COLLEGE OF APPLIED AND TECHNICAL STUDIES

College of Applied and Technical Studies
cats@kent.edu
www.kent.edu/cats

Undergraduate Programs

- Accounting Technology - A.A.B.
- Animation Game Design - B.S.
- Associate of Arts
- Associate of Science
- Business Management Technology - A.A.B.
- Criminology and Justice Studies - A.A.S.
- Cybersecurity - A.A.B.
- Early Years Education and Care - A.A.S.
- Electrical/Electronic Engineering Technology - A.A.S.
- Engineering Technology - B.S.
- Horticulture - B.A.H.
- Horticulture Technology - A.A.S.
- Human Services - A.A.S.
- Individualized Program - A.T.S
- Information Technology - A.A.B.
- Information Technology - B.S.I.T.
- Insurance Studies - B.S.
- Mechanical Engineering Technology - A.A.S.
- Nursing ADN - A.A.S.
- Occupational Therapy Assistant - A.A.S.
- Office Technology - A.A.B.
- Physical Therapist Assistant Technology - A.A.S.
- Radiologic Imaging Sciences - B.R.I.T.
- Radiologic Technology - A.A.S.
- Radiologic Technology - A.T.S.
- Respiratory Care - B.S.
- Respiratory Therapy - A.A.S.
- Social Work - B.S.W.
- Technical and Applied Studies - B.T.A.S.
- Technical Modeling Design - A.A.S.
- Veterinary Technology - A.A.S.

Minors

- Computer Forensics and Security
- Game Design
- Help Desk Support
- Insurance Studies
- Modeling and Animation
- Software Development

Undergraduate Certificates

- Advanced Semiconductor Manufacturing Technician
- Brewing Technology
- CAD for Manufacturing
- Computed Tomography
- Computer Forensics and Information Security
- Computer-Aided Drafting: Design Technician
- Enology
- Entrepreneurship
- Essentials for Business Decision Making
- Floriculture
- Greenhouse Production
- Magnetic Resonance Imaging
- Mammography
- Medical Assisting
- Medical Billing
- Office Software Applications
- Peace Officers Training Academy
- Semiconductor Manufacturing Technician
- Viticulture

College Policies

NURSING ADN

Program and Course Withdrawal

Students withdrawing from the Nursing ADN major are expected to notify the program director. Students who do not register for any required course or drop any required course after registration should notify the program director immediately.

Program Time Limits

Student must complete the nursing course requirements within a maximum of four years after admission to the nursing program. Students are strongly advised to avoid a full-time work schedule.

For students previously in the Nursing ADN major who re-enter as a licensed practical nurse (LPN) or certified paramedic, their four-year limit begins the the term they start the NRST course sequence.

Readmission

Readmission to the Nursing ADN major is based on the decision of the Readmission Committee and seat availability. Readmission is not guaranteed to any student.

Students who left the major before earning the degree and are now a licensed practical nurse (LPN) or a certified paramedic may request readmission through the Advanced Placement Policies for LPNs and Paramedics.

Eligibility for Readmission

To be eligible for readmission, students must satisfy the following requirements:

- Meet with the Nursing ADN program director as soon as possible — after the end of the semester in which the student withdrew or

failed and prior to the start of the next semester — to discuss the readmission process and policies.
- Hold a minimum 2.000 overall GPA from Kent State University.
- Submit a formal request in writing to the Nursing ADN program director. The submission deadlines are:
  - June 1 for returning in the fall semester
  - November 1 for returning in the spring semester at the East Liverpool and Tuscarawas campuses and the Twinsburg Academic Center
  - December 31 for returning in the spring semester at the Ashtabula Campus
  - March 1 for returning in the summer term
- Submit a detailed plan for academic success. The plan must address, in detail, why the student was not successful during the previous attempt, and how the student intends to be successful if readmitted. The student must sign the plan; it will become a contract that the student must follow throughout the remainder of the nursing program.
- For readmitted students who have been out of the program more than one semester: Follow the Nursing Clinical Requirements Policy for Readmitted Students.
- For readmitted students who have been out of the program more than one semester: Demonstrate satisfactory performance of previously learned skills. Students will have three attempts to demonstrate competency. The deadline for completing these skills as required are:
  - July 1 for returning in the fall semester
  - December 1 for returning in the spring semester
  - April 1 for returning in the summer term

After Readmission

- Readmitted students who fail an NRST course may reapply for readmission to the nursing program one time only.
- Any readmitted student who fails to meet the program's progression requirements a second time will not be permitted to continue in the program and will not be eligible to begin another NRST course or be eligible to reapply for readmission.
- Readmitted students are responsible for following the Kent State University Associate Degree Nursing Student Handbook in effect at the time of readmission and changing to the current catalog year.

RESPIRATORY THERAPY

Readmission

Students seeking readmission to the A.A.S. degree in Respiratory Therapy must submit a written request to the program director. A minimum 2.000 overall GPA from Kent State University is required for readmission. The decision of readmission is made by the Admission/Readmission Committee and may be based on seat availability.

Students seeking readmission to the program must complete the following:

1. Provide documentation of a current two-step Mantoux test and Basic Life Support (BLS) for Healthcare Providers card.
2. Repeat their BCI/FBI background check, drug testing and either retest or meet all other requirements as outlined in the Progression Requirements.
3. Re-demonstrate previously learned skills prior to entering clinical sites at the discretion of the instructor. Scheduling of re-demonstration of skills must be discussed with the program director prior to re-entering the program.

Students in the withdrawn or failed category will be removed from the status of "Admitted to Technical Study" until they meet all readmission requirements.

Any student who fails to meet the program's requirements a second time will be dismissed from the program and will not be able to register for future RESP courses or be eligible for readmission.

Students who are entering the program for the second time after withdrawing during their first or second semester for non-academic reasons may be excluded from the program completion time limit (three years) and re-start the program as a new student. For more information, see the Program Requirements Completion policy.

Remediation

Competencies in the Clinical Setting

Remediation begins after students who have passed a competency in the laboratory setting but failed the same competency after three attempts in the clinical setting with a clinical instructor. The director of clinical education will re-instruct students in the proper technique and complete remediation documentation with the students. Students are given two weeks to practice and prepare for re-demonstration of the competency. Students will then re-test with a program instructor in the laboratory setting.

- Students who fail the competency at this time will receive an F grade for the course.
- Students who pass the competency will return to the clinical site for demonstrate the competency with a clinical instructor or preceptor. Students will again have three attempts. Students who are unable to pass the competency in the clinical setting a second time will receive an F grade for the course.

Clinical instructors or preceptors will make every effort to complete required competencies with students and make referrals before the last two weeks of the semester.

Competencies in the Laboratory Setting

Students will be remediated in accordance with their course syllabus. Students who fail any competency in the laboratory setting for the third time must meet with the program director prior to attempting the competency for the fourth time.

Time Limits

All students enrolled in the program have a maximum of two years to complete all program requirements. This is inclusive of students in the withdrawn or failed category or status. Students who are entering the program for the second time after withdrawing during their first or second semester for non-academic reasons may be excluded from this and re-start the program as a new student. For more information on re-starting the program, see the Readmission Policy.

College of Applied and Technical Studies Faculty

- Alicea, Megan R. (2013), Associate Lecturer, M.E.T. , Boise State University, 2015

- Andreas, Sarah E. (2020), Assistant Professor, Ph.D., Johnson Bible College, 2019
- Antenucci, Robert P. (2005), Associate Professor, Ph.D., Kent State University, 2013
- Armstrong, Lori (2011), Lecturer, B.A., Kent State University, 2014
- Baker, John J. (2012), Associate Lecturer, M.S., La Roche College, 1990
- Barcus, Laurie D. (2005), Senior Lecturer, M.S.N., University of Phoenix, 2006
- Bears, Lorraine E. (1999), Senior Lecturer, M.Tech., Kent State University, 2004
- Beck, Stacy J. (2008), Senior Lecturer, M.P.H., Kent State University, 2004
- Berlin, Kingsly T. (2013), Associate Lecturer, B.S., The Ohio State University, 2005
- Berndsen, Michelle (2024), Lecturer, M.S.N., Kent State University, 2019
- Blake, Robert M. (2003), Lecturer, M.S., Duke University, 1994
- Bonaduce, Samantha J. (2012), Associate Lecturer, M.S.N., Kent State University, 2015
- Brindley, Meghan A. (2023), Lecturer, M.Ed., University of Cincinnati, 2017
- Burkholder, Maria R. (2006), Senior Lecturer, B.S., The Ohio State University, 2001
- Burnworth, Christina M. (1995), Associate Lecturer, M.Tech., Kent State University, 2006
- Butler, Matt A. (2021), Lecturer, M.S., Case Western Reserve, 2010
- Cameron, Mary M. (2017), Associate Lecturer, B.S., Kent State University, 2013
- Carvalho, Carolyn J. (2004), Senior Lecturer, M.Tech., Kent State University, 2007
- Chen, Jie (2001), Professor, Ph.D., University of Wisconsin-Madison, 1993
- Courey, Tamra J. (1998), Associate Professor, D.N.P., Kent State University, 2014
- Cowling, Vanessa M. (2022), Lecturer, M.S.N, Post University, 2022
- Daniels, Martha E. (2010), Associate Professor, Ed.D., Walden University, 2008
- Darby, Benjamin (2013), Lecturer, M.Tech. , Kent State University, 2020
- DiPofi, Rhonda S. (2018), Associate Lecturer, M.S.N., Kent State University, 2018
- Douglass, Angela T. (2003), Senior Lecturer, M.S.N., Youngstown State University, 2003
- Dragomir, Kelly A. (2012), Senior Lecturer, M.A., Kent State University, 2018
- Emens, Susan (1993), Associate Professor, Ph.D., Trident University International, 2013
- Farag Mohamed Elshahat, Sheren E. (2021), Assistant Professor, Ph.D., University Of Seville, 2011
- Fritz, Timothy E. (2003), Associate Lecturer, M.Tech., Kent State University, 2017
- Ginal, Sharon L. (2006), Associate Lecturer, M.S.N., Ursuline College, 2002
- Golden, Shawn D. (2004), Associate Professor, Ph.D., Kent State University, 2014
- Gump, Traci L. (2016), Associate Lecturer, B.S., Ohio University, 2014
- Hancock, Darryl A. (2012), Associate Professor, Ph.D., Chatham College, 2008
- Harding, Mariann M. (2005), Professor, Ph.D., West Virginia University, 2013
- Hoffman, Susan C. (1983), Assistant Professor, M.B.A., Wheeling College, 1982
- Iagulli, Margie B. (1997), Senior Lecturer, M.Ed., Kent State University, 2002
- Inbanathan, Flavia Princess Nesamani (2023), Assistant Professor, Ph.D., Anna University, 2015
- Irfan, Mohammad A. (2024), Associate Professor, Ph.D., Case Western Reserve University, 1998
- Johnston, Kelly R. (2016), Associate Professor, D.V.M., The Ohio State University, 1992
- Kiphart, Tiffany M. (2002), Senior Lecturer, B.S., Wilmington College of Ohio, 1993
- Koptur, Turan E. (2007), Associate Lecturer, M.Tech., Kent State University, 2013
- Leija, Lynn M. (2005), Senior Lecturer, B.S., Ohio University, 1991
- Littles, La Toya R. (2020), Lecturer, M.S., Robert Morris University, 2003
- Long, Timothy R. (2024), Assistant Professor, D.B.A., New England College of Business and Finance, 2019
- Lowden, Doug M. (2025), Lecturer, M.S.N., Chamberlain University, 2022
- Mariano, Julia (2025), Lecturer, B.S., Kent State University, 2024
- Marshall, Shelley K. (1999), Associate Lecturer, M.Tech., Kent State University, 2008
- McCrea, Justin M. (2017), Lecturer, M.A., Savannah College of Art and Design, 2008
- Migliore, Heidi B. (2023), Lecturer, M.S.W., The Ohio State University, 2011
- Morgan, Donna D. (2016), Associate Lecturer, M.S.N., Kent State University, 2020
- Morris, Lora J. (2003), Associate Professor, M.S.N., Ursuline College, 2002
- Muscatello, Joseph R. (2004), Associate Professor, D.B.A., Cleveland State University, 2002
- Panthi, Dhruba (2016), Associate Professor, Ph.D., University of Tokyo, 2014
- Pate, Corey M. (2007), Associate Lecturer, M.A., Kent State University, 2005
- Peterson, Cynthia L. (1999), Senior Lecturer, M.P.H., Kent State University, 2008
- Pilc, Caitlyn J. (2024), Lecturer, M.S.N., Roberts Wesleyan College, 2020
- Rajagopal, Chitra P. (1993), Associate Professor, M.S., Youngstown State University, 1992
- Ratican, Sean P. (2018), Associate Professor, Ph.D., University Of The Cumberlands, 2019
- Reed, William E. (2022), Lecturer, M.S., Carnegie Mellon University, 2015
- Reed, William E. (2024), Associate Lecturer, M.S., Carnegie Mellon University, 2015
- Rempe, Rebecca D. (2010), Senior Lecturer, M.L.I.S., Kent State Unviersity, 2017

- Rodenhausen, Amy A. (2010), Senior Lecturer, M.Ed., Kent State University, 2014
- Rose, Stacy R. (2001), Associate Professor, M.S.N., Case Western Reserve University, 2000
- Sanguedolce, Kathleen (2024), Lecturer, M.S.N., Ohio University, 2022
- Schlosser, Elizabeth A. (1995), Associate Lecturer, B.S., Bowling Green State University, 1989
- Senita, Julie A. (2004), Associate Professor, Ph.D., Kent State University, 2017
- Senita-Saksa, Jenna R. (2021), Lecturer, B.S., Kent State University, 2020
- Shadduck, Margaret A. (2021), Associate Professor, Ph.D., Southern Illinois University School of Medicine, 1995
- Singer-Bare, Lori B. (2022), Lecturer, M.P.A., Upper Iowa University , 2020
- Spickler, Jamie L. (2019), Lecturer, M.S., Chamberlain College of Nursing-Addison, 2020
- Stefka, Shelly L. (2013), Associate Lecturer, M.S.N., Walden University-Baltimore, 2012
- Sustar, Amy K. (2014), Lecturer, B.S.N., Kent State University, 2004
- Swoboda, Kathy (2008), Associate Lecturer, L.S.M., Kent State University, 2011
- Totten, Christopher W. (2018), Associate Professor, M.Arch., Catholic University of America, 2009
- Tu, Tsunghui (2002), Associate Professor, Ph.D., Iowa State University, 2001
- Upole, Daryl G. (1992), Associate Lecturer, M.B.A., Cleveland State University, 1994
- Vanfossen, Jonathan S. (2007), Lecturer, M.Tech, Kent State University, 2009
- Warino, Shellie I. (2006), Lecturer, M.Ed., Kent State University, 2011
- Zampino, Anthony C. (1998), Associate Lecturer, M.Tech., Kent State University, 2003
- Zarzour, Richard (2019), Lecturer, M.S.N., University of Phoenix, 2014

Accounting Technology (ACTT)

ACTT 11000 ACCOUNTING I: FINANCIAL 4 Credit Hours
(Equivalent to ACCT 23020) Introduction to financial accounting, including principles generally accepted when preparing accounting statements for users outside of the business organization.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 4 lecture
Grade Mode: Standard Letter
Attributes: TAG Business

ACTT 11001 ACCOUNTING II: MANAGERIAL 4 Credit Hours
(Equivalent to ACCT 23021) Introduction to managerial accounting, including accounting for manufacturing firms, budgeting, standard cost systems, direct costing, segment reporting and cost-volume-profit (CVP) analysis.
Prerequisite: ACTT 11000.
Schedule Type: Lecture
Contact Hours: 4 lecture
Grade Mode: Standard Letter
Attributes: TAG Business

ACTT 11003 PAYROLL ACCOUNTING 3 Credit Hours
Introduction to the payroll function, including preparation of payroll and related federal, state and local tax forms required of all businesses. Students study both manual and computerized applications.
Prerequisite: ACTT 11000.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

ACTT 20012 ACCOUNTING SOFTWARE APPLICATIONS 3 Credit Hours
Students explore accounting, spreadsheet and word processing software.
Prerequisite: ACTT 11000.
Schedule Type: Lecture
Contact Hours: 3 other
Grade Mode: Standard Letter

ACTT 21000 ACCOUNTING III: FINANCIAL 3 Credit Hours
An intensive and practical study of financial accounting principles pertaining to balance sheet, income statement accounts and statement analyses.
Prerequisite: ACTT 11001.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

ACTT 21003 FUNDAMENTALS OF TAX PREPARATION 3 Credit Hours
A non-technical presentation of federal income tax laws and regulations as they relate to individuals.
Prerequisite: ACTT 11000.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

ACTT 21092 INTERNSHIP IN ACCOUNTING TECHNOLOGY (ELR) 2-3 Credit Hours
(Repeatable for credit) Supervised field experience requires either minimum 14 hours each week for unpaid work experiences or minimum 20 hours each week for paid work experiences.
Prerequisite: ACTT 21000; and special approval.
Schedule Type: Practical Experience
Contact Hours: 24-36 other
Grade Mode: Satisfactory/Unsatisfactory
Attributes: Experiential Learning Requirement

