course is the second in a two-course laboratory sequence introducing students to the fundamentals of physics. This course builds on the knowledge learned in Fundamentals of Physics Laboratory I through hands-on and/or virtual laboratory experiments. Experiments involving physical properties of electricity, magnetism, optics, relativity, and nuclear physics will be done. Methods, including the scientific method, for quantitative and qualitative analyses of physical properties will be used. A $125.00 lab and insurance fee is charged in this course.

Note: The lab portion designated as PHYS220V was taught in a virtual format.

This course is offered for the Medical School Partnership. All PHYS courses completed for the Partnership require a “C” or better grade for successful completion.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Use critical thinking and the scientific method to analyze real world challenges.
2. Identify and evaluate potential solution methodologies to efficiently address these challenges.
3. Develop conceptual models to describe physical phenomena quantitatively.
4. Utilize mathematics to solve these models and obtain meaningful answers.
5. Analyze the reasonableness of these solutions.
6. Apply the basic physical properties of matter, heat, wave motion, electromagnetism, and light.
7. Conduct basic experimentation to confirm or disprove hypotheses.
8. Apply laboratory writing skills to formulate technical documentation.
POLSI11  American Government  Credits  3

This course introduces students to American politics, the political process, and the evolution of American government at the national, state, and local levels. Students will explore national and state constitutions, civil rights, citizenship, suffrage, public opinion, political parties, and the electoral system. Students also evaluate the relationship between the individual and the government in the United States.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Analyze the U.S. Constitution and its amendments
2. Evaluate the various concepts of American federalism
3. Evaluate the influence of interest groups on U.S. public policy
4. Analyze American democracy and its political culture
5. Analyze the concepts of civil liberty and civil rights
6. Analyze U.S. domestic and foreign policy
7. Understand current political issues facing the U.S. government
8. Understand the U.S. electoral process, including the role of political parties
POLS230  Comparative Politics

This course introduces students to comparative study of the domestic politics of nations throughout the world. Students explore the development of the modern state, the structures of political institutions in diverse nations, and the nature of political power. Students also examine the concepts of nationalism, nation-building, political change, and the political culture of various nations. Other topics for study include the nature of democracy, planned economies and market economies, the politics of the developing world, and international relations. Specific countries and their governments will be compared to provide students the means to evaluate different types of political systems.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Understand the major topics and themes of comparative politics.
2. Analyze the concept of the state and its institutions and explain the origins of the modern nation state.
3. Evaluate the electoral systems of democratic states, and analyze the role of political parties.
4. Analyze the various types of states including liberal democracies, new democracies, communist and post-communist states, and less-developed states.
5. Understand the public policymaking processes of various states.
6. Analyze the U.S. political system and compare and contrast this with other political systems.
7. Evaluate the political systems of various nations in both the developed and developing world.
PSYC101  Introductory Psychology  Credits  3

This course provides an overview of psychological principles. Students learn basic theories and concepts to understand the dynamics of human behavior in a variety of settings.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Identify and discuss early and contemporary theories of psychology
2. Articulate an understanding of the major principles of sensation and perception
3. Demonstrate an understanding of the relationship between psychological factors and physical health
4. Evaluate and apply the theories of development across the lifespan
5. Articulate the basic principles and major theories concerning learning, memory and cognition
6. Discuss the symptomatology, etiology and treatment of psychological disorders
7. Identify and discuss the major theories related to social psychology
8. Demonstrate an understanding of the states of consciousness such as sleep, attention, dreaming and drug use
9. Discuss and apply the major theories of motivation and emotion
10. Identify and discuss the biological bases of behavior
11. Identify the steps of the scientific method and explain how this method applies to psychology
12. Demonstrate the ability to think critically and analytically in relation to psychological findings
13. Demonstrate an understanding of the relationship between cultural/social factors on individual behavior
PSYC113  Stress Management for Life

This course explores various techniques used to manage stress and promote personal health throughout life. Students will develop career skills useful for assisting health care clients in reducing stress. Various techniques that can be used in life to promote a sense of inner control and balance will also be provided.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Explore the role of stress in the development or exacerbation of many diseases and states of psychological or behavioral dysfunction, and support these arguments with scientific evidence.
2. Compare the mechanisms by which specific stress management techniques improve physical and psychological functioning.
3. Evaluate the role of exercise and lifestyle alterations as means of reducing stress.
4. Create a personal plan for managing stress, following an appraisal of life patterns at school, in the workplace, in the family, and in society.
5. Critique themselves and their peers in the delivery of quality instruction of a variety of stress management techniques.
PSYC127  Healthy Living  Credits  3