ACTT 21095 SPECIAL TOPICS IN ACCOUNTING TECHNOLOGY 1-3 Credit Hours
(Repeatable for credit) Topics in accounting vary per course offering.
Prerequisite: Special approval.
Schedule Type: Lecture
Contact Hours: 1-3 lecture
Grade Mode: Standard Letter

ACTT 21096 INDIVIDUAL INVESTIGATION IN ACCOUNTING TECHNOLOGY 1-3 Credit Hours
(Repeatable for credit) Independent in-depth research of an accounting topic supervised and coordinated by an accounting technology faculty member.
Prerequisite: 12 credit hours of ACTT courses; and special approval.
Schedule Type: Individual Investigation
Contact Hours: 1-3 other
Grade Mode: Standard Letter

ACTT 31063 INTRODUCTION TO COST ACCOUNTING 3 Credit Hours
Cost accounting concepts and systems; role of costs in decision making; budgeting concepts and procedures; analysis of revenue, cost and income variances.
Prerequisite: ACTT 11001.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

Agribusiness (AGRI)

AGRI 20000 ECONOMIC PERSPECTIVES ON FOOD AND AGRICULTURE 3 Credit Hours
Introduction of the role of economics in agriculture at the firm, national, and international level. An overview of the structure and scope of the U.S. Food and Fiber Sector and its current trends and implications for the national economy. Students learn to apply various economic principles and concepts relating to production agriculture, business management, consumer behavior, market price analysis and equilibrium, international trade and public policy formation.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGRI 30000 FARM BUSINESS MANAGEMENT 3 Credit Hours
Develops an understanding of the various business management decisions involved in the organization and operation of a farm business operation for continuous profit and production cost efficiency. Students acquire knowledge and proficiency in applying the various economic principles and farm business management analysis concepts which aid a farm operator or owner in the decision making process for a farm business operation.
Prerequisite: ACTT 11000 and BMRT 11009.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGRI 31000 AGRIBUSINESS MANAGEMENT 3 Credit Hours
Intended for students interested in careers eventually leading to managerial positions in commodity production and marketing, input supply, banking, cooperatives and related agricultural industries. Focus is on the use of financial statements, operating and managerial functions, communication, and the inter-personal work environment within an organization. Presentation is by lecture integrated with experiential learning through use of student-team decision making applied to an agribusiness management simulation.
Prerequisite: ACTT 11000 and ACTT 11001 and BMRT 11009.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGRI 32000 FARM RECORDS ANALYSIS AND INCOME TAX MANAGEMENT 3 Credit Hours
Develop an understanding of the procedures involved with farm recordkeeping and illustrates the ways in which farm records can be used to evaluate and to improve the economic performance and profitability of a farm business. Students have the opportunity to gain an understanding of the current tax system. Students learn to apply the various tax management methods and strategies that can be used to maximize the after tax income to a farm business operation.
Prerequisite: AGRI 30000.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGRI 33000 AGRICULTURAL COMMODITY MARKETING 3 Credit Hours
Covers the economic factors, socioeconomic trends, farm demographic changes, global competitiveness, and consumer attitudes that shape the current structure and operation of the U.S. agricultural marketing system. Includes how decisions at one level in the value chain impact all other levels and explores how and when the system changes as a result of individual decisions. Also focuses on quality-based marketing, contracting and provides a global perspective.
Prerequisite: AGRI 20000 and BMRT 11009.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGRI 34000 LIVESTOCK PRODUCTION MANAGEMENT 3 Credit Hours
An introduction to the livestock industry and its role in society and our economy. Principles of livestock production management are introduced for beef, swine, dairy cattle, horses, sheep, goats and poultry.
Prerequisite: AGRI 31000.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGRI 35000 CROP AND FORAGE PRODUCTION MANAGEMENT 3 Credit Hours
Deals with crop plants in relation to the environment, crop improvement, seeds, and seeding. The practice of tillage, fertilizer, rotation, cropping, and weed control is covered. Pastureland and farmland, the harvest of field crops, and the handling and marking of grain seeds and hay are also included, as well as crops of the grass family, perennial forage grasses, the legume family and miscellaneous crops.
Prerequisite: AGRI 30000.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGRI 40000 ADVANCED FARM BUSINESS MANAGEMENT 3 Credit Hours
Application of economics and business principles to the management of a Farm Business. Use of analytical tools such as enterprise budgeting, linear programming, pro-forma cash flow budgeting, capital budgeting, and risk management analysis to aid the decision-making process. Understanding of farm transfer and succession planning and its importance in the intergenerational viability of a farm business.
Prerequisite: AGRI 30000.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGRI 40092 AGRIBUSINESS INTERNSHIP (ELR) 3 Credit Hours
Provides students an internship work experience in the agribusiness industry. The internship may be completed in any one of the following areas of agribusiness: sales management, agriculture lending, insurance, cooperative management, commodity merchandising, farm business management, public relations, farm marketing, agricultural policy, dairy production or farm business operations.
Prerequisite: Agribusiness major; junior or senior standing; and special approval.
Schedule Type: Practical Experience
Contact Hours: 9 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

AGRI 41000 AGRICULTURAL PRICE ANALYSIS 3 Credit Hours
The economics of supply and demand provide a foundation for understanding the behavior of agricultural markets, the formation of prices, and the role of prices in the allocation of goods and services. Traditional topics include: aggregate demand& supply determination, price equilibrium, elasticities in the commodity market, equilibrium displacement models, derived demand of food products, quantitative analysis of food marketing channels, regression analysis and spatial concepts in agriculture.
Prerequisite: AGRI 20000, ECON 22061.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGRI 42000 AGRICULTURAL FINANCE 3 Credit Hours
To develop an understanding and proficiency in applying the various economic principles and concepts of financial management for analyzing alternative investment decisions and solving financial problems in a farm business operation. Various strategies for acquiring and financing capital resources in the farm business operation are explored. Characteristics of the financial institutions providing credit to farmers and their particular lending programs are studied.
Prerequisite: AGRI 30000 and MATH 11010.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGRI 43000 AGRICULTURAL ENVIRONMENTAL LAW 3 Credit Hours
To acquaint students with the fundamentals of state and federal pollution control law. Major topics include: air pollution control, water pollution control, toxic substance control, solid waste management and disposal, Superfund, wetlands, endangered species, land use regulation, environmental assessment, environmental law administration and enforcement and global environmental law.
Prerequisite: AGRI 30000 and BMRT 21000.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGRI 44000 AGRICULTURAL AND INTERNATIONAL TRADE POLICY 3 Credit Hours
History, development, programs, and analysis of public policy issues in agriculture and natural resources. Analysis of science, economic, and political factors involved in policy development. Emphasis on farm policy and farm structure; food and nutrition; trade and development; and natural resources, the environment, and bioenergy, with special attention to issues and policies impacting Ohio and the United States.
Prerequisite: AGRI 20000 and ECON 22061.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGRI 45000 SENIOR SEMINAR (WIC) 3 Credit Hours
Capstone course designed to expose Agribusiness majors to current events and the interpretation of those events in an economics framework for use in management decision making. Students are introduced to the scientific method and complete a senior research project.
Prerequisite: Agribusiness (AGRI) major; and senior standing.
Schedule Type: Seminar
Contact Hours: 3 other
Grade Mode: Standard Letter
Attributes: Writing Intensive Course

Allied Health Sciences (AHS)

AHS 11000 EXPLORATION OF NURSING AND ALLIED HEALTH PROFESSIONAL CAREERS 1 Credit Hour
Course provides students the means in which to develop an understanding of nursing and allied health career options available in healthcare-related professions. The following professions are reviewed: nurse, occupational therapist assistant, physical therapist assistant, radiologic technologist and respiratory therapist. Students who enroll in this course are typically undecided about what professional program of instruction to pursue, but are interested in the healthcare field. The course may include observation in health care professions.
Schedule Type: Lecture
Contact Hours: 1 lecture, 0 lab, 0 other
Grade Mode: Standard Letter

AHS 12000 BASIC PRINCIPLES OF PHARMACOLOGY 2 Credit Hours
Identify and apply the basic principles of pharmacology to client care. Explore pharmaceutics, pharmacokinetics, pharmacodynamics, pharmacology-related math, drug classification and safe preparation and administration of medications.
Prerequisite: Nursing Technology, Nursing, Physical Therapist Assistant Technology, Occupational Therapist Assistant Technology, Radiologic Technology or Respiratory Therapy major.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

AHS 12005 CONCEPTS IN LIFESPAN DEVELOPMENT 3 Credit Hours
Developmental theories and assessment measures throughout the lifespan, with application to the rehabilitation client.
Prerequisite: PSYC 11762.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AHS 12010 PROFESSIONALISM IN HEALTHCARE 1 Credit Hour
Provides information concerning the professional behaviors and communication skills necessary for all healthcare providers to effectively interact with clients, related healthcare professionals and others. Students will gain an understanding of the importance of being professional, ethical and competent in their fields.
Prerequisite: None.
Schedule Type: Seminar
Contact Hours: 1 other
Grade Mode: Standard Letter

AHS 22002 CLINICAL KINESIOLOGY 3 Credit Hours
Function of the human body with emphasis on the musculoskeletal system and gross body measurements.
Prerequisite: BSCI 11010; and special approval.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AHS 22003 CLINICAL KINESIOLOGY LABORATORY 1 Credit Hour
Application of human body movement and function concepts.
Prerequisite: BSCI 11010; and special approval.
Schedule Type: Laboratory
Contact Hours: 3 lab
Grade Mode: Standard Letter

AHS 24010 MEDICAL TERMINOLOGY 1 Credit Hour
Terminology utilized by the medical profession. Emphasis is on definition, spelling, pronunciation and correct usage of terms.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 1 lecture
Grade Mode: Standard Letter

Animation Game Design (AGD)

AGD 11003 SOLID MODELING 3 Credit Hours
Instruction given in the best usage approaches for parametric design philosophy through a hands-on, practice-intensive curriculum. Students acquire the knowledge needed to complete the process of designing models from conceptual sketching to solid modeling, assembly design and drawing production with rendering techniques for presentation.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGD 12000 TWO DIMENSION GRAPHICS 3 Credit Hours
Introductory course for creation of two-dimension graphics using vector and raster imaging for use in mapping and character development in animation and gaming.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGD 12001 MODELING AND TEXTURING I 3 Credit Hours
Introduction to the basic concepts of three-dimension modeling and animation. Topics include terminology, techniques of creating textures and imaging for mapping, three-dimension modeling, lighting, shading and rendering.
Prerequisite: AGD 12000 with a minimum grade of C; and Animation Game Design major or Game Design minor or Modeling and Animation minor.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGD 21000 FUNDAMENTALS OF MIXED REALITY 3 Credit Hours
Course explores the fundamentals of virtual and augmented reality available today (education, medical, games, architecture, etc.).
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGD 21092 ANIMATION AND GAME DESIGN PRACTICUM (ELR) 1-3 Credit Hours
(Repeatable for credit) Supervised work experience. One credit hour for 50 work hours.
Prerequisite: None.
Schedule Type: Practical Experience
Contact Hours: 3.333-10 other
Grade Mode: Satisfactory/Unsatisfactory
Attributes: Experiential Learning Requirement

AGD 22000 TWO-DIMENSION COMMUNICATION 3 Credit Hours
Comprehensive training with 2D and 3D elements of computer-aided-design from the foundation to advanced techniques applicable to design in the graphics, mechanical, industrial and electronics fields.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGD 22001 MODELING FOR ARCHITECTURE 3 Credit Hours
Introduction to building information modeling (BIM) fundamentals using an industry-standard architectural software application, including creation of full 3D architectural project into working drawings.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGD 22004 MODELING AND TEXTURING II 3 Credit Hours
3D modeling and computerized techniques. Introduction to the basic concepts, terminology and techniques of 3D modeling, lighting, shading, imaging and animation.
Prerequisite: AGD 12001 with a minimum C grade.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGD 22005 MULTIMEDIA AND GAME DESIGN 3 Credit Hours
2D game development for pc and mobile devices, which includes the creation of flowcharts, roughs and interactive navigation systems. Integration of images, animation, video, sound and custom C# coding
Prerequisite: AGD 12001.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGD 22010 DIGITAL SCULPTING 3 Credit Hours
This course will explore interactive 3D sculpting to create highly-detailed and realistic models for use in games, film, animation and illustration.
Prerequisite: Animation Game Design major or Game Design minor or Modeling and Animation minor.
Corequisite: AGD 12001.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGD 22095 SPECIAL TOPICS IN ANIMATION AND GAME DESIGN 1-3 Credit Hours
(Repeatable for credit) Special topics in animation and game design. Repeated registration permitted.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 1-3 lecture
Grade Mode: Standard Letter

AGD 23020 GAMING AND CULTURE 3 Credit Hours
Familiarize students with the basic issues of culture and social aspects in different contexts including the relationship between culture and gaming. What is play, what is experiencing, and what are the cultural determinants that are at work in the process.
Prerequisite: Sophomore standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGD 23030 GAME PROTOTYPING 3 Credit Hours
Hands-on project course where students will create 3 games that highlight different aspects of the game-making and prototyping process. Students will learn to create game prototypes with different types of media – paper prototypes, storytelling prototypes, simple level design, and others.
Prerequisite: AGD 12000 or CS 38101.
Schedule Type: Lecture
Contact Hours: 1 lecture, 2 lab
Grade Mode: Standard Letter

AGD 33010 COMPETITIVE GAMING 3 Credit Hours
Introduction to eSports cultures and exploration of streaming techniques and layouts. The business culture of eSports, developing teams, communities, competitive gaming, event marketing and organizing an eSports event.
Prerequisite: Junior standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGD 33030 GAMES FOR IMPACT 3 Credit Hours
Hands-on project course where students learn how games are used for socially responsible purposes. Students choose a real-life problem to address, identify relevant research about the problem, then propose play-based solutions. This research informs the creation of a digital or non-digital game that educates players about the problem and how to address it.
Prerequisite: AGD 12000; and Animation Game Design major or Game Design minor or Modeling and Animation minor; and junior standing.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2.07 lecture, 2.93 lab
Grade Mode: Standard Letter

AGD 33095 SPECIAL TOPICS ANIMATION AND GAME DESIGN 1-3 Credit Hours
(Repeatable for credit) Topic varies per course offering.
Prerequisite: Animation and game design major.
Schedule Type: Lecture
Contact Hours: 1-3 lecture
Grade Mode: Standard Letter

AGD 34000 CHARACTER ANIMATION 3 Credit Hours
Continuation of the study and technology applications of computer animation with emphasis on camera usage and the production of a comprehensive animation project involving the animation thought process (ATP).
Prerequisite: AGD 22004.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGD 34001 ANIMATION PROJECT 3 Credit Hours
Continued study of practical technology applications of computer animation with emphasis on scripting code writing, systems line variables and fluent realism factors within the ATP.
Prerequisite: AGD 34000.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGD 34003 ANIMATION THEORY 3 Credit Hours
A comprehensive course covering the fundamentals of storytelling with animation and motion graphics. Coverage of concept development, pre-production, storyboarding, color and design.
Prerequisite: AGD 22004.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGD 34005 ENVIRONMENTAL GAME DESIGN 3 Credit Hours
In this course, we will learn the essentials of game environment creation. We will look at how textures, terrains, foliage, particle effects, lighting and blueprinting work and are created in a computer-aided software. We will also learn to import 3D models in to our game environment.
Prerequisite: AGD 22004; and junior standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGD 43001 ANIMATION PRODUCTION AND VISUAL EFFECTS 3 Credit Hours
A course dealing with the technical and business aspects of pre-and post production planning for multimedia video or film projects. Covers a systematic approach to content organization and development, scripting, visualization. We will explore effects such as particles and volumes (fire, smoke, liquids) inside 3D scenes as well as compositing effects.
Prerequisite: AGD 22004.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGD 43002 GRAPHICS DESIGN TECHNOLOGY 3 Credit Hours
A course of study in the technology of creating knowledge and effects using computer-graphics concepts to create photo-realistic composite images and to restore and enhance a wide array of images.
Prerequisite: AGD 22004.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGD 43025 REAL-TIME RENDERING FOR ANIMATION 3 Credit Hours
This course is designed to explore the workflow of real-time rendering in Unreal Engine to present stories and animation. This includes performance targets, interactivity and animation.
Prerequisite: AGD 34001 or AGD 34005.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

AGD 43092 INTERNSHIP IN ANIMATION AND GAME DESIGN (ELR) (WIC) 1-3 Credit Hours
(Repeatable for credit) A credit-bearing work experience with educational outcomes, utilizing and enhancing a student's academic learning in practical occupational situations. The student is expected to complete pre-determined assignments, which may include a weekly journal, final paper, or an experience report. It is expected that the internship is different each time the course is taken.
Prerequisite: Animation Game Design major and junior standing; and special approval.
Schedule Type: Practical Experience
Contact Hours: 1-3 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement, Writing Intensive Course

AGD 43096 INDIVIDUAL INVESTIGATION IN ANIMATION AND GAME DESIGN 1-3 Credit Hours
(Repeatable for credit) Research or individual investigation in areas not covered in the existing curriculum for baccalaureate level students at or above the junior level.
Prerequisite: Special approval.
Schedule Type: Individual Investigation
Contact Hours: 1-3 other
Grade Mode: Standard Letter

AGD 43099 GAME PROJECT (ELR) 3 Credit Hours
Explore advanced concepts in Interactive 3D Game Design through a research and project-based course. This course centers on collaborative group project, guiding students in the creation of interactive objects, AI systems, user interfaces and playable 3D characters. The main objective is to develop a fully playable 3D game using Unreal Engine. This course is a continuation of AGD 34005.
Prerequisite: AGD 34005.
Schedule Type: Lecture, Project or Capstone
Contact Hours: 1 lecture, 2 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

AGD 49999 SENIOR CAPSTONE PROJECT (ELR) (WIC) 3 Credit Hours
This is a senior project class allowing students to work in an area of interest.
Prerequisite: AGD 43025 or AGD 43099; and senior standing.
Schedule Type: Combined Lecture and Lab
Contact Hours: 1 lecture, 2 lab
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement, Writing Intensive Course

Applied and Technical Studies (ATS)

ATS 10000 INTRODUCTION TO ORGANIZATIONAL LEADERSHIP 3 Credit Hours
Course introduces key leadership concepts and practices based on a broad view of the practice of leadership in multiple types of organizations, including social service agencies, non-profit organizations, government units and small businesses. It provides a basic understanding of organizational leadership that is designed to guide students to discover the knowledge and skills that are characteristic of effective leaders. Leadership will be distinguished from the concept of management. Includes a basic examination of leadership theories and models as applied to different categories of organizations, cross-cultural leadership, ethics, power, leadership development, dyadic relations and contextual variation in traits of leaders.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

ATS 11001 INTRODUCTION TO VACUUM SYSTEMS 3 Credit Hours
Course will cover the types, working principle, application, troubleshooting and maintenance of vacuum pumps used in manufacturing industries.
Prerequisite: None.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter
Attributes: CTAG Vacuum Systems

ATS 11002 OVERVIEW OF MANUFACTURING MAINTENANCE 3 Credit Hours
Course will cover the concepts associated with a manufacturing environment, process control and lean manufacturing.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: CTAG Intro to Manufacturing, TAG Intro to Manufacturing

ATS 20152 COMPARATIVE ORGANIZATIONAL ETHICS AND LEADERSHIP PRACTICE 3 Credit Hours
Course will examine differences in ethical standards and approaches in the workplaces, including social service agencies, non-profit organizations, government units and small businesses. It is focused on the role organizational leaders play in fostering ethical behavior appropriate to the organization via different forms of cultural development. Students will utilize contemporary case-studies and explore existing frameworks from organizations such as hospitals, educational entities and family-owned small businesses to study ethical dealings and moral leadership from an applied leadership perspective.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

ATS 20195 SPECIAL TOPICS 1-3 Credit Hours
Subject varies depending on the need and faculty.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 1-3 lecture
Grade Mode: Standard Letter

ATS 32016 EMOTIONAL INTELLIGENCE AND LEADERSHIP ACROSS ORGANIZATIONS 3 Credit Hours
Course will explore the essentials of emotional intelligence in relation to the human condition and the practical effects of understanding emotional intelligence for effective leadership across different types of organizations, including social service agencies, non-profit organizations, government units and small businesses. Students will engage in thoughtful self-assessment and self-reflection, while seeking to identify their strengths as well as their opportunities for personal growth and expanded emotional intelligence. The focus will be the application of emotional intelligence essentials to different types of organizations, and how that awareness can impact the leadership process for positive culture within varying organizations.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

ATS 42012 ORGANIZATIONAL CARE AND SOCIAL RESPONSIBILITY 3 Credit Hours
Course examines the role of different kinds of organizations in improving community development through organizational responsibility. Topics will include an overview of varying types of organizational responsibility, metrics and the involvement of stakeholders at the organizational, employee and community levels. Organizations considered will include social service agencies, non-profit organizations, government units and small businesses. The course will foster the development of knowledge and explore real-world application of skills that will enable professionals to serve and contribute to advancements of organizations as a part of the community, be it work, nonprofit, voluntary organization, church, city or state through ethical and sustainable decision-making.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

Aviation Maintenance Technology (AMRT)

AMRT 10010 FAA REGULATIONS AND DOCUMENTATION 2 Credit Hours
FAA history, inspections, documentation and aircraft drawings. Comprehensive course for the AMRT candidate to meet the requirements for FAA certification.
Corequisite: AMRT 10040.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

AMRT 10020 AIRCRAFT TOOLS AND TECHNIQUES 2 Credit Hours
Welding for the aviation maintenance technician and understanding of fluid lines and fittings. Comprehensive course for the AMRT candidate to meet the requirements for FAA certification.
Corequisite: AMRT 10010.
Schedule Type: Combined Lecture and Lab
Contact Hours: 2 other
Grade Mode: Standard Letter

AMRT 10030 AIRFRAME I 3 Credit Hours
Understanding aircraft systems and corrosion control. Comprehensive course for the AMRT candidate to meet the requirements for FAA certification.
Corequisite: AMRT 10010.
Schedule Type: Combined Lecture and Lab
Contact Hours: 3 other
Grade Mode: Standard Letter

AMRT 10040 AVIATION POWER PLANT I 4 Credit Hours
Study of aviation engines and propellers. Comprehensive course for the AMRT candidate to meet the requirements for FAA certification.
Corequisite: AMRT 10010.
Schedule Type: Combined Lecture and Lab
Contact Hours: 4 other
Grade Mode: Standard Letter

AMRT 20010 AIRFRAME II 3 Credit Hours
Understanding aircraft structures. Comprehensive course for the AMRT candidate to meet the requirements for FAA certification.
Prerequisite: AMRT 10030.
Schedule Type: Combined Lecture and Lab
Contact Hours: 3 other
Grade Mode: Standard Letter

AMRT 20020 AIRFRAME III 2 Credit Hours
Advanced airframe course. Comprehensive course for the AMRT candidate to meet the requirements for FAA certification.
Corequisite: AMRT 20010.
Schedule Type: Combined Lecture and Lab
Contact Hours: 2 other
Grade Mode: Standard Letter

AMRT 20030 AVIATION ELECTRONICS 3 Credit Hours
Electronics and systems for the aviation maintenance technician. Comprehensive course for the AMRT candidate to meet the requirements for FAA certification.
Prerequisite: EERT 12001.
Schedule Type: Combined Lecture and Lab
Contact Hours: 3 other
Grade Mode: Standard Letter

AMRT 20040 PRINCIPLES OF FLIGHT 3 Credit Hours
Nature of light, sound and aerodynamics. Comprehensive course for the AMRT candidate to meet the requirements for FAA certification.
Prerequisite: PHY 12202.
Schedule Type: Combined Lecture and Lab
Contact Hours: 3 other
Grade Mode: Standard Letter

AMRT 20050 PRACTICUM IN ADVANCED AVIATION 2 Credit Hours
Aviation maintenance experience. Comprehensive course for the AMRT candidate to meet the requirements for FAA certification.
Prerequisite: AMRT 10040.
Schedule Type: Practical Experience
Contact Hours: 2 other
Grade Mode: Standard Letter

AMRT 20060 AVIATION POWER PLANT II 2 Credit Hours
Further studies into aircraft engines. Comprehensive course for the AMRT candidate to meet the requirements for FAA certification.
Prerequisite: AMRT 10040.
Schedule Type: Combined Lecture and Lab
Contact Hours: 2 other
Grade Mode: Standard Letter

Business Management Related Technology (BMRT)

BMRT 11000 INTRODUCTION TO BUSINESS 3 Credit Hours
(Equivalent to BUS 10123) Overview of social, economic and consumer environments as related to large and small business. Emphasis is on production, marketing, finance, management and human resources.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

BMRT 11006 BUSINESS COMPUTATIONS I 3 Credit Hours
Application of algebraic and arithmetic concepts to accounting, finance and marketing. Computation of finance charges, taxes, fundamentals of inventory control and depreciation.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

BMRT 11009 INTRODUCTION TO MANAGEMENT TECHNOLOGY 3 Credit Hours
(Equivalent to MGMT 24163) Study of planning, organizing, directing/leadership, controlling, staffing, decision making, and communication theories and management applications of human and material resources and methods.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

BMRT 21000 BUSINESS LAW AND ETHICS I 3 Credit Hours
(Equivalent to FIN 26074) Introduction to American law as related to government, business, society and the ethical issues that occur in the legal environment. Emphasis is on contract law. Relevant past and current law issues are addressed.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

BMRT 21004 BUSINESS ANALYTICS I 3 Credit Hours
(Equivalent to BA 24056) This course is an introduction to concepts in statistical methods and their application to real-world problems. This course will examine both the theoretical and practical side of the different methods. Students will be given ample opportunities to apply the techniques to different real-world programs. The goal of the course is for students to understand fundamental statistical concepts and methods, and their applications.
Prerequisite: MATH 11010 or MATH 11012 or MATH 12002.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: TAG Business

BMRT 21008 CASE STUDIES IN MANAGEMENT AND ENTREPRENEURSHIP 3 Credit Hours
Application of management theory to actual business situations. Emphasis on decision making and evaluation of methods and styles of management in all functional areas.
Prerequisite: BMRT 11000 or BMRT 11009 or MGMT 24163 or BUS 10123.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

BMRT 21011 FUNDAMENTALS OF FINANCIAL MANAGEMENT 3 Credit Hours
Understanding basic financial reports for analysis and performance of a business. Preparation of sales forecasts to develop capital and expense budgets.
Prerequisite: ACTT 11000 and IT 11000 or special approval of BMRT faculty.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

BMRT 21020 INTRODUCTION TO ENTREPRENEURSHIP 3 Credit Hours
Provides information about the functional elements of starting a small business. Includes the use of instruments, exercises and case analyses to assess entrepreneurial skills.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter-IP

BMRT 21023 FINANCING THE BUSINESS VENTURE 3 Credit Hours
Course deals with determining capital needs, identifying sources of capital, developing a financial plan and interpreting financial statements. Both public and private loan programs are reviewed.
Prerequisite: BMRT 21020 or special approval of full-time BMRT faculty.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

BMRT 21050 FUNDAMENTALS OF MARKETING TECHNOLOGY 3 Credit Hours
(Equivalent to MKTG 25010) An overview of the process, activities, and problems associated with the conception, planning and execution of pricing, promotion, product and placement of goods and services.
Prerequisite: ECON 22060.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: TAG Business

BMRT 21052 PROFESSIONAL SELLING TECHNIQUES 3 Credit Hours
Study of personal selling as a promotional technique to determine and satisfy the needs of buyers and to build a long-term relationship among all parties.
Prerequisite: BMRT 11000 or special approval of full-time BMRT faculty.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

BMRT 21053 ADVERTISING IN BUSINESS 3 Credit Hours
A practical approach to the study of advertising. Emphasis is on the effective use of the media creating advertising operations and advertising management.
Prerequisite: BMRT 21050 or special approval of BMRT faculty.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

BMRT 21092 INTERNSHIP IN MANAGEMENT TECHNOLOGY (ELR) 1-3 Credit Hours
(Repeatable for credit) Students participate in a supervised educational experience. Each credit hour requires a minimum of seven hours work without pay or 10 hours work with pay per week for 15 weeks.
Prerequisite: Special approval of full-time BMRT faculty.
Schedule Type: Practical Experience
Contact Hours: 7-21 other
Grade Mode: Standard Letter-IP
Attributes: Experiential Learning Requirement

BMRT 21095 SPECIAL TOPICS 1-3 Credit Hours
(Repeatable for credit) Special topics in business technology announced when scheduled.
Prerequisite: Special approval from full-time BMRT faculty.
Schedule Type: Lecture
Contact Hours: 1-3 lecture
Grade Mode: Standard Letter

BMRT 21096 INDIVIDUAL INVESTIGATION IN BUSINESS TECHNOLOGY 1-3 Credit Hours
(Repeatable for credit) Individual study in business and related fields.
Prerequisite: Business Management Technology major; and special approval from full-time BMRT faculty.
Schedule Type: Individual Investigation
Contact Hours: 1-3 other
Grade Mode: Standard Letter-IP

BMRT 22000 GLOBAL LOGISTICS 3 Credit Hours
The efficient and effective movement of physical goods from point of origin to point of consumption for consumers, businesses, and other organizations. Key areas of study include inbound and outbound logistics, transportation methods, inventory control, warehousing, material handling, information technology, security, risk, and sustainability.
Prerequisite: BMRT 11009.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

BMRT 22099 CAPSTONE IN LOGISTICS AND SUPPLY CHAIN MANAGEMENT (ELR) 3 Credit Hours
Capstone course in Logistics and Supply Chain Management requiring an in-depth analysis of emerging global issues, both qualitative and quantitative. Case studies, research reports and in-depth investigations are incorporated into the course.
Prerequisite: BMRT 22000; and Sophomore standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

BMRT 31005 PURCHASING AND SUPPLY MANAGEMENT 3 Credit Hours
Investigates the purchasing, planning and logistics functions of supply chain management. Process control, negotiations, quality control, service measurement and other quantitative methods are covered.
Prerequisite: BMRT 11000 or BMRT 11009.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

BMRT 31006 HUMAN RESOURCE MANAGEMENT 3 Credit Hours
The study of contemporary issues of human resources. Covers planning, job design, selection, appraisal, compensation, training, life quality, safety/health, diversity and unions.
Prerequisite: BMRT 11009 or MGMT 24163.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

BMRT 31009 SEMINAR IN MANAGEMENT AND ENTREPRENEURSHIP 3 Credit Hours
Students of business management technology engage in critical reading, writing and discussion to apply business theory to on-the-job experiences.
Prerequisite: BMRT 11000 or BMRT 11009 or BUS 10123; and ACTT 11000 or ACTT 11001 or ACCT 23020 or 23021 or equivalent.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

BMRT 32020 LEAN SUSTAINABILITY 1 Credit Hour
A sustainable business is an enterprise that has minimal negative, or a positive impact on Society. Impacts can be environmental, economical, or community based.
Prerequisite: BMRT 11009.
Schedule Type: Lecture
Contact Hours: 1 lecture
Grade Mode: Standard Letter

BMRT 36401 APPLICATIONS OF TECHNOLOGY MANAGEMENT SOFTWARE 3 Credit Hours
Combination of computer and business applications for managing technology within an organization. Focus is on using emerging computer software programs for the enhancement of decision making. Course is 2 hours lecture, 1 hour lab.
Prerequisite: BMRT 11000 and IT 12000; or special approval of full-time Applied Business faculty.
Schedule Type: Combined Lecture and Lab
Contact Hours: 3 other
Grade Mode: Standard Letter

BMRT 36415 CUSTOMER SERVICE 3 Credit Hours
Analysis and definition of customer satisfaction with an emphasis on quality customer service that includes techniques for assessing company service efforts and developing customer satisfaction programs.
Prerequisite: Sophomore standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

BMRT 40092 PRACTICUM IN APPLIED BUSINESS AND TECHNOLOGY (ELR) 1-4 Credit Hours
(Repeatable for a maximum of 4 credit hours) On sight internship or a project with a business or technology related organization approved by the Instructor.
Prerequisite: Junior standing and special approval.
Schedule Type: Field Experience, Practical Experience
Contact Hours: 7-28 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

BMRT 40096 INDIVIDUAL INVESTIGATION IN BUSINESS AND TECHNOLOGY 1-4 Credit Hours
(Repeatable for a maximum of 4 credit hours) Perform an individual project or research assignment as approved by the instructor.
Prerequisite: Junior standing; and special approval.
Schedule Type: Individual Investigation
Contact Hours: 7-28 other
Grade Mode: Standard Letter

BMRT 46295 SPECIAL TOPICS IN APPLIED BUSINESS 2-3 Credit Hours
(Repeatable for credit) Specialized advance instruction oriented primarily to applied business topics. Topics will vary and will be announced as scheduled.
Prerequisite: Special approval.
Schedule Type: Lecture
Contact Hours: 2-3 lecture
Grade Mode: Standard Letter

BMRT 46409 STRATEGIC MANAGEMENT OF TECHNOLOGY AND INNOVATION 3 Credit Hours
An examination using case studies and readings of the management of technology and innovation through perspectives at the product line, business unit and corporate levels.
Prerequisite: BMRT 21050 and BMRT 21011; and junior standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

BMRT 46418 LABOR STUDIES IN TECHNOLOGY 3 Credit Hours
This course will include the history of the labor movement, interrelationships of labor with business and industry, labor law, contemporary labor problems that emphasizes how unions are organized, contracts, arbitration and management issues.
Prerequisite: Junior standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

Early Years Education and Care (EYEC)

EYEC 10121 EARLY YEARS FIELD PREPARATION AND TRAININGS 1 Credit Hour
This course will prepare students for entrance into the early childhood field by providing information and guidance as students complete a clearance packet which includes specific trainings, paperwork and preparation. This documentation and related trainings are required prior to beginning observations and field experiences undertaken at sites approved by the Ohio Department of Job and Family Services (ODJFS) and Ohio Department of Education (ODE). Clearance packets and yearly background checks are required for students to be able to participate in course-related field experiences, which occur each semester in the EYEC and the BSE program.
Pre/corequisite: ECED 10120.
Schedule Type: Lecture
Contact Hours: 1 lecture
Grade Mode: Satisfactory/Unsatisfactory