This course explores the most recent, scientifically-based personal health information relevant to the entire lifespan. Students critically review health information from various sources and gain skill in analyzing their own health-related behaviors and attitudes. In the process, students learn strategies, techniques, and behaviors to optimize their own well-being and the well-being of their families.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Appraise health information from a wide variety of sources for scientific accuracy and usefulness in addressing health concerns.
2. Evaluate a variety of case scenarios and health profiles from persons of diverse ages and cultures.
3. Construct a personal health diary.
4. Analyze personal health practices and beliefs, with respect to nutrition, exercise, drugs, sexuality and reproduction, use of professional health care services, stress management, interpersonal relationships, and exposure to environmental pathogens.
5. Develop plans for minimizing health risk factors.
6. Evaluate interventions to address identified health concerns.
PSYC201  Abnormal Psychology  

This course will provide an overview of abnormal behavior and psychological disorders. Research methods used in the field of abnormal behavior will be identified and relevant research findings will be compared. A variety of perspectives including biological, environmental, psychological and socio-cultural influences on the development of mental health disorders will be examined. The definition, classification and treatment of a variety of psychological disorders will also be explored. Legal considerations surrounding mental disorders and the mental health field will be addressed.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Demonstrate an understanding of abnormal behavior from a historical perspective.
2. Demonstrate an understanding of the differences between "abnormal" and "normal" behavior.
3. Recognize and evaluate cultural and social issues as related to abnormal behavior.
4. Demonstrate an understanding of current classification systems in use for the identification of psychological disorders.
5. Apply biological, psychological, and socio-emotional theories as well as the integration of these perspectives to the causality of psychological disorders.
6. Understand the process of assessing psychological disorders.
7. Compare and contrast approaches that are used to treat psychological disorders.
8. Identify and evaluate mental health issues as they relate to the law.
9. Examine and critically review the research on psychological disorders.
PSYC270   Dimensions of Aging

This course provides the basic knowledge in gerontological psychology and issues that concern the aging population. Students will discuss physical, emotional, and mental issues of the aged. Other concerns of the aged, including social, financial, and support systems, will be

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Assess social bonds, family, friends, and family support systems for the aged.
2. Explore the issues of death and dying.
3. Analyze theories on retirement, age discrimination, retirement preparation programs, and the right to choose – mandatory or not mandatory – as it relates to retirement.
4. Distinguish between the various types of elder abuse.
5. Identify current legislation and programs that service older population.
6. Apply the biopsychological, social and cultural principles to the aging population.
7. Identify stereotypes and images that society has placed on the aging population.
8. Identify challenges faced by caregivers and support systems.
9. Analyze the impact of the aging population on society including the health care system.
10. Explore community services available to the aging population.
PSYC303  Psychosocial Health Concerns  Credits  3

This course provides an introduction to the psychosocial growth and development of the human being through life. Students will explore the interaction of the psychological and physiological growth and the particular health concerns that impact each stage of development. Students will be expected to develop the ability to formulate plans that assist in the resolution of health care problems that are impacted by psychosocial development.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Describe physical, cognitive and socio-emotional development across the lifespan.

2. Analyze the influence of culture, ethnicity and socioeconomic factors on development.

3. Describe and apply major theories of development to changes that occur across the lifespan.

4. Understand the impact of psychosocial development on the individual, the family and the health care worker.

5. Assess the impact of psychosocial health concerns on the community.

6. Evaluate advocacy as a means of improving individual/family psychosocial environments in society.

7. Develop plans to assist individuals/families in solving psychosocial problems that affect health care.

8. Differentiate between the stages of psychosocial development across the lifespan.

9. Apply biopsychological, social and cultural factors which affect individual health.
RMGI221  Principles of Risk Management and Insurance        Credits  3

This course introduces the subject of risk management and insurance. The student will learn the concept of risk and risk management, how insurance fits in the risk management process, how the insurance mechanism works including the core competencies, and how the insurance market is structured and regulated. Students will also examine the structure of insurance contracts, and an overview of property and liability loss exposures and common insurance policy provisions. This course will also help students prepare for the INS 21 national examination administered by the Insurance Institute of America.