EYEC 10192 PRESCHOOL CLINICAL EXPERIENCE I (ELR) 1 Credit Hour
This course will be taken in conjunction with ECED 20101 and with EYEC 21010, which have field related observations and assignments. A minimum of 45 field hours is required. Students must also submit an approved clearance packet and the results of a current Bureau of Criminal Investigation and Identification (BCII) and Federal Bureau of Investigation (FBI) background check to authorized personnel at their field site before beginning their field experience.
Pre/corequisite: ECED 10120 and EYEC 10121.
Corequisite: ECED 20101 and EYEC 21010.
Schedule Type: Practical Experience
Contact Hours: 6 other
Grade Mode: Satisfactory/Unsatisfactory-IP
Attributes: Experiential Learning Requirement

EYEC 20192 PRESCHOOL CLINICAL EXPERIENCE II (ELR) 1 Credit Hour
This course will require students to complete a minimum of 120 field hours in a preschool setting. This field course is to be taken in conjunction with the designated preschool block of course work prior to preschool student teaching (EYEC 22192). Related assignments from the concurrent preschool courses are completed at the assigned field site. Students must also submit an approved clearance packet and the results of a current Bureau of Criminal Investigation and Identification (BCII) and Federal Bureau of Investigation (FBI) background check to authorized personnel at their assigned school or agency before the first day of the semester. Students must successfully complete the field experience and pass all related preschool course work with a minimum grade of C in order to register for the final preschool student teaching, EYEC 22192.
Pre/corequisite: ECED 10120 and EYEC 10121 and EYEC 10192 and ECED 20101 and EYEC 21010.
Corequisite: EYEC 21005 and EYEC 22000 and EYEC 22130.
Schedule Type: Practical Experience
Contact Hours: 6 other
Grade Mode: Satisfactory/Unsatisfactory-IP
Attributes: Experiential Learning Requirement

EYEC 21005 COLLABORATIVE PARTNERSHIPS IN THE EDUCATION AND GUIDANCE OF THE YOUNG CHILD 3 Credit Hours
(Equivalent to ECED 20105) This course focuses on the understanding that children are a part of a family, culture, and community. Content addresses family partnerships and inclusive schooling with young children and their educators. Students gain knowledge and skills to establish collaborative and productive relationships with families and the surrounding community. Students identify and discuss the multiple influences and diversity that impact the development, guidance, and education of the whole child: family structure, customs, identities, socio-cultural and linguistic backgrounds, and advocacy. There are field-based assignments in this course and 15 hours of field experience is required. Students are required to complete a Bureau of Criminal Investigation and Identification (BCII) and Federal Bureau of Investigation (FBI) background checks and submit the results to authorized personnel at their field site before beginning their field experience. Some preschool sites may also require a clearance packet which is completed in EYEC 10121.
Pre/corequisite: ECED 10120 and ECED 20101 and EYEC 10121 and EYEC 21010 and EYEC 10192.
Corequisite: EYEC 20192 and EYEC 22000 and EYEC 22130.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EYEC 21010 INFANT AND TODDLER CURRICULUM AND SERVICES 3 Credit Hours
This course focuses on Infant/toddler development as it relates to environments and curriculum, theoretical perspectives, family involvement, community involvement, community resources, collaboration, and advocacy. A minimum of 30 hours of field experience is required. Students are required to complete Bureau of Criminal Investigation and Identification (BCII) and Federal Bureau of Investigation (FBI) background checks and submit the results to authorized personnel at their field site before beginning their field experience.
Pre/corequisite: ECED 10120 and EYEC 10121 and ECED 20101.
Corequisite: EYEC 10192.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EYEC 21095 SPECIAL TOPICS IN EARLY CHILDHOOD EDUCATION TECHNOLOGY 1-3 Credit Hours
(Repeatable for credit) Intensive study of significant current issues in the early childhood education field.
Prerequisite: Departmental permission.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EYEC 21096 INDIVIDUAL INVESTIGATION IN EARLY CHILDHOOD EDUCATION TECHNOLOGY 1-3 Credit Hours
(Repeatable for a maximum of 6 credit hours) Analysis and special research in the early childhood education field.
Prerequisite: Departmental special approval.
Schedule Type: Individual Investigation
Contact Hours: 1-3 other
Grade Mode: Standard Letter

EYEC 22000 PRESCHOOL CURRICULUM 3 Credit Hours
(Equivalent to ECED 20103) Students will plan, implement and evaluate developmentally appropriate content and methodology for preschool age children. This course will provide students with a foundation for understanding the developmental processes occurring during the preschool years and an introduction to teaching and learning in preschool which includes the importance of play, guidance of young children, designing quality environments and authentic documentation and assessment. A minimum of 38 field hours will be required along with field-based assignments. Students are required to complete Bureau of Criminal Investigation and Identification (BCII) and Federal Bureau of Investigation (FBI) background checks and submit the results to authorized personnel at their field site before beginning their field experience. Some sites may also require a clearance packet with designated trainings.
Pre/corequisite: ECED 10120 and EYEC 10121 and ECED 20101 and EYEC 21010.
Corequisite: EYEC 21005 and EYEC 22130.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EYEC 22130 EMERGING LITERACIES 3 Credit Hours
(Equivalent to ECED 30201) This course engages students in an examination of the process of language and literacy development in preschool children. The course will focus on how early childhood teachers integrate knowledge of child development with early literacy learning in the home and school environments and valuing the cultural and linguistic diversity of each child. There are field based assignments in this course with a minimum of 22 required field hours. Students are required to complete Bureau of Criminal Investigation and Identification (BCII) and Federal Bureau of Investigation (FBI) background checks and submit the results to authorized personnel at their field site before beginning their field experience. Some sites may also require a clearance packet of related information and additional trainings.
Pre/corequisite: ECED 10120 and EYEC 10121 and ECED 20101 and EYEC 21010.
Corequisite: EYEC 21005 and EYEC 22000.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EYEC 22140 PRESCHOOL SEMINAR: SUPPORTING A CULTURALLY SUSTAINING PEDAGOGY (ELR) 2 Credit Hours
(Equivalent to ECED 30205 and ECED 40165) This course provides a reflective approach to make student teaching experience more valuable. Students develop and implement developmentally appropriate curriculum that supports the cultural and linguistic diversity of the children at their preschool site. The course content will serve to extend, deepen, and integrate the individual student's knowledge, attitudes, and skills related to the preschool competencies. There are field-based assignments in the course. This course is taken along with EYEC 22192 which requires a minimum of 180 field hours at an assigned preschool site. Students are required to complete Bureau of Criminal Investigation and Identification (BCII) and Federal Bureau of Investigation (FBI) background checks and submit the results to authorized personnel at their field site before beginning their field experience. Some sites may also require a clearance packet of related information and trainings. Both the seminar and the field experience must be successfully completed in order to move ahead into the advanced studies portion of the BSE Early Childhood Education Program. The seminar is constructed around the following Teacher Education Competencies: Inquiry cycle – observation/documentation/assessment, knowledge of child growth and development – typical and atypical, ecological systems perspectives regarding family and family/professional collaboration, planning for student learning, curriculum, instruction - teaching in the classroom, professional accountability and responsibility - developing professional skills during student teaching and advocacy for the child.
Prerequisite: ECED 10120 and ECED 20101 and EYEC 10121 and EYEC 10192 and EYEC 21005 and EYEC 22130 and EYEC 20192.
Pre/corequisite: EYEC 22000 and EYEC 21010 and ECED 30202.
Corequisite: EYEC 22192; and special approval.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

EYEC 22192 PRESCHOOL STUDENT TEACHING (ELR) 2 Credit Hours
(Equivalent to ECED 20192) This course provides students the opportunity to apply the content and pedagogy they have learned during the Associate of Applied Science (AAS) program as it related to early childhood education. Students will spend a minimum of 180 hours at an approved preschool program under the supervision of a program faculty member or supervising teacher. Students must successfully complete their field experience and related course assignments in order to continue on to the advanced studies portion of the BSE/ECED program. Bureau of Criminal Investigation and Identification (BCII) and Federal Bureau of Investigation (FBI) background checks are required with the results being submitted to authorized personnel at their field site before beginning their field experience in which student teaching will take place. Some preschool field sites may require additional trainings.
Prerequisite: Minimum C grade in ECED 10120 and ECED 20101 and EYEC 10121 and EYEC 20192 and EYEC 21005.
Pre/corequisite: ECED 30202 and EYEC 22000 and EYEC 22130 and EYEC 21010.
Corequisite: EYEC 22140; and special approval.
Schedule Type: Practical Experience
Contact Hours: 12 other
Grade Mode: Satisfactory/Unsatisfactory
Attributes: Experiential Learning Requirement

Electrical Engineering and Related Technologies (EERT)

EERT 10192 OVERHEAD LINE TECHNOLOGY PRACTICUM I (ELR) 5 Credit Hours
Practical application of electrical overhead line worker job duties in a setting under direct supervision of First Energy Personnel. Prior to enrollment, students must be accepted into the First Energy Power Systems Institute (PSI).
Prerequisite: Special approval.
Schedule Type: Practical Experience
Contact Hours: 15 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

EERT 10292 OVERHEAD LINE TECHNOLOGY II PRACTICUM (ELR) 5 Credit Hours
Supervised practical application of electrical overhead line worker duties including the use of ladders, rescue operations, and transformers under the supervision of FirstEnergy personnel.
Prerequisite: EERT 10192; and special approval.
Schedule Type: Practical Experience
Contact Hours: 15 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

EERT 11000 INTRODUCTION TO SEMICONDUCTOR AND CLEANROOM 4 Credit Hours
Course topics include cleanroom environment, chemical safety best practices, semiconductor wafer manufacturing, photolithography, etching, diffusion, thin film deposition and standard operating procedure.
Prerequisite: None.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 3 lecture, 2 lab
Grade Mode: Standard Letter
Attributes: CTAG Intro to Semicond Clnrm, TAG Intro to Semicond Clnrm

EERT 12000 ELECTRIC CIRCUITS I 4 Credit Hours
Direct current circuit analysis involving current and voltage, resistance, energy and power, Ohm's law, series and parallel networks. Mesh and nodal analysis, network theorems and DC instruments.
Prerequisite: None.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 3 lecture, 2 lab
Grade Mode: Standard Letter
Attributes: CTAG Electrical Engineer Technology, TAG Engineering Technology

EERT 12001 ELECTRIC CIRCUITS II 3 Credit Hours
Analysis of capacitive, inductance and magnetic circuits and transients in R-L-C combinations. AC network analysis: mesh and nodal, phasor algebra, power factor, resonance.
Prerequisite: EERT 12000.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter
Attributes: TAG Engineering Technology

EERT 12005 ELECTRICAL/ELECTRONIC DRAWING 2 Credit Hours
Electrical Electronic drawing techniques using current computer-aided design software emphasizing schematic, block and wiring diagrams, document markups, circuit board printing, circuit or power layout is covered as needed.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

EERT 12010 INTRODUCTION TO ELECTRONICS 4 Credit Hours
Semiconductor theory. Properties and application of PN junctions and bipolar junction transistors, amplifiers, field effect transistors (FET) amplifiers, JFET and MOSFET biasing and their use in simple circuits.
Prerequisite: EERT 12000.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 3 lecture, 2 lab
Grade Mode: Standard Letter
Attributes: TAG Engineering Technology

EERT 20192 OVERHEAD LINE TECHNOLOGY III PRACTICUM (ELR) 5 Credit Hours
Supervised practical applications of electrical line worker job duties under the supervision of FirstEnergy personnel. Emphasis on URD equipment, grounding distribution circuits and working with energized three phase circuits.
Prerequisite: EERT 10292; and special approval.
Schedule Type: Practical Experience
Contact Hours: 15 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

EERT 20292 OVERHEAD LINE TECHNOLOGY PRACTICUM IV (ELR) 5 Credit Hours
Supervised practical application of electrical overhead line worker job duties under the direct supervision of FirstEnergy personnel. Emphasis on line equipment, hot line tools, and transmission.
Prerequisite: EERT 20192; and special approval.
Schedule Type: Practical Experience
Contact Hours: 15 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

EERT 21010 ENGINEERING AND PROFESSIONAL ETHICS 3 Credit Hours
Application of codes of ethics in the engineering and technology profession reflective of social and moral responsibilities to the public and accountability in engineering practice.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EERT 21096 INDIVIDUAL INVESTIGATION IN ELECTRICAL/ ENGINEERING TECHNOLOGY 1-4 Credit Hours
(Repeatable for credit) Independent in depth research of an electrical electronic engineering technology topic supervised and coordinated by an engineering technology faculty member.
Prerequisite: Permission.
Schedule Type: Individual Investigation
Contact Hours: 1-4 other
Grade Mode: Standard Letter

EERT 22002 INDUSTRIAL CONTROLS 3 Credit Hours
Introduction to control of AC and DC machinery by electromechanical and solid state devices. Study of circuits, troubleshooting methods and logic systems.
Prerequisite: EERT 12010; and special approval.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EERT 22004 DIGITAL SYSTEMS 4 Credit Hours
Modern integrated digital logic families. Analysis and design of digital circuits such as gates, multivibrators, comparators, counters, registers including interface, control memory and computer circuits. Programmable logic controllers and integrated circuit technologies.
Prerequisite: None.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 3 lecture, 2 lab
Grade Mode: Standard Letter
Attributes: CTAG Electrical Engineer Technology

EERT 22006 ELECTRICAL MACHINES 3 Credit Hours
Introduction to transformer action, losses and efficiency. Fundamentals of DC and AC motors and generators and three phase systems.
Prerequisite: EERT 12001.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EERT 22008 FUNDAMENTALS OF ELECTRICAL MACHINES AND DRIVES 3 Credit Hours
Course introduces the fundamental concepts of electrical machines and drives, providing a solid foundation for students in electrical engineering. It covers the principles of operation, construction, and applications of common electrical machines such as DC machines, synchronous machines, and induction motors, along with the principles of motor control and drive systems.
Prerequisite: EERT 12001.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter

EERT 22011 ELECTRONIC SYSTEMS 2 Credit Hours
Continuation of EERT 12010. Frequency effects, Miller's Theorem, decibel notation and negative feedback, Oscillators, Op-amps, circuits and applications, Thyristors and electronically regulated power supplies.
Prerequisite: EERT 12010.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 1 lecture, 2 lab
Grade Mode: Standard Letter
Attributes: TAG Engineering Technology

EERT 22014 MICROPROCESSORS AND ROBOTICS 3 Credit Hours
An introduction to microprocessor system fundamentals, number systems, binary codes, hexa- decimal codes, Programming fundamentals in C , C++ software, Microcontroller hardware architecture and instruction set, with applications to robot systems motor control, sensors.
Prerequisite: None.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter
Attributes: TAG Engineering Technology

EERT 22016 PRODUCTIVITY SOFTWARE FOR INDUSTRY 1 Credit Hour
(Repeatable for a maximum of 3 credit hours) Introduces students to the use of computers for word processing, spreadsheets and database management applications. Students receive hands-on training on the use of the software applicable to engineering problems using hands-on formats.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 1 lab
Grade Mode: Satisfactory/Unsatisfactory-IP

EERT 22018 PC/NETWORK ENGINEERING AND TROUBLESHOOTING 3 Credit Hours
Covers the service, maintenance, upgrade and optimization of personal computers. Specification, installation and maintenance of local area networks is covered. Students learn communication protocols and network architecture. Two lectures and two labs.
Prerequisite: None.
Schedule Type: Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter

EERT 22095 SPECIAL TOPICS IN ELECTRICAL/ELECTRONIC AND RELATED ENGINEERING TECHNOLOGIES 1-3 Credit Hours
(Repeatable for credit) Special topics in electrical/electronic engineering technology.
Prerequisite: Permission.
Schedule Type: Lecture
Contact Hours: 1-3 lecture
Grade Mode: Standard Letter

EERT 32003 TECHNICAL COMPUTING 3 Credit Hours
A hands-on introduction to computation, through object-oriented programming and problem solving. Programming in the C++ language.
Prerequisite: MATH 11010.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EERT 32005 INSTRUMENTATION 3 Credit Hours
Introduction to modern industrial controls, interfacing devices, transducer systems, and process control methods.
Prerequisite: Junior standing.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 3 lecture, 1 lab
Grade Mode: Standard Letter

Engineering Technology (ENGT)

ENGT 23099 ENGINEERING TECHNOLOGY DESIGN PROJECT (ELR) 3 Credit Hours
A practical, hands-on experience that emphasizes the integration of analytical and design skills acquired in companion courses. Students work in teams under direct faculty supervision to pursue creative and challenging projects within the engineering discipline. Engineering communication (e.g., reports, oral presentations, portfolio development) are covered. The lecture sessions include discussions on professional and ethical responsibilities, including a respect for diversity.
Pre/corequisite: EERT 22014.
Schedule Type: Lecture, Project or Capstone
Contact Hours: 1 lecture, 2 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

ENGT 30000 ADVANCED MANUFACTURING 3 Credit Hours
This course will introduce students to the concepts of advanced manufacturing technologies, processes and equipment. Covered topics include automation and process control, flexible manufacturing systems, and manufacturing using additive processes such as 3D printing. Students will learn hands on programming and operation of relevant equipment during the laboratory sessions.
Prerequisite: Junior standing.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter

ENGT 31010 ENGINEERING AND PROFESSIONAL ETHICS 3 Credit Hours
Applications of codes of ethics in the engineering and technology professions reflective of social and moral responsibilities to the public, and accountability in engineering practice.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

ENGT 32002 MATERIALS AND PROCESSES II 3 Credit Hours
Advanced study and practice in materials and processes. Emphasis will be upon developing skills and knowledge in producing a product and conducting problem solving activities.
Prerequisite: MERT 12005.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

ENGT 32006 ECONOMIC DECISION ANALYSIS FOR ENGINEERING TECHNOLOGY 3 Credit Hours
Economic decision making for engineering technology with applications emphasis, estimating economic elements, interest and economic equivalence, methods of comparing alternatives and evaluating replacement alternatives using Benefit/Cost Analysis, Present and Future Worth, Annual Worth, Internal Rate of Return etc. Practical applications of cost concepts and the application towards the different phases of manufacturing or project implementation.
Prerequisite: MATH 11010.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: TAG Engineering

ENGT 32101 POLYMERS I 3 Credit Hours
Description of various polymers, thermoplastics and thermosets. Processes used to produce products. Outline of polymer chemistry including methods of testing and identification.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

ENGT 33000 INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS 3 Credit Hours
An introduction to Programmable Logic Controllers (PLC), focusing on understanding the principles of how PLCs work and providing practical information and skills about programming and troubleshooting a PLC system. Simulators relating to popular PLCs used in industry will be utilized for practicing programming and troubleshooting.
Prerequisite: EERT 12010 or EERT 22014 or EERT 32003.
Schedule Type: Laboratory, Lecture
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter

ENGT 33010 COMPUTER HARDWARE FOR ANIMATION 3 Credit Hours
Students will gain a complete, step-by-step approach for learning the fundamentals of supporting and troubleshooting computer hardware. Throughout this course, students will learn the technical skills for PC configuration and troubleshooting. Finally, the students will be exposed to the concepts of Animation and Design through exploring Deep learning concepts, GPUs benchmark tests, peripherals and gaming platforms.
Prerequisite: Junior standing.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter

ENGT 33016 PC/NETWORK ENGINEERING AND TROUBLESHOOTING 3 Credit Hours
Covers the service, maintenance, upgrade and optimization of personal computers. Specification, installation and maintenance of local area networks are covered. Students learn communication protocols and network architecture.
Prerequisite: EERT 22014 or EERT 32003.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 3 other
Grade Mode: Standard Letter

ENGT 33092 ENGINEERING TECHNOLOGY INTERNSHIP AND PROFESSIONAL DEVELOPMENT (ELR) (WIC) 1-3 Credit Hours
(Repeatable for Credit) Supervised work-study experience in approved business or industrial environment relative to the student's major.
A 3 credit hour co-op experience must be for a period of at least 12 consecutive weeks at 40 hours per week, or 30 hours per week for 15 weeks, totaling not less than 450 hours. Most co-ops occur during the summer. Students can earn up to an additional 3 credit hours (one to three per co-op – 150 work hours per credit hour) over the course of their college career as long as each co-op has a different focus.
Prerequisite: Minimum 2.250 overall GPA; and sophomore standing; and special approval.
Schedule Type: Practical Experience
Contact Hours: 10-30 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement, Writing Intensive Course

ENGT 33095 SPECIAL TOPICS IN ENGINEERING TECHNOLOGY 1-4 Credit Hours
Special topics of immediate interest in engineering technology.
Prerequisite: Junior standing.
Schedule Type: Lecture
Contact Hours: 1-4 lecture
Grade Mode: Standard Letter

ENGT 33225 INDUSTRIAL CONTROL SYSTEMS 3 Credit Hours
The application of electronics to the control of industrial machines and processes. Includes laboratory.
Prerequisite: EERT 12001 or PHY 12202 or PHY 13002 or PHY 13012.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter

ENGT 42003 LEAN AND SIX SIGMA FOR COMPETITIVE MANUFACTURING 3 Credit Hours
Designed to provide a better understanding of the components and underlying philosophy of Theory of Constraints, Lean, and Six Sigma and how the elements and philosophies work together to support competitive manufacturing systems.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

ENGT 42195 TRAINING TOPICS IN TECHNOLOGY 1-4 Credit Hours
(Repeatable for credit) Specialized advanced instruction oriented primarily to the theoretical base and application of current technology developed by experts in the specific technology. This course requires substantial base knowledge.
Prerequisite: Special approval.
Schedule Type: Lecture
Contact Hours: 1-4 lecture
Grade Mode: Standard Letter

ENGT 43092 ENGINEERING TECHNOLOGY PRACTICUM (ELR) 1-3 Credit Hours
(Repeatable for credit) Supervised work experience in an engineering technology related field. Student may work 10 hours per week for 15 weeks, or 150 work hours total per 15-week semester to earn 1 credit.
Prerequisite: Junior standing; and department approval.
Schedule Type: Practical Experience
Contact Hours: 10-30 other
Grade Mode: Satisfactory/Unsatisfactory
Attributes: Experiential Learning Requirement

ENGT 43096 INDIVIDUAL INVESTIGATION 1-3 Credit Hours
(Repeatable for credit) Work study of an individual nature on a topic in a field of applied science and technology.
Prerequisite: Junior standing; and special approval.
Schedule Type: Individual Investigation
Contact Hours: 1-3 other
Grade Mode: Standard Letter-IP

ENGT 43099 ENGINEERING TECHNOLOGY CAPSTONE (ELR) 3 Credit Hours
This course provides students with an integrative experience, where they can apply their knowledge and skills acquired through the coursework in Engineering Technology. Students will learn how to fit in their competencies in a real-world scenario and reach toward their educational and/or career goals. Emerging trends, challenges, and opportunities in the career fields pertinent to Engineering Technology will also be addressed. Students will maintain an electronic portfolio as part of their learning.
Prerequisite: Senior standing.
Schedule Type: Project or Capstone
Contact Hours: 3 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

ENGT 43363 MATERIALS SCIENCE AND TECHNOLOGY 3 Credit Hours
Study of nature and family of engineering materials. The focus is on understanding the relationships among structure, properties, processing and selection of materials in designing industrial parts and systems.
Prerequisite: Engineering Technology majors only; and junior or senior standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

ENGT 43700 COMPUTER-INTEGRATED MANUFACTURING 3 Credit Hours
Study of the computer-integrated manufacturing system as it relates to product design, estimating inventory, machining and assembly, quality control and distribution.
Prerequisite: Engineering Technology majors only; and junior or senior standing.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 3 lecture, 2 lab
Grade Mode: Standard Letter

Enology (ENOL)

ENOL 12000 SCIENCE OF WINE AND BEER PRODUCTION I 3 Credit Hours
Provides an in-depth study of the molecular and analytical principles of wine and beer production. It covers essential chemistry topics, including fermentation, flavor, aroma and color chemistry, while also teaching practical techniques for grape juice and wine analysis. Students engage in both theoretical learning and hands-on lab exercises, emphasizing chemical, physical, and biochemical methods, as well as real-world applications in winery environments.
Prerequisite: None.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 3 lecture, .6 lab
Grade Mode: Standard Letter-IP

ENOL 14600 INTRODUCTION TO ENOLOGY 3 Credit Hours
Targets people who became interested in home winemaking with possibilities to grow into the small business opportunity, as well as cellar employees interested in winemaking career. During this course, students build proper basic understanding of winemaking which alleviates common home winemaker's errors.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter-IP

ENOL 14810 WINERY AND BREWERY SANITATION 3 Credit Hours
The basic science and technology of winery and brewery sanitation that includes an introduction to microbiology. Covers all methods used both in the winery and brewery for sanitation including premises, tanks, pumps, filters, oak barrels and sampling equipment, including but not limited to chemical agents, reagents and thermal treatments leading to sterile bottling. Environmental issues and compliance are also addressed.
Pre/corequisite: ENOL 14600 or VIN 11800.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter-IP

ENOL 16000 WINERY EQUIPMENT OPERATION 2 Credit Hours
Covers process technologies and process systems used in modern commercial wineries. Overview of winemaking systems, including work place safety, cleaning and sanitation procedures, winemaking equipment and materials, tanks, barrels and barrel alternatives, filtration systems and bottling equipment. Also touches upon on chillers and electrical needs.
Prerequisite: ENOL 14600.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter-IP

ENOL 21010 INTRODUCTION TO WINE AND BEER MICROORGANISMS 3 Credit Hours
Introduction to the basic principles of wine and beer microbiology and the variety of microorganisms frequently encountered in the wine making and brewing process. Yeasts, bacteria and molds play vital roles in the production of wine and beer, both beneficial and harmful. Students become familiar with the morphology, reproduction and sensory attributes of wine and beer microorganisms in order to understand their influence on winemaking and brewing and to be able to manage them effectively.
Prerequisite: ENOL 14600 or VIN 11800.
Schedule Type: Combined Lecture and Lab
Contact Hours: 2.5 lecture, 1 lab
Grade Mode: Standard Letter-IP

ENOL 22000 SCIENCE OF WINE AND BEER PRODUCTION II 2 Credit Hours
Provides an in-depth study of the molecular and analytical principles of wine and beer production. It covers essential chemistry topics, including fermentation, flavor, aroma and color chemistry, while also teaching practical techniques for grape juice and wine analysis. Students engage in both theoretical learning and hands-on lab exercises, emphasizing chemical, physical and biochemical methods, as well as real-world applications in winery environments. Analyses of a practical and useful nature are chosen for the laboratory exercises demonstrating various chemical, physical and biochemical methods.
Prerequisite: ENOL 14600 or VIN 11800; and ENOL 12000.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, .6 lab
Grade Mode: Standard Letter-IP

ENOL 22001 ADVANCED WINERY AND BREWERY MICROBIOLOGY AND SANITATION 4 Credit Hours
Introduction to the basic principles of wine and beer microbiology and the variety of microorganisms frequently encountered in the wine making and brewing process. Yeasts, bacteria and molds play vital roles in the production of wine and beer, both beneficial and harmful. Students become familiar with the morphology, reproduction and sensory attributes of wine and beer microorganisms in order to understand their influence on winemaking and brewing, cleaning and sanitation techniques, and to be able to manage them effectively. Environmental and safety considerations, regulatory compliance, as well as spoilage prevention strategies are emphasized.
Prerequisite: ENOL 14600 or VIN 11800; and ENOL 12000.
Pre/corequisite: ENOL 22000.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 4 lecture, 1.2 lab
Grade Mode: Standard Letter-IP

ENOL 22092 INTERMEDIATE ENOLOGY: HARVEST AND CRUSH WITH FIELDWORK (ELR) 4 Credit Hours
Focused on advanced science and technology concepts of winemaking as it relates to pre-harvest, fruit harvest, and procedures involved in juice and must preparation. Covers advanced principles of grape juice and wine analysis, harvest practices and the application of enological science in a real-world field setting. Builds on the fundamentals taught in Introduction to Enology, Science of Wine and Beer Making I and II and Advanced Winery and Brewery Microbiology and Sanitation.
Prerequisite: ENOL 12000 and ENOL 14600 and ENOL 22000.
Schedule Type: Lecture, Practical Experience
Contact Hours: 3 lecture, 5 other
Grade Mode: Standard Letter-IP
Attributes: Experiential Learning Requirement

ENOL 23092 INTERMEDIATE ENOLOGY: POSTHARVEST WITH FIELDWORK (ELR) 4 Credit Hours
Focused on advanced science and technology concepts of winemaking as it relates to post harvest procedures. Students will gain a deeper understanding of stabilization, clarification, fining, bottling and wine analysis while participating in fieldwork to apply these principles to real-world operations. Builds on the fundamentals taught in Introduction to Enology, Science of Wine and Beer Production 1 and II, Advance Winery and Brewery Microbiology and Sanitation and Intermediate Enology: Harvest and Crush with Field Work.
Prerequisite: ENOL 12000 and ENOL 14600 and ENOL 22000 and ENOL 22092.
Schedule Type: Lecture, Practical Experience
Contact Hours: 3 lecture, 5 other
Grade Mode: Standard Letter-IP
Attributes: Experiential Learning Requirement

ENOL 24600 INTERMEDIATE ENOLOGY - HARVEST AND CRUSH 2 Credit Hours
Focused on advanced science and technology concepts of winemaking as it relates to pre-harvest, fruit harvest, and procedures involved in juice and must preparation. Builds on the fundamentals taught in Introduction to Enology, Molecular Principles of Grape and Wine, and Wine Microbiology.
Prerequisite: ENOL 14600.
Schedule Type: Combined Lecture and Lab
Contact Hours: 1.5 lecture, 1 lab
Grade Mode: Standard Letter-IP

ENOL 24700 INTERMEDIATE ENOLOGY - POSTHARVEST 2 Credit Hours
Focused on advanced science and technology concepts of winemaking as it relates to post harvest procedures involved in stabilization, clarification, fining, and bottling. Builds on the fundamentals taught in Introduction to Enology, Molecular Principles of Grape and Wine, Wine Microbiology, Wine and Must Analysis, and Intermediate Enology Harvest and Crush.
Prerequisite: ENOL 14600 and ENOL 24600.
Schedule Type: Combined Lecture and Lab
Contact Hours: 1.5 lecture, 1 lab
Grade Mode: Standard Letter-IP

ENOL 25792 FALL WINE PRODUCTION FIELD WORK (ELR) 3 Credit Hours
Principles of grape juice and wine analysis and the reasons for use of each analysis. Analyses of a practical and useful nature are chosen for the laboratory exercises demonstrating various chemical, physical and biochemical methods. Students participate in workshops and hands-on experiences at participating wineries.
Prerequisite: ENOL 14600; and ENOL 16000.
Corequisite: ENOL 24600.
Schedule Type: Field Experience, Lecture
Contact Hours: .5 lecture, 2.5 other
Grade Mode: Standard Letter-IP
Attributes: Experiential Learning Requirement

ENOL 25992 CELLAR OPERATIONS FIELD WORK (ELR) 2 Credit Hours
Provide students initiated in the field of enology with actual and practical exposure to the technology of wine making as is performed during the passive vineyard periods associated with winter and spring. Students are expected to improve their understanding of the methods and science involved by on-site participation in each of the various activities associated with finished wine production. Course serves as actual practical exposure and may qualify as experience for those seeking employment in commercial enology.
Prerequisite: ENOL 25792.
Schedule Type: Field Experience, Lecture
Contact Hours: .6 lecture, 4.25 other
Grade Mode: Standard Letter-IP
Attributes: Experiential Learning Requirement

ENOL 26600 SENSORY EVALUATION 3 Credit Hours
Intended for those individuals who need to develop an understanding of the principles of sensory evaluation used in commercial wine making. It also benefits wine enthusiasts interested in reaching advanced levels of appreciation, as well wine producers, wine merchants and enologists, who by the nature of their profession need to discern flavors and establish tasting benchmarks. Students practice sensory analysis at home and in workshops to further their sensory evaluation skills and techniques.
Prerequisite: ENOL 14600.
Schedule Type: Combined Lecture and Lab
Contact Hours: 2.5 lecture, 1 lab
Grade Mode: Standard Letter-IP

ENOL 26800 WINE AND MUST ANALYSIS 3 Credit Hours
Principles of grape juice and wine analysis and the reasons for use of each analysis. Analyses of a practical and useful nature are chosen for the laboratory exercises demonstrating various chemical, physical and biochemical methods. Students participate in workshops and hands-on experiences at participating wineries.
Prerequisite: ENOL 14600.
Schedule Type: Combined Lecture and Lab
Contact Hours: 2.5 lecture, 1 lab
Grade Mode: Standard Letter-IP

Green and Alternate Energy (GAE)

GAE 31032 ENERGY AND POWER GENERATION 3 Credit Hours
This course covers fundamentals of energy and energy conversion processes. Students will have an exposure to various techniques of electric power generation including both conventional and alternative energy systems and conservation techniques. Includes a lab experience in electric power generation from renewable energy sources.
Prerequisite: PHY 12202 or PHY 13002 or PHY 13012.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter

GAE 32000 FUEL CELL TECHNOLOGY 3 Credit Hours
Designed to provide a general perspective to fuel cell technology. Students are introduced to the various types of fuel cells, historical perspective, terminology, applications, fuel cell operation, basic electrochemical and thermodynamics principles involved in fuel cells, fuel cell components, materials and systems. Students learn basic fuel cell design principles and calculations.
Prerequisite: PHY 13012 or PHY 13002.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

GAE 42002 ENERGY MANAGEMENT SYSTEMS 3 Credit Hours
This course covers an introduction to energy fundamentals, energy systems, lighting, heating, ventilation and air conditioning, control systems for energy management. Alternative energy sources and green buildings will also be covered. The course focuses on improving energy efficiency, reducing energy use and reducing energy cost.
Prerequisite: PHY 12202 or PHY 13002 or PHY 13012.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

GAE 42004 ADVANCED FUEL CELL TECHNOLOGY 3 Credit Hours
Covers the theory and applications of fuel cell technology with an emphasis to proton exchange membrane fuel cells (PEMFCs). Students learn fuel cell component, stack and system design principles and fabrication methods, performance characterization, fuel cell testing and diagnostics methods. Students are introduced to transport phenomena in fuel cells. Introduction to hydrogen storage, generation and delivery, as well as hydrogen safety and regulations.
Prerequisite: GAE 32000.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