Learning Outcomes:

Upon completion of this course, the student should be able to:

1. Explain the concepts of risk, loss, exposure, and insurance
2. Describe the process of risk management; identify risk management techniques in addition to insurance
3. Describe the insurance market structure, insurance regulation, and the significant operations and financial measurement of insurance companies
4. Read an insurance policy, identify loss exposures, recognize common policy provisions
5. Identify and analyze current issues and developments in this field
6. Take the INS 21 national exam administered by the Insurance Institute of America
RMGI322  Personal Insurance  Credits  3

This course examines insurance contracts and programs for individuals, including property, liability, automobile, life, disability, healthcare and retirement. This course will also help students prepare for the INS 22 national examination administered by the Insurance Institute of America.

Learning Outcomes:

Upon completion of this course, the student should be able to:

1. Analyze provisions of homeowners and automobile insurance contracts, and apply them to loss situations
2. Describe the coverages provided under other personal property, liability, life and health insurance contracts (dwelling, mobile home, farm, flood, inland marine, watercraft, umbrella liability, term, whole life, basic and major medical)
3. Apply the risk management process to personal exposures
4. Identify and analyze current issues and developments in this field
5. Take the INS 22 national exam administered by the Insurance Institute of America
RMGI323  Commercial Insurance  Credits  3

This course examines insurance contracts and programs for businesses, including property, business income, crime, equipment breakdown, marine, general liability, automobile, workers compensation, farm, and others. This course will also help students prepare for the INS 23 national examination administered by the Insurance Institute of America.

Learning Outcomes:

Upon completion of this course, the student should be able to:

1. Analyze provisions of commercial property, including business income, and general liability insurance contracts and apply them to loss situations
2. Describe the coverages provided under other commercial property and liability insurance contracts (crime, equipment breakdown, inland and ocean marine, auto, business owners and workers compensation)
3. Identify and analyze current issues and developments in this field
4. Take the INS 23 national exam administered by the Insurance Institute of America
RMGI420  Insurance Company Operations and Regulations      Credits  3

This course examines the core competencies of an insurance company and the interdependencies of those functions, including actuarial, claims, finance, reinsurance, and underwriting. Other topics include insurance regulation, the global insurance market, and the strategic management of an insurance company. This course will incorporate the use of an insurance company simulation “game” exercise. This course will incorporate the online Ethics 311 Ethical Guidelines for Insurance Professionals module administered by the Insurance Institute of America, and help students prepare for the CPCU 520 national examination administered by the American Institute for Chartered Property Casualty

Learning Outcomes:

Upon completion of this course, the student should be able to:

1. Understand the strategic management process of insurance companies
2. Analyze the financial performance of property and liability insurance companies
3. Explain the core operations of property and liability insurance companies, and the interdependencies of those operations
4. Identify and analyze current issues and developments in this field
5. Complete the online Ethics 311 Ethical Guidelines for Insurance Professionals module administered by the Insurance Institute of America
6. Take the CPCU 520 national exam administered by the American Institute for CPCUs
This course examines the process of risk management, including the identification and analysis of loss exposures; examination of alternatives to traditional insurance; the use of loss forecasting and cash flow analysis to make a decision. An overview of the evolution of an international exposure will also be examined. This course will incorporate the use of case studies and a risk management simulation “game” exercise. This course will also help students prepare for the ARM 54 national examination administered by the Insurance Institute of America.

**Learning Outcomes:**

Upon completion of this course, the student should be able to:

1. Identify and analyze the loss exposures of organizations, including multi-nationals
2. Evaluate and choose the appropriate risk management technique(s) to address loss exposures
3. Formulate a spreadsheet for loss forecasting and cash flow analysis, and use it to make a risk management decision
4. Identify and analyze current issues and developments in this field
5. Take the ARM 54 national exam administered by the Insurance Institute of America
SOCY101  Introductory Sociology

This course provides an overview of sociological theory. Students learn sociological models of society; basic units of social life and social institutions; and fundamental social processes derived from sociological theory and perspectives. Students also evaluate the role of the individual in society.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Evaluate the causes and effects of change on society
2. Compare the theories of sociology
3. Analyze the structure and interaction of parts of society
4. Analyze various roles of individuals and groups in society
5. Apply scientific methods and interpretation of data
6. Recognize the variety of groups in society
SOSC201  Diversity in Society

This course introduces students to the complex issues surrounding diversity in U.S. society and to the need for understanding difference in an increasingly globalized world. Students will explore the social-historical context of multiple experiences on individual, cultural and institutional levels. They will analyze the complex interactions regarding diversity in organizations. Students will also evaluate their own thoughts, attitudes, and behaviors in order to understand their roles in a diverse society. Note: Course sections which are designated (EL) in the title will have an $80.00 field trip fee included with tuition.