Horticulture (HORT)

HORT 10195 SPECIAL TOPICS IN HORTICULTURE 1-3 Credit Hours
(Repeatable for credit) Analysis of significant and current issues in horticulture not covered in regular courses.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 1-3 lecture
Grade Mode: Standard Letter

HORT 16002 INTRODUCTION TO AGROECOLOGY 3 Credit Hours
One of the major prerequisites for specialized courses, this is intended for freshmen students. This agroecology course will cover the principles and practices of creating sustainable and equitable food systems through an interdisciplinary approach to agriculture and horticulture systems. Students will learn about ecological processes, social and economic factors, environmental and health impacts, and practical farming skills such as crop rotation, intercropping and composting.
Prerequisite: BSCI 16001.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

HORT 16003 INTRODUCTION TO HORTICULTURE TECHNOLOGIES AND SENSORS 1 Credit Hour
This is an introductory course to horticulture technologies and sensors that covers the principles and practices of using technology to enhance the efficiency and sustainability of horticulture. Students will learn about different types of sensors and how they are used in horticulture, as well as the latest trends in horticultural technology, including precision agriculture and automation. This course is for students interested in the latest advances in horticulture technology.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 1 lecture
Grade Mode: Standard Letter

HORT 16004 DRONE TECHNOLOGY FOR HORTICULTURE 3 Credit Hours
This course will cover the principles and practices of using drones to improve the efficiency and effectiveness of horticultural operations. Students will learn about the different types of drones and sensors used in horticulture, as well as how to collect and analyze data for crop mapping, plant health monitoring and yield estimation. The course will also cover the regulatory and safety considerations for using drones in horticulture.
Prerequisite: None.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter

HORT 16010 FLORAL DESIGN I 3 Credit Hours
Introduction to the concepts and practices of floral design for use in commercial settings. Topics include floral design theory, history, techniques and the skills required in the commercial floral design industry. Lab experience covers construction of basic floral products.
Prerequisite: None.
Schedule Type: Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter

HORT 16011 FLORAL DESIGN II 3 Credit Hours
Advanced training in a broad array of floral design applications including wedding design, contemporary European and Asian design, tropical flowers and outdoor compositions. Students will be provided hands-on laboratory activities to apply the principles of design.
Prerequisite: None.
Schedule Type: Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter

HORT 16020 PLANT MATERIALS I 3 Credit Hours
Design, selection, culture, and maintenance of flowering plants and foliage including annuals, perennials, bulbs and tropical plants for indoor and outdoor use.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

HORT 16021 WHOLESALE FLORICULTURE 3 Credit Hours
Commercial production, marketing, inventory management and post-harvest care associated with the floriculture industry.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

HORT 16022 GREENHOUSE STRATA 3 Credit Hours
Introduction to growing containerized plants in greenhouses and nurseries. Emphasis will be on issues related to traditional and alternative substrates, root media, irrigation practices, and soil matter.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

HORT 26001 OCCUPATIONAL REGULATIONS AND SAFETY 2 Credit Hours
Presentation of the basic standards, rules, safety regulations and laws pertaining to horticultural and related industries which will affect the work atmosphere.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

HORT 26002 EMERGING TECHNOLOGIES IN HORTICULTURE AND PLANT SYSTEMS 3 Credit Hours
Course covers the principles behind these technologies and how they are being applied in various settings, from greenhouses and hydroponics systems to field-grown crops. Students will also have the opportunity to gain hands-on experience with some of these technologies through lab activities and projects. In addition to learning about the technical aspects of these technologies, students will explore potential social and ethical implications. Students will consider the role of biotechnology in addressing food security challenges and the potential impacts of precision agriculture on the environment.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

HORT 26003 ARBORICULTURE AND URBAN FORESTRY MANAGEMENT 3 Credit Hours
Course covers the principles and practices of managing trees in urban environments for both aesthetic and ecological purposes. Students learn about tree biology; tree selection and planting; tree care; pruning; pest and disease management; and risk assessment. The course also covers the importance of trees in urban ecosystems and the social, economic and environmental benefits they provide. Students gain a deep understanding of the role of trees in urban environments and develop the skills to manage them sustainably.
Prerequisite: BSCI 16001 and HORT 16003.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter

HORT 26006 SUSTAINABLE HORTICULTURAL SYSTEMS 3 Credit Hours
Course will provide the students with a holistic and solid understanding of sustainable horticulture. It emphasizes understanding the sustainable horticulture concepts, implications and common sustainable approaches and practices. The course focuses on the sustainable and innovative systems of horticultural crop production, such as hydroponics, aquaponics, and vertical farming, in addition to other tools and technologies for horticultural development. The course provides in-depth knowledge of the principles and practices of horticultural food crop production, including vegetables, herbs, fruits, and nuts) as well as agroforestry and sustainable landscaping. The course provides an overview of the role of precision farming innovations for a sustainable future.
Prerequisite: BSCI 16001 and BSCI 26002.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

HORT 26016 IRRIGATION DESIGN AND MAINTENANCE 3 Credit Hours
Principles of irrigation design, installation maintenance and drainage. Specific information about the selection of sprinkler heads, pipe, pumps, basic hydraulics, water conservation methods and automatic control systems shall be explored. Drawing of irrigation plans shall be required.
Prerequisite: BSCI 16001.
Schedule Type: Combined Lecture and Lab
Contact Hours: 3 other
Grade Mode: Standard Letter

HORT 26020 LANDSCAPE MANAGEMENT 3 Credit Hours
A detailed discussion and practice of managing trees, shrubs and flowers within the landscape. Additional concepts such as the types of equipment used in the "green industry," marketing, writing specifications, bidding projects and personnel management.
Prerequisite: BSCI 16001.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: CTAG Horticulture

HORT 26030 TURF GRASS MANAGEMENT 3 Credit Hours
Basic principles of turf management. Covers turf equipment and the safe use of equipment commonly found in the turf industry. Lecture two hours weekly; lab three hours weekly; course offered only at the Salem campus.
Prerequisite: BSCI 16001.
Schedule Type: Combined Lecture and Lab
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter
Attributes: CTAG Horticulture

HORT 26032 GOLF COURSE MANAGEMENT 3 Credit Hours
The golf course environment as it relates to turf grass maintenance and pest/disease management. The construction and management of greens, tees, water and bunker management practices, turf aerification issues, topdressing and administrative concerns.
Prerequisite: BSCI 16001.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

HORT 26046 LANDSCAPE DESIGN I 3 Credit Hours
An introduction to landscape appreciation and history, the landscape industry and elements of the landscape design process. Students will assess proper plant placement and uses, develop graphic communication skills and present a project. Field trips and project site work as required.
Prerequisite: BSCI 16001 and BSCI 26003.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter

HORT 30195 SPECIAL TOPICS IN HORTICULTURE 3 Credit Hours
(Repeatable for credit) Analysis of significant and current topics in horticulture not covered in regular classes.
Prerequisite: None.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter

HORT 35092 HORTICULTURE PRACTICUM (ELR) 3 Credit Hours
Course is designed for students to acquire the necessary skills to perform professionally in the horticulture industry. This course requires a minimum of 30 hours per week of work experience.
Prerequisite: Special approval.
Schedule Type: Practical Experience
Contact Hours: 20 other
Grade Mode: Satisfactory/Unsatisfactory-IP
Attributes: Experiential Learning Requirement

HORT 36004 MARKET GARDEN PRODUCTION 3 Credit Hours
Course will cover the principles and practices of growing and marketing crops on a small scale for local markets. Students will learn about site selection, soil management, crop planning and rotation, irrigation, pest and disease management and post-harvest handling. The course will cover marketing strategies for selling crops directly to consumers, including farmers markets, community-supported agriculture (CSA) and online sales.
Prerequisite: None.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter

HORT 36005 ORCHARD PRODUCTION - DECIDUOUS AND EVERGREEN 3 Credit Hours
Course covers the principles and practices of commercial fruit tree production, including fruit, nut and citrus trees. Students learn about orchard establishment, including site selection, planting and irrigation; in addition to tree management techniques such as pruning, thinning and pest and disease management. The course also covers fruit tree physiology, fruit development and post-harvest handling.
Prerequisite: BSCI 16001 and BSCI 26003; or BSCI 26004.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter

HORT 36014 PLANT PROPAGATION AND GREENHOUSE PRODUCTION 3 Credit Hours
Asexual/vegetative propagation including anatomical and physical concepts. Techniques covered include cuttings, budding, grafting, layering, dividing and micropropagation. Plant propagation by seeding and plugs are promoted along with crop production. Students provide an annual production schedule. Lecture two hours weekly; lab three hours weekly.
Prerequisite: BSCI 16001.
Schedule Type: Combined Lecture and Lab
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter

HORT 36018 LANDSCAPE CONSTRUCTION II 3 Credit Hours
Advanced landscape construction techniques involved in landscape contracting with an emphasis on the overall layout and planning of a landscape project. Students master and research product documentation, layout plans, written specifications and detailed construction drawings as they pertain to built landscape environments. Specific field site work with real world applications. Lecture two hours weekly; lab 3 hours weekly.
Prerequisite: Junior or senior standing.
Schedule Type: Combined Lecture and Lab
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter

HORT 36025 PROFESSIONAL PRACTICE IN HORTICULTURE (WIC) 3 Credit Hours
Investigation into owning and operating a green industry company including customer relations, wholesale and retail marketing, project bidding, potential profit and loss margins, communication requirements, and overall services to public and private clientele.
Prerequisite: HORT 26001 and HORT 26016.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: Writing Intensive Course

HORT 36034 SPORTS TURF MANAGEMENT 3 Credit Hours
Identification of grass plant species; culture and morphology; turf ecology with practical information on turf establishment and cultural practices. Covers issues of design, renovation, and maintenance of sports grounds and facilities. Class requires 20 hours service learning component.
Prerequisite: HORT 26030; and junior or senior standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

HORT 36046 LANDSCAPE DESIGN II 3 Credit Hours
Advanced landscape design looking at overall landscape planning, including site and planting design, site amenities, irrigation design and client needs. Special attention to communication formats such as color rendering and graphics, as well as to overall presentation. Some design modeling and graphic sketching are included.
Prerequisite: HORT 26032 or HORT 26046; and junior or senior standing.
Schedule Type: Combined Lecture and Lab
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter

HORT 36092 INTERNSHIP IN HORTICULTURE (ELR) 1-4 Credit Hours
(Repeatable for credit) Internship experience in an advanced field of study within the horticulture/green industry, building on the student's understanding of science-based fundamentals. Internship requires a minimum of 210 working hours with an approved public organization or private green industry firm, and 2 hours per week consultation on independent research as approved and supervised by the academic program director. Work includes supporting documentation and written reports as deemed appropriate give the subject studied.
Prerequisite: Special approval.
Schedule Type: Practical Experience
Contact Hours: 3-12 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

HORT 36195 SPECIAL TOPICS IN HORTICULTURE 3 Credit Hours
Analysis of significant and current topics in horticulture not covered in regular classes.
Prerequisite: None.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter

HORT 41096 INDIVIDUAL INVESTIGATION IN HORTICULTURE 1-3 Credit Hours
(Repeatable for credit)Research under the direction of a horticulture faculty/program director mentor. Investigation of specific horticulture topics that build upon previous concentration areas of study.
Prerequisite: Junior or senior standing.
Schedule Type: Individual Investigation
Contact Hours: 1-3 other
Grade Mode: Standard Letter-IP

HORT 46008 FLORICULTURE AND ORNAMENTAL PLANTS 3 Credit Hours
Course will cover the principles and practices of producing and using ornamental plants for aesthetic and functional purposes. Students will learn about the biology and physiology of ornamental plants, as well as techniques for plant propagation, production and post-harvest handling. The course will also cover the design and management of ornamental landscapes, including plant selection, placement and maintenance.
Prerequisite: BSCI 16001 and BSCI 26002.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter

HORT 46009 ADVANCES IN VITICULTURE PRODUCTION 3 Credit Hours
Course will cover the principles and practices of grapevine production and management. Students will learn about vineyard establishment and maintenance, including site selection, soil preparation, planting, trellising, and irrigation. The course will cover grapevine physiology and biology, including grape development, canopy management, pest and disease management and harvest and post-harvest handling.
Prerequisite: BSCI 16001 and BSCI 26002.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter

HORT 46013 INTERNET OF THINGS AND ARTIFICIAL INTELLIGENCE IN PRECISION FARMING: TECHNOLOGIES AND APPLICATIONS 3 Credit Hours
Course covers the principles and practices of using cutting-edge technologies such as the Internet of things (IoT) and artificial intelligence (AI) in precision agriculture. Students learn about the sensors, drones and other IoT devices used in agriculture, as well as the data analysis and machine learning techniques used in AI. The course covers the applications of these technologies in crop management, soil monitoring, pest and disease control and yield prediction.
Prerequisite: HORT 16003.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter

HORT 46014 GARDEN CENTER AND NURSERY PRODUCTION MANAGEMENT 3 Credit Hours
Survey of plant production of container, bare-root, balled-in-burlap plant materials in a nursery setting. Exploration of physiological principles involved, including planting, maturity dates for harvest, shipping, garden center activities and wholesale and retail marketing of stock.
Prerequisite: BSCI 26002 and BMRT 11000; and junior or senior standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

HORT 46092 PRACTICUM IN HORTICULTURE (ELR) 3 Credit Hours
(Repeatable for credit) An in-depth individual project, combining field experiences with original research within a green industry niche. Area of interest supports the student's educational goals given their intended concentration of past class work.
Prerequisite: HORT 36092; and junior or senior standing.
Schedule Type: Practical Experience
Contact Hours: 16 other
Grade Mode: Standard Letter-IP
Attributes: Experiential Learning Requirement

Human Services (HSRV)

HSRV 11000 FOUNDATIONS OF HUMAN SERVICES 3 Credit Hours
An overview of the roles, history, values, systems, policies, theories and core conceptions of the human services professions across a range of social problems including child abuse and neglect, addictions, poverty, aging, mental health and illness, prevention and corrections and society's response through the human service delivery system.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: TAG Social and Behavioral Sciences

HSRV 11001 GROUP METHODS IN HUMAN SERVICES 3 Credit Hours
Introduction to theory, research and application of the practice, structure and function, analysis, problem solving strategies and skills in working with small groups with respect to the cultural context, types of groups and special populations such as addiction are addressed from a systems perspective within the human services purposes, values and ethics framework.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

HSRV 11002 SURVEY OF COMMUNITY RESOURCES 3 Credit Hours
A survey of providers at the federal, regional, state and local levels, including services provided and regulations of private and public agencies.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

HSRV 21000 DYNAMICS OF HELPING RELATIONSHIPS 3 Credit Hours
Introduction to communication skills in systems of professional practice with emphasis on skill development in motivational interviewing, principles of effective communication, functions and purposes of communication, active listening, building empathy, establishing therapeutic rapport, case conceptualization and provisions of assistance.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

HSRV 21001 ASSESSMENT METHODS IN HUMAN SERVICES 3 Credit Hours
Introduction to client assessment, intervention and evaluation methods for generalist practice within a strengths based recovery model with emphasis on the biopsychosocial development across the lifespan. Understanding of mental illness, addictions, developmental disabilities and the impact of trauma, etc.; utilization of specific assessment skills and tools including: stages of change, level of care, recovery and resiliency, crisis response and de-escalation.
Prerequisite: HSRV 11000 or HSRV 21003; and permission.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

HSRV 21002 COMMUNITY SUPPORTIVE CASE MANAGEMENT AND ADVOCACY IN HUMAN SERVICES 3 Credit Hours
Introduction to the purposes, intent and activities of a community supportive case manager: assessment, facilitation and coordination of services, linkage, referral, coordination assistance in crisis management and stabilization, outreach, education, training; intervention, support and elimination of barriers to autonomy. Develop an understanding of systems of care; and population characteristics: mental health, addiction, recovery, culture, age, and gender, etc. with emphasis on advocacy in human services practices. Recommend students take HST 21001 in preparation.
Prerequisite: HSRV 11000 or HSRV 21003; and permission.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

HSRV 21003 SOCIAL WELFARE IN HUMAN SERVICES 3 Credit Hours
Introduction to the history and development of social welfare including current federal and state social policy in the delivery of services; understanding of ideologies, values and ethics forming the social services foundation; financial, organizational and administrative structures influencing social services; fields of practice, populations served, mechanisms of poverty, oppression and discrimination; diversity issues in delivery of services and empowering at risk and vulnerable populations.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: TAG Social and Behavioral Sciences

HSRV 21092 INTERNSHIP IN HUMAN SERVICES I (ELR) 3 Credit Hours
(Repeatable for credit) Supervised field experience in a human service agency totaling equivalent of 315 hours. Joint university-agency supervision.
Prerequisite: Special approval.
Schedule Type: Practical Experience
Contact Hours: 21 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

HSRV 21192 INTERNSHIP IN HUMAN SERVICES II (ELR) 3 Credit Hours
(Repeatable for credit) Continued supervised field experience in a human services agency totaling 315 hours equivalent. Joint university-agency supervision.
Prerequisite: Special approval.
Schedule Type: Practical Experience
Contact Hours: 21 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

Information Technology (IT)