Learning Outcomes:

Upon successfully completing this course, with appropriate applications of experiential learning, the student will be able to

1. Understand the social-historical backgrounds of subordinate groups in U.S. society.
2. Analyze the social and cultural systems that develop out of adaptation to environmental and historical circumstances.
3. Evaluate one’s own culture, identity, biases, prejudices, and stereotypes toward diverse groups.
4. Synthesize the theoretical arguments of the benefits of inclusion and the consequences of ignoring diversity in the workplace and society.
5. Apply management practices to maximize the abilities of all employees from subordinate and dominant groups to meet organizational goals.
6. Apply an understanding of the legal implications of discriminatory behavior.
7. Analyze the value of cultural competence in the workforce and in local and global communities.
SOSC241  World Regional Geography

This course teaches concepts and principles of world geography with particular emphasis on regions and places. Students learn the necessary geographic foundations to build an informed view of global current events. Students also learn to identify places and regions and understand the relationship of physical systems, human systems, and spatial patterns. Politics, economics, development, and war are explored in the global context, with specific examples. Students will study both the physical and cultural characteristics of the world as they develop insights into the relationship between environment and culture. Students learn to use maps that display and analyze data from the principle regions of the world.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Evaluate the essential themes of world regional geography.
2. Analyze regional problems and world events critically from a geographical perspective.
3. Analyze the consequences of cultural phenomena, including agriculture, urbanization, colonization, economic development, political boundaries, and ethnic diversity, in regions of the world.
4. Illustrate the importance of physical geography to cultural development.
5. Apply the principles of world regional geography to gain further understanding of the roles and responsibilities of the major world powers in key global issues.
6. Apply geographical insights to personal and professional contexts.
7. Identify the major physical and cultural regions of the world, noting differences and similarities.
This course introduces students to socioeconomic, political and cultural dimensions of globalization. While employing an interdisciplinary approach, students explore the aspects and driving forces of globalization. Students analyze how macro globalization processes that transcend national boundaries, such as democratization, human rights, global finance, terrorism, pandemics, and environmental changes, impact lives of individuals in various regions of the world. The students critically assess the current and future impacts of issues, payoffs, dangers, and paradoxes of people's choices about the global issues while emphasizing an institutional approach to resolving global problems.

**Learning Outcomes:**

1. Understand the major topics and aspects of globalization.
2. Analyze the driving forces of globalization.
3. Evaluate the macro globalization processes that transcend national boundaries.
4. Assess the impact of macro globalization processes on people from various regions of the world.
5. Analyze the complexity of interdependence – the social, economic and political links between nations and individual people, and the impact that changes have on each other.
6. Identify individual, national and institutional approaches to resolving global
This first semester Spanish course is an introduction to listening, speaking, reading and writing skills, and Spanish-speaking cultures. The course recognizes the practical importance of language with special emphasis on speaking skills. It assumes no previous knowledge of the language. Students learn basic vocabulary and language structure, and begin exploring diverse segments of Spanish-speaking cultures. Note: A grade of C or better is required to take the next course in the sequence.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Select the appropriate Spanish language elements necessary to communicate effectively at a beginning level
2. Interpret at a beginning level both written and oral Spanish language messages
3. Construct written and spoken Spanish sentences, paragraphs, and workplace messages using appropriate nouns, articles, verbs and adjectives.
4. Compare the society and culture of diverse segments of Spanish-speaking peoples
SPAN121  Beginning Spanish II  Credits  3

This second semester Spanish course is a continuation of language skills and cultural understanding in SPAN111. The course recognizes the practical importance of language with special emphasis on speaking skills. Students expand their vocabulary, language structure, and continue examining diverse Spanish-speaking cultures.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Demonstrate a beginning level of competence in Spanish structure and usage.
2. Comprehend spoken and written Spanish at a beginning level.
3. Construct written and spoken Spanish language messages at a beginning level using appropriate grammatical units.
4. Demonstrate knowledge of the society and culture of diverse segments of Spanish-speaking peoples.
SPAN211 Intermediate Spanish I  

The third semester Spanish course is a continuation of language, skills and cultural understanding at an intermediate level. The course recognizes the practical importance of language with special emphasis on speaking skills. Students continue to expand their vocabulary and language structure, and deepen their understanding of diverse Spanish-speaking cultures. Note: A grade of C or better is required to take the next course in the sequence.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:
1. Demonstrate an intermediate level of competence in Spanish structure and usage.

2. Construct written and spoken Spanish sentences, paragraphs, essays and workplace messages using appropriate grammatical units.