IT 11000 INTRODUCTION TO OFFICE PRODUCTIVITY APPS 3 Credit Hours
(Equivalent to CIS 24053) Covers the basic concepts and use of computer systems, including hardware, personal productivity software, Internet usage and file management.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: TAG Business

IT 11004 SURVEY OF INFORMATION TECHNOLOGY 3 Credit Hours
Overview introduction to information technologies, career paths and professional certifications available.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 11005 INTRODUCTION TO OPERATING SYSTEMS AND NETWORKING TECHNOLOGY 3 Credit Hours
Survey of desktop and network operating systems essentials, including file and disk management, system tools utilization, security concepts, resource sharing and introductory network concepts. Students will learn about a variety of operating systems including mobile devices. Students will learn fundamentals of networking including network devices, cabling, numbering systems and network models.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 11006 INTRODUCTION TO WEB SITE TECHNOLOGY 3 Credit Hours
Focuses on website technologies, including HTML. Students learn the history of the Internet and effective search techniques.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 11009 COMPUTER ASSEMBLY AND CONFIGURATION 3 Credit Hours
Comprehensive course covering concepts like disk operating system functions and features; hardware/software installation procedures; file and directories management; system configuration/optimization; backup procedures; security; access control; networking, mobile devices, servers, cloud technologies and user management.
Prerequisite: CS 33211 or IT 11005.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 12000 INTERMEDIATE OFFICE PRODUCTIVITY APPS 3 Credit Hours
Covers intermediate concepts and integration of computer applications. Emphasis on software suites, specifically word processing, electronic spreadsheets, database and presentation applications.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 13000 APPLIED SECURITY ESSENTIALS 3 Credit Hours
Course provides an introduction to the principles, challenges and practices of cybersecurity. Students explore key concepts related to information security and data privacy, understand common vulnerabilities, and examine the strategies used to mitigate cyber risks. Topics include network security, cryptography, malware, intrusion detection, compliance frameworks and the risks associated with emerging technologies such as IoT and healthcare IT.
Prerequisite: IT 11005.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: TAG Intro to Cybersecurity

IT 15000 FUNDAMENTALS OF PROGRAMMING FOR INFORMATION TECHNOLOGY 3 Credit Hours
Course provides a foundation in computer programming, focusing on key concepts, principles and practices. Students learn about the evolution of programming languages, explore the software development life cycle and apply basic programming techniques. The course covers logical thinking, procedural programming and control structures (conditional statements, loops, switch statements). Students gain hands-on experience using Integrated Development Environments/Integrated Development Learning Environment, manage version control in web-based collaborative repository and implement basic file management and security practices. Additionally, the course introduces secure programming, troubleshooting techniques and explores various applications of programming.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 20030 VISUAL AND OBJECT-ORIENTED PROGRAMMING IN INFORMATION TECHNOLOGY 3 Credit Hours
Course provides an introduction to the fundamental concepts of visual programming and object-oriented programming within the context of Information Technology. Students learn to design and develop interactive programs using graphical user interfaces and apply object-oriented programming principles, such as encapsulation, inheritance and polymorphism. Course covers essential topics including database connectivity, internet programming and the development of dynamic web applications.
Prerequisite: IT 15000.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 21002 NETWORK SETUP AND CONFIGURATION 3 Credit Hours
Introduces networking in local area network (LAN), wide area network (WAN) and Cloud environments. Topics include network hardware, numbering systems, protocols, configuration, operation, setup, installation, administration, management and security. Students will also learn and practice troubleshooting strategies.
Pre/corequisite: IT 11009.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: CTAG Intro to Networking, ITAG Intro to Networking, TAG Intro to Networking

IT 21003 SYSTEM ADMINISTRATION FOR INFORMATION TECHNOLOGY PROFESSIONALS 3 Credit Hours
Course provides an introduction to system administration, focusing on the skills and knowledge required to manage, configure and troubleshoot IT systems in professional environments. Students learn the fundamentals of managing operating systems, networks and user environments across diverse platforms. Emphasis is placed on practical skills in system configuration, resource management, security and network services.
Prerequisite: IT 11005.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 21005 VISUAL BASIC DATABASE PROGRAMMING 4 Credit Hours
Advanced course in the visual basic language focusing on database systems development.
Prerequisite: CIS 24065 or CS 13001 or EMAT 25310.
Schedule Type: Lecture
Contact Hours: 4 lecture
Grade Mode: Standard Letter

IT 21006 DATABASE PROGRAMMING 3 Credit Hours
Focuses on database systems development, querying, report writing, and troubleshooting using object-oriented programming languages and Structed Query Language.
Prerequisite: CS 13001 or CIS 24065 or EMAT 25310 or IT 15000.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 21007 CYBER ETHICS IN INFORMATION TECHNOLOGY 3 Credit Hours
Covers the ethics, issues and policies regarding the Internet. Course includes discussion/research on intellectual property/freedom, hacking, pornography and privacy.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 21009 SEMINAR IN INFORMATION TECHNOLOGY 3 Credit Hours
Capstone course encompassing critical thinking, reflection, writing and discussion applying current theories of IT to on-the-job experiences and roles, with an emphasis on preparation for a career in IT. Students develop a portfolio to confirm their level of knowledge.
Prerequisite: IT 11005 and IT 11006 and IT 11009 and IT 15000 and IT 21002 and IT 21010.
Schedule Type: Seminar
Contact Hours: 3 other
Grade Mode: Standard Letter

IT 21010 WORKGROUP PRODUCTIVITY SOFTWARE 3 Credit Hours
Research project-oriented course emphasizing workgroup methodologies for group project management, problem definition, data retrieval and analysis, conclusions and recommendations.
Prerequisite: IT 12000; or OTEC 16639 and OTEC 26611.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 21011 TECHNIQUES OF MULTIMEDIA WEB DESIGN 3 Credit Hours
Focuses on developing and managing effective web sites using multimedia elements, including sound and video.
Prerequisite: IT 11006.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 21036 WEB SCRIPTING I 3 Credit Hours
Course focuses on client-side scripting needed to create interactive and dynamic websites. The use of scripting in context with various technologies is explored.
Prerequisite: CS 13001 or CIS 24065 or EMAT 25310 or IT 11006.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 21037 WEB SCRIPTING 3 Credit Hours
Introduces foundational client-side scripting skills essential for building interactive, dynamic websites. Students learn to design and implement scripts to enhance web functionality and user experience, with a focus on scripting within modern web technologies and best practices in JavaScript development.
Prerequisite: CS 13001 or CIS 24065 or EMAT 25310 or (IT 15000 and IT 11006).
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 21092 PRACTICUM FOR INFORMATION TECHNOLOGY (ELR) 1-3 Credit Hours
(Repeatable for credit) Supervised work experience in information technology environment; 45 hours supervised work experience per credit hour.
Prerequisite: Sophomore standing.
Schedule Type: Practical Experience
Contact Hours: 3-9 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

IT 21095 SPECIAL TOPICS IN INFORMATION TECHNOLOGY 1-4 Credit Hours
(Repeatable for credit) Topics announced when scheduled.
Prerequisite: Special approval.
Schedule Type: Lecture
Contact Hours: 1-4 lecture
Grade Mode: Standard Letter

IT 21096 INDIVIDUAL INVESTIGATION IN INFORMATION TECHNOLOGY 1-4 Credit Hours
(Repeatable for credit) Individual study in computer field.
Prerequisite: Special approval.
Schedule Type: Individual Investigation
Contact Hours: 7-28 other
Grade Mode: Standard Letter

IT 21100 LOCAL AREA NETWORK TROUBLESHOOTING 3 Credit Hours
Covers local area network troubleshooting techniques. Topics include identifying the scope of the problem, systematic troubleshooting approaches, problem resolution and ongoing maintenance.
Prerequisite: CS 33211 or IT 21002 or; ENGR 23010.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 21110 NETWORK ROUTING AND SWITCHING 3 Credit Hours
Course covering internetworking concepts. Topics include networking standards, network designs, cabling, Transmission Control Protocol/Internet Protocol (TCP/IP), routing protocols, switch and router configuration, local area network (LAN) and wide area network (WAN) segments, virtual local area network#(VLAN) and other related topics.
Prerequisite: CS 33211 or IT 21002; or ENGR 23010.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: CTAG Cisco I: CCNA 7, ITAG Cisco I: CCNA 7

IT 21200 ETHICAL HACKING 3 Credit Hours
Tools and techniques ethical hackers and security testers use to discover vulnerabilities and solutions to protect computer networks.
Prerequisite: CS 33211 or IT 21002; or ENGR 23010.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: ITAG Ethical Hacker

IT 21300 INTRODUCTION TO SECURITY INCIDENT MANAGEMENT 3 Credit Hours
Course covering an introduction to defending against cyber attackers.
Prerequisite: IT 21002.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 23000 INTRODUCTION TO OPERATING SYSTEM SECURITY 3 Credit Hours
Course introducing operating system security configurations, considerations, and best practices.
Prerequisite: CS 33211 or ENGR 23010 or IT 21002.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 24000 DEVELOPING AND IMPLEMENTING SECURITY POLICIES 3 Credit Hours
This course covers governance, legal considerations, and regulations related to information security policy development and implementation.
Prerequisite: CS 33211 or IT 21002; or ENGR 23010.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 26315 CERTIFICATION PREP IN INFORMATION TECHNOLOGY 3 Credit Hours
Certification preparation course helps students prepare for professional certification attempts in Information Technology. Certification is not guaranteed. Certification fees may apply.
Prerequisite: Special approval.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 30000 PYTHON PROGRAMMING IN INFORMATION TECHNOLOGY 3 Credit Hours
Python language introducing object-oriented programming concepts utilized in various roles in the IT field. Topics include: implementation, variables, file and exception handling, control/data structures, functions, collections and modules.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 31002 HEALTH INFORMATION TECHNOLOGY SUPPORT 3 Credit Hours
Course covers skills and knowledge required to implement and support healthcare IT (HIT) systems including regulatory and compliance issues; organizational behavior, IT and medical business operations; best practices and security.
Prerequisite: Junior standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 36095 SPECIAL TOPICS IN INFORMATION TECHNOLOGY 1-3 Credit Hours
(Repeatable for credit) Special topics from all areas of information technology.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 1-3 lecture
Grade Mode: Standard Letter

IT 36301 ADVANCED C++ PROGRAMMING 4 Credit Hours
Course using C++ classes and data abstraction, stream IO, inheritance, standard template library, Microsoft Foundation Classes, system programming concepts using Unified Modeling Language.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 4 lecture
Grade Mode: Standard Letter

IT 36302 ADVANCED C# PROGRAMMING 3 Credit Hours
Advanced concepts of C# including classes and objects, inheritance, polymorphism, arrays, exception handling, files and streams and Extensible Application Markup Language (XAML).
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 36303 DIGITAL IMAGE EDITING 3 Credit Hours
Course covers various concepts involved in the creation and manipulation of digital images.
Prerequisite: Sophomore standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 36304 C++ PROGRAMMING 3 Credit Hours
Course expands on foundational C++ programming skills, covering advanced object-oriented programming, data structures, pointers, dynamic memory management and file I/O. Students use the Standard Template Library and develop efficient, maintainable C++ applications through hands-on projects, with an emphasis on exception handling, debugging and performance optimization.
Prerequisite: IT 15000.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 36305 C# PROGRAMMING 3 Credit Hours
Course advances C# programming skills, emphasizing object-oriented principles, data structures, file handling, and data manipulation using LINQ and the development of Windows and web applications using C#. Students develop both Windows and web applications, focusing on asynchronous programming, error handling and debugging to create efficient, maintainable applications through hands-on projects and exercises.
Prerequisite: IT 15000.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 36306 JAVA PROGRAMMING 3 Credit Hours
Course advances Java programming skills, covering core object-oriented concepts, data structures, algorithms and multithreading. Topics include exception handling, file input/output, network programming and Graphical User Interface development. Through hands-on projects and practical applications, students develop efficient and robust Java applications.
Prerequisite: IT 15000.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 36308 ERGONOMICS AND USABILITY IN INFORMATION TECHNOLOGY 3 Credit Hours
Introduction to ergonomics, usability design and assessment methods for the development of computer hardware, software and systems.
Prerequisite: Junior standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 36309 PROGRAMMING MOBILE APPLICATIONS 3 Credit Hours
Introduces the unique program design considerations required by mobile devices. Course focuses on creating programs that can be deployed on different devices.
Prerequisite: CIS 24065 or CS 13001 or EMAT 25310 or IT 15000.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 36311 ADVANCED JAVA PROGRAMMING 4 Credit Hours
Course using Java abstract data types and objects, object-oriented, event-driven design, file organization and access, and systems programming concepts.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 4 lecture
Grade Mode: Standard Letter

IT 36314 SEMINAR IN EMERGING COMPUTER AND INFORMATION TECHNOLOGIES 3 Credit Hours
Survey of new and emerging technologies in computer and information technology.
Prerequisite: Junior standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 36318 SURVEY OF INFORMATION SECURITY, INTERNET FRAUD AND COMPUTER FORENSICS (WIC) 3 Credit Hours
Course provides a non-technical introduction to contemporary issues in information security, Internet fraud and computer forensics.
Prerequisite: ENG 21011 or HONR 10297; and junior standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: Writing Intensive Course

IT 36320 COMPUTER FORENSICS 3 Credit Hours
Hands-on skills in incident response, forensic preparation and data recovery and analysis.
Prerequisite: CS 33211 or IT 21002; or ENGR 23010.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 36321 NETWORK FORENSICS 3 Credit Hours
Emphasizing hands-on skills in live incident response, the proper use of network forensic tools, network monitoring, live data capture, evidence analysis, data integrity and other related topics.
Prerequisite: CS 33211 or IT 21002; or ENGR 23010.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 36322 SOCIAL MEDIA AND MOBILE DEVICE FORENSICS 3 Credit Hours
Course covers data collection and analysis techniques for social media and mobile devices.
Prerequisite: Junior standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 36330 NETWORK SECURITY FUNDAMENTALS 3 Credit Hours
Examines the primary issues involved in securing resources in networked environment, including threat assessment, countermeasures, best practices, security protocols, cryptography and management-related issues.
Prerequisite: CS 33211 or IT 21002; or ENGR 23010.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 36331 ADVANCED ROUTING AND SWITCHING 3 Credit Hours
Reinforcing Internetworking concepts. Topics include network standards, LAN switching, VLANs, network designs, routing protocols and configuration, LAN and WAN segments, and other related topics.
Prerequisite: IT 21110.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 36339 CLOUD AND VIRTUALIZATION TECHNOLOGIES IN INFORMATION TECHNOLOGY 3 Credit Hours
Covers the basics of the common cloud computing and major virtualization technologies and their place in the modern enterprise. Topics include foundational understanding of virtualization implementations and tools; and how to plan, install, manage, configure, monitor and secure public, private, hybrid, cloud and service models for platform, software, infrastructure and other technologies.
Prerequisite: Junior or senior standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 36340 HELP DESK SUPPORT 3 Credit Hours
Examination of help desks that exist, importance within organizations, the roles and skills required, and methods and technologies commonly employed.
Prerequisite: IT 11009 or ENGR 23010.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 36350 PROGRAMMING OFFICE PRODUCTIVITY APPLICATIONS 3 Credit Hours
Introduces the use of Visual Basic for Applications as a tool to create customized programs that automate repetitive and/or complex tasks performed using office suite applications.
Prerequisite: IT 15000.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 36355 COMMAND LINE UTILITIES 3 Credit Hours
Course prepares students to perform effectively in Windows, Linux and various server command line environments. Topics include command syntax, batch files, script files and internal and external commands.
Prerequisite: CS 33211 or EMAT 25310 or IT 21002; or ENGR 23010.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 36392 INTERNSHIP FOR INFORMATION TECHNOLOGY STUDENTS (ELR) 1-3 Credit Hours
(Repeatable for Credit) An arranged work experience for students in the information technology field. Students complete 45 hours of internship per credit.
Prerequisite: Junior standing.
Schedule Type: Practical Experience
Contact Hours: 3-9 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

IT 36396 CERTIFICATION PREPARATION IN INFORMATION TECHNOLOGY 3 Credit Hours
(Repeatable for Credit) Certification preparation course to help students prepare for professional certification attempts in information technology. Certification is not guaranteed and certification fees may apply.
Prerequisite: Special approval.
Schedule Type: Individual Investigation
Contact Hours: 3 other
Grade Mode: Standard Letter