3. Comprehend spoken and written Spanish at an intermediate level.

4. Demonstrate appreciation and understand the society and culture of diverse segments of Spanish-speaking peoples.
SPAN221 Intermediate Spanish II

Credits 3

The fourth semester Spanish course is a continuation of language skills and cultural understanding from SPAN211. The course recognizes the practical importance of language with special emphasis on speaking skills. Students continue to expand their vocabulary and language structure, and build a well-rounded view of diverse Spanish-speaking cultures.

Learning Outcomes:

Upon successfully completing this course the student will be able to:
1. Select the appropriate Spanish language elements necessary to communicate effectively at an intermediate level.
2. Interpret at an intermediate level both written and oral Spanish language messages.
3. Construct written and spoken Spanish sentences, paragraphs, essays, and workplace messages using appropriate grammatical units.
4. Demonstrate an intermediate level of competence in Spanish structure and usage.
5. Comprehend spoken and written Spanish at an intermediate level.
6. Demonstrate a deeper understanding of the society and culture of diverse segments of Spanish-speaking peoples and be able to compare them.
SPAN311  Spanish for the Professions

A course designed for students pursuing the language specialty. This course follows a language needs approach which consists of developing content based on the needs and interests of students and their prospective majors. Students will relate information studied in other subjects to their learning of foreign language. Concentration will be on preparing students with specific language and usage in relevant cultural contexts in their intended careers. Instruction will utilize target language.

Learning Outcomes:

Upon successfully completing this course the student will be able to:
1. Understand spoken Spanish in a variety of authentic contexts.

2. Utilize oral communication skills within a context of common business/technical and medical situations.

3. Practice “need-to-know” language using key vocabulary essential to real situations in the business/technical and medical field.

4. Promote cultural awareness of the Latino community in order to better communicate with and relate better to patients, clients, and fellow workers.

5. Appreciate the usefulness and vitality of Spanish in today’s world.
STAT219  Introduction to Biostatistics  

This course introduces students to foundational statistical methods common to the medical and health fields. Students will learn how to use the collection, analysis, presentation, and interpretation of data in the context of the health sciences. Analysis of real-world data sets will be performed using statistical software.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Analyze a data set using graphic and numeric descriptive methods.
2. Compare data sets using appropriate graphic and numeric measures.
3. Use simple linear regression and correlation to study the relationship between two quantitative variables.
4. Interpret the results and draw conclusions from elementary inferential methods (e.g., one and two sample t-tests).
5. Construct appropriate confidence intervals and interpret the results.
6. Use discrete and continuous probability distributions for modeling and inference.
7. Compute and interpret risk and odds ratios.
8. Understand the terms and concepts related to the probabilities of medical conditions and their associated diagnostic tests (e.g., prevalence, sensitivity, specificity, etc.)
9. Understand the effect of sampling size and technique on statistical inference.
10. Apply Minitab and other software as appropriate to the course content.
STAT220  Introduction to Statistics            Credits  3

This course introduces students to statistical methods common to professional careers. Students learn how to use the collection, analysis, presentation and interpretation of data. Students will learn to use graphical and numerical methods to summarize data sets. Analysis of large, real-world data sets will be performed using statistical software. Note: Online sections will have a $90.00 book fee included with tuition charges.

Learning Outcomes:

Upon successfully completing this course, the student will be able to:

1. Analyze a data set using graphic and numeric descriptive methods.
2. Compare data sets using appropriate graphic and numeric measures.
3. Use simple linear regression and correlation to study the relationship between two quantitative variables.
4. Design, perform, and interpret the results of basic hypothesis tests.
5. Construct appropriate confidence intervals and interpret the results.
6. Use discrete and continuous probability distributions for modeling and inference.
7. Understand the effect of sampling size and technique on statistical inference.
8. Apply Minitab and other software as appropriate to the course content.
STAT322  Inferential Statistics

This course introduces students to the advanced methods of data analysis. Particular focus will be given to techniques commonly used in the decision-making processes of those in management and marketing research, as well as those pursuing other careers requiring the interpretation of statistics-based research. Analysis of large, real-world data sets will be performed using statistical software.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Compare one-way, randomized blocks and two-way factorials
2. Solve chi-square tests for goodness of fit and for independence in order to complete contingency table analysis
3. Solve and interpret inference procedures appropriate for the analysis of two or more sets of qualitative variables
4. Use simple or multiple linear regressions, together with appropriate inferential procedures, to model relationships between one numerical and one or more numerical or qualitative variables
5. Apply the models developed from regression for prediction, forecasting and checking of assumptions
6. Analyze time series data and develop the models for forecasting
7. Apply the computerized statistics software Minitab