IT 40000 CYBERSECURITY 3 Credit Hours
Builds on a background in networking and focuses on cybersecurity best practices, standard models and regulatory requirements.
Prerequisite: CS 33211 or IT 21002; or ENGR 23010.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 41002 CLOUD TECHNOLOGY 3 Credit Hours
Course introduces the concepts and fundamentals of cloud computing and gives an understanding of the many services that are available to cloud technology, as well as the benefits and risks when compared to on-site methods. Cloud technology in networking, incident response/disaster recovery, data storage, virtualization, management, monitoring, security, and automation are also discussed.
Prerequisite: CS 33211 or IT 21002; or ENGR 23010.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 41010 MOBILE APPLICATIONS FOR INFORMATION TECHNOLOGY 3 Credit Hours
Course covers enterprise mobility technical concepts, strategies, and solutions across various domains and industries. Includes topics such as organizational issues, IT and business operations; and best practices and security.
Prerequisite: Junior standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 42000 SOCIAL MEDIA SECURITY 3 Credit Hours
Personal and corporate social media presence, security risks, intellectual property and ethical issues.
Prerequisite: Junior standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 43000 HEALTHCARE INFORMATION SYSTEMS 3 Credit Hours
Course focuses on the roles and responsibilities of the health information technology professional including the technology, legal and ethical responsibilities and complex systems and environment.
Prerequisite: Junior standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 46300 ADVANCED COMPUTER ASSEMBLY AND CONFIGURATION 3 Credit Hours
Focus is on advanced system components, streamlined operating system installation procedures, and current technology in local area network (LAN) connectivity.
Prerequisite: IT 11009; and junior standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 46303 DIGITAL VIDEO EDITING 3 Credit Hours
Utilizes digital imaging technologies to produce videos. Includes timelines; filming, importing/exporting video; audio; effects, transitions and captions.
Prerequisite: Sophomore standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 46308 ADVANCED VISUAL BASIC PROGRAMMING 3 Credit Hours
Advanced concepts of visual basic, including classes and objects, inheritance, polymorphism, arrays, exception handling, files and streams and dynamic-link library (DLL).
Prerequisite: CIS 24065 or CS 13001 or EMAT 25310.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 46309 ASP.NET WEB PROGRAMMING 3 Credit Hours
Using Visual Studio and the ASP.NET platform to develop secure, data-aware web applications. Topics covered include HTML and CSS, testing and debugging, master pages, state management, security and authentication, Structure Query Language and object data sources.
Prerequisite: CS 13001 or CIS 24065 or EMAT 25310 or IT 15000.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 46311 TECHNOLOGY OF NETWORKING 3 Credit Hours
Advanced topics of enterprise LAN/WAN/Cloud management, including DNS, DHCP, IP addressing, routing basics, subnet masking, firewalls, storage redundancy techniques, network update and security, cloud services and general tuning, optimizing, troubleshooting, recovery.
Prerequisite: CS 33211 or IT 21002; or ENGR 23010.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 46313 VIRTUAL MACHINE CONFIGURATION AND ADMINISTRATION 3 Credit Hours
Focus on configuring and administering virtual machine software in a variety of environments including desktop and network solutions.
Prerequisite: IT 21002 and IT 36339; or ENGR 26305 and ENGR 27100.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 46314 ADVANCED SERVER CONFIGURATION 3 Credit Hours
Course focus is on the core service roles provided by application services, including configuration, maintenance and security.
Prerequisite: CS 33211 or IT 21002; or ENGR 23010.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 46315 SQL WITH ORACLE 3 Credit Hours
Focus is on Structured Query Language. (SQL) and relational databases using Oracle, a comprehensive and fully integrated stack of cloud applications and platform services.
Prerequisite: CIS 24065 or CS 13001 or EMAT 25310 or IT 21005.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 46320 CLOUD FORENSICS 3 Credit Hours
Concepts of cloud forensics, including legal consideration and software tools involved with discovery in the cloud.
Prerequisite: CS 33211 or IT 21002; or ENGR 23010.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 46331 NETWORK SECURITY AND FIREWALLS 3 Credit Hours
Course examines the primary issues involved in defining and configuring network defense perimeter, including security analysis, monitoring networks, implementing firewalls and intrusion detection systems.
Prerequisite: IT 36330.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 46340 DATA DESIGN AND IMPLEMENTATION 3 Credit Hours
Explores the role and design of databases in organizations, with emphasis on the technologies used in their implementation. Emphasis on Structured Query Language and large data sets.
Prerequisite: IT 21005.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

IT 46350 DATABASE ADMINISTRATION AND REPORTING TOOLS 3 Credit Hours
Examines the role of database administrator, focusing on maintaining, validating and securing data along with use of report writing tools, techniques and best practices.
Prerequisite: IT 21005.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

Insurance Studies (INS)

INS 29000 INTRODUCTION TO INSURANCE AND RISK 3 Credit Hours
Introduction into the fields of insurance and risk management including, property and casualty, life, health, auto and other types of insurances. Personal and commercial risks are identified and quantified for potential loss.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

INS 39000 INSURANCE LAW, FINANCE AND RISK MANAGEMENT 3 Credit Hours
Next-level insurance and risk management topics including ERM, insurance law and financial statement analysis. Other topics include impact of laws and regulation on insurers and additional elements of life insurance, annuities, IRAs, auto insurance, crime insurance and surety bonds.
Prerequisite: INS 29000.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

INS 39001 INSURANCE OPERATIONS (WIC) 3 Credit Hours
A detailed review of the strategic and tactical operations of the insurance industry. Explores the Function and role of insurers, claims management, rate making, financial structures and underwriting.
Prerequisite: INS 39000 with a minimum C grade.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: Writing Intensive Course

INS 49000 LIFE AND HEALTH INSURANCE 3 Credit Hours
A detailed review of life and health insurance and their impact on individuals and society. The objective is a familiarization with various life and health products and how these products protect people and their families against financial losses caused by death, accident, sickness or disability.
Prerequisite: INS 39001 with a minimum C grade.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

INS 49001 PERSONAL LINES INSURANCE 3 Credit Hours
Study of property and casualty personal lines of insurance including automobile, homeowner, dwelling and other residential policies, "toys" such as motor homes, motorcycles and boats, and high-risk plans for earthquake, flood and windstorm.
Prerequisite: INS 39001 with a minimum C grade.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

INS 49002 COMMERCIAL INSURANCE 3 Credit Hours
Advanced concepts in commercial lines insurance including commercial property, commercial liability, business income, commercial crime and equipment breakdown insurance, commercial auto, workers compensation, business owners and specialty coverages.
Prerequisite: INS 39001 with a minimum C grade.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

INS 49092 INSURANCE PRACTICUM GENERAL (ELR) 3 Credit Hours
(Repeatable for credit) Course requires an on-sight internship and/or a project with an insurance related organization approved by the Instructor.
Prerequisite: INS 39000 and 39001; and special approval.
Schedule Type: Practical Experience
Contact Hours: 21 other
Grade Mode: Satisfactory/Unsatisfactory-IP
Attributes: Experiential Learning Requirement

Mechanical Engineering and Related Technology (MERT)

MERT 12000 ENGINEERING DRAWING 3 Credit Hours
Engineering drawing principles and techniques: orthographic projection, sketching, sections, auxiliary views, dimensioning and conventional practices.
Prerequisite: None.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter
Attributes: CTAG Engineering Graphics

MERT 12001 COMPUTER-AIDED DESIGN 3 Credit Hours
Introduces 3D modeling techniques to design and draft mechanical components and assemblies.
Prerequisite: MERT 12000 with a minimum C grade.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter
Attributes: CTAG Mechanical Engineering Technology, ITAG Mechanical Engineering Technology, TAG Engineering Technology

MERT 12004 MANUFACTURING PROCESSES 3 Credit Hours
Introduces students to the various manufacturing processes such as extrusion, molding, forging, casting, stamping, piercing, joining and finishing. Investigates the various ways parts are made from the vast array of materials available.
Prerequisite: None.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter
Attributes: CTAG Mechanical Engineering Technology, TAG Engineering Technology

MERT 12005 PROPERTIES OF MATERIALS 3 Credit Hours
Covers the structure and physical and mechanical properties of engineering materials, such as metals (ferrous and non-ferrous), polymers, ceramics and composites. Students learn the mechanical behavior of materials under different types of loading and testing of mechanical properties including elasticity, yield strength, ultimate tensile strength, shear strength, bending strength and hardness. Heat treatment and the effects of the manufacturing processes on the material properties are also considered.
Prerequisite: None.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter
Attributes: TAG Engineering Technology

MERT 21096 INDIVIDUAL INVESTIGATION IN MECHANICAL ENGINEERING TECHNOLOGY 1-4 Credit Hours
(Repeatable for credit) Independent in depth research of a mechanical engineering technology topic supervised and coordinated by an engineering technology faculty member.
Prerequisite: Permission.
Schedule Type: Individual Investigation
Contact Hours: 1-4 other
Grade Mode: Standard Letter

MERT 22003 COMPUTER-AIDED TOOL DESIGN 3 Credit Hours
Tool design practices and procedures including materials, commercial standards, cutting tools, drill jigs, fixtures, dies and gauges using computer-aided design.
Prerequisite: MERT 12001.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

MERT 22005 STATICS 3 Credit Hours
Basic vector mechanics, calculation of reactions from applied forces, drawing free body diagrams, working with equations of equilibrium, analysis of simple structures, calculating mass properties and forces due to friction.
Prerequisite: None.
Corequisite: MATH 11022.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: TAG Engineering Technology

MERT 22007 STRENGTH OF MATERIALS 3 Credit Hours
Course covers taking the stresses induced into members due to applied loading; and coupled with mass properties of the sections, designing members to safely carry the loads. Types of stresses considered are tensile, compressive, shear, bending, torsional and combined.
Prerequisite: MERT 22005.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: TAG Engineering Technology

MERT 22012 FLUID POWER 3 Credit Hours
Fluid properties, kinematics of fluid flow, momentum, viscosity, conservation of energy in fluid flow, industrial hydraulics and gas laws.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: TAG Engineering Technology

MERT 22095 SPECIAL TOPICS IN MECHANICAL ENGINEERING TECHNOLOGY 1-3 Credit Hours
(Repeatable for credit) Special topics in mechanical engineering technology.
Prerequisite: Permission.
Schedule Type: Lecture
Contact Hours: 1-3 lecture
Grade Mode: Standard Letter

MERT 32004 MACHINE DESIGN 3 Credit Hours
This course provides the concepts, procedures, data, and decision analysis techniques necessary to design machine elements commonly found in mechanical devices and systems.
Prerequisite: MERT 12001 and MERT 22007.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

MERT 34002 ADVANCED SOLID MODELING 3 Credit Hours
Advance parametric solid modeling using advanced software (CREO) to create and analyze solid models. Includes model creation using advance features, introduction to FEA simulation and manufacturing simulations.
Prerequisite: MERT 12001.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

MERT 42000 THERMODYNAMICS FOR ENGINEERING TECHNOLOGY 3 Credit Hours
Includes the study of the first and second laws of thermodynamics with a detailed study of various types of heat engines. Additional topics include principles of heat transfer and energy management.
Prerequisite: PHY 13001; and PHY 13002 or PHY 13012.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

Medical Assisting (MA)

MA 10001 FUNDAMENTALS OF MEDICAL ASSISTING 1 Credit Hour
Introduction to the fundamental responsibilities and skills of the medical assistant, including concepts of medical asepsis, nutritional care, positioning and draping, vision and hearing screening. Emphasis is placed on incorporating knowledge of the role of the medical assistant, professional communication and associated ethical/legal considerations.
Prerequisite: AHS 24010 or HED 14020; and BSCI 10001 or BSCI 11010.
Schedule Type: Laboratory
Contact Hours: 2 lab
Grade Mode: Standard Letter

MA 10002 MEDICATION ADMINISTRATION FOR MEDICAL ASSISTANTS 1 Credit Hour
Course develops mathematical competence to safely administer medications via parenteral and non-parenteral routes of administration. Emphasis is placed on integrating knowledge of commonly used medications and principles of safe patient care and monitoring.
Prerequisite: AHS 24010 or HED 14020; and BSCI 10001 or BSCI 11010.
Schedule Type: Laboratory
Contact Hours: 2 lab
Grade Mode: Standard Letter

MA 10003 PHLEBOTOMY FOR MEDICAL ASSISTANTS 1 Credit Hour
Course provides students with foundational knowledge and skill development to identify principles and steps of specimen collection of blood samples and to incorporate quality assurance practices, standard precautions, infections control procedures and CLIA-waived testing.
Prerequisite: AHS 24010 or HED 14020; and BSCI 10001 or BSCI 11010.
Schedule Type: Laboratory
Contact Hours: 2 lab
Grade Mode: Standard Letter

MA 10004 ELECTROCARDIOGRAM FUNDAMENTALS FOR MEDICAL ASSISTANTS 1 Credit Hour
Course provides theory and practice for completion of 12 lead electrocardiogram and allows students to demonstrate recognition of normal electrocardiograms, procedural steps of the diagnostic test, application of the understanding of the cardiovascular system and concepts of safe patient care.
Prerequisite: AHS 24010 or HED 14020; and BSCI 10001 or BSCI 11010.
Schedule Type: Laboratory
Contact Hours: 2 lab
Grade Mode: Standard Letter

MA 10005 BASIC CLINICAL MEDICAL ASSISTING PROCEDURES 3 Credit Hours
Course provides students with a foundational overview and practice of basic procedures completed in the physician's office and outpatient health care settings. It incorporates concepts of critical thinking, safety, infection control and appropriate communication and patient education expected of the medical assistant during procedures. Emphasis is placed on laboratory testing, associated pathology, collection and processing of specimens aligned with the Occupational Health and Safety Administration (OSHA) and Clinical Laboratory Improvement Amendment (CLIA) regulations and guidelines as applicable. Laboratory testing includes basic urinalysis, microbiology testing, serological testing, hematology testing and point0of-care testing.
Prerequisite: AHS 24010 or HED 14020; and BSCI 10001 or BSCI 11010.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 1 lecture, 4 lab
Grade Mode: Standard Letter

MA 10006 REIMBURSEMENT FOR PHYSICIAN SERVICES 3 Credit Hours
Introduction to basic medical practice finances, including insurance forms, common terminology and basic coding processes used in the health care setting. Students understand the aspects of third-party reimbursement processes in the medical office.
Prerequisite: MA 10001 and MA 10002 and MA 10003 and MA 10004 and MA 10005 and OTEC 26635.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

MA 10007 ADVANCED CLINICAL MEDICAL ASSISTING 4 Credit Hours
Course provides students with theory and practice of advanced procedures that medical assistants encounter or complete in outpatient health care settings, including physician offices and outpatient settings. It incorporates concepts of critical thinking, safety, infection control and appropriate communication during procedures. Students practice application of theory to various diagnostic tests and procedures in the following specialty areas: ophthalmology, otology, gastroenterology, genitourinary, obstetrics/gynecology, pediatrics, orthopedics, neurology, mental health, endocrinology and pulmonary.
Prerequisite: MA 10001 and MA 10002 and MA 10003 and MA 10004 and MA 10005 and OTEC 26635.
Schedule Type: Combined Lecture and Lab
Contact Hours: 2 lecture, 4 lab
Grade Mode: Standard Letter

MA 10092 MEDICAL ASSISTING PRACTICUM (ELR) 3 Credit Hours
Capstone course in medical assisting with supervised clinical experience in an ambulatory healthcare setting. Students perform and participate in clinical and administrative activities that allow demonstration of knowledge and skills of a medical assistant. Minimum 160 clock hours. This course requires students to be at least 18 years of age.
Prerequisite: MA 10001 and MA 10001 and MA 10003 and MA 10004 and MA 10005 and OTEC 26635.
Pre/corequisite: MA 10006 and MA 10007.
Schedule Type: Practical Experience
Contact Hours: 10.66 other
Grade Mode: Satisfactory/Unsatisfactory-IP
Attributes: Experiential Learning Requirement

Nursing Technology (NRST)

NRST 10001 FOUNDATIONS OF NURSING AGENCY 5 Credit Hours
Development of basic nursing skills and physical assessment. Students begin implementation of the nursing process using universal self-care requisites as an organizational framework.
Prerequisite: Admission to technical study; and nursing ADN major.
Schedule Type: Clinical Laboratory, Combined Lecture and Lab
Contact Hours: 2 lecture, 4.67 lab, 4.33 other
Grade Mode: Standard Letter

NRST 10003 NURSING AGENCY I 6 Credit Hours
Emphasizes broad concepts common to nursing practice. Increasingly complex skills are introduced. Care focuses on simple therapeutic self-care demands.
Prerequisite: Minimum C grade in the following: BSCI 11010 and CHEM 10055 (or CHEM 10050) and NRST 10001 and UC 10001 and one from the Kent Core Mathematics and Critical Reasoning category; and nursing ADN major; and minimum 2.000 overall GPA.
Schedule Type: Clinical Laboratory, Combined Lecture and Lab
Contact Hours: 3.5 lecture, 3 lab, 4.5 other
Grade Mode: Standard Letter

NRST 10006 LPN TO ASSOCIATE DEGREE IN NURSING TRANSITION 3 Credit Hours
Course is designed for the advanced placement of licensed practical nurses (LPN) to the nursing program. Course includes content areas from all first-year nursing courses, with both theory and lab. Orem's theory is introduced, emphasizing the assessment of the client's self-care assets and self-care deficits.
Prerequisite: Nursing ADN major; and minimum 2.700 overall GPA; and admission to technical study; and minimum C grade in the following: BSCI 11010 and CHEM 10055 (CHEM 10050) and UC 10001 and one from Kent Core Mathematics and Critical Reasoning category.
Schedule Type: Combined Lecture and Lab
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter

NRST 10008 PARAMEDIC TO ASSOCIATE DEGREE IN NURSING TRANSITION 5 Credit Hours
Course serves to validate prior learning, update and enhance the student's knowledge, begin the process of role transition and prepare students for advanced placement into the Nursing program.
Prerequisite: Minimum 2.700 cumulative GPA; and Nursing ADN major; and admission to technical study; and minimum C grade in the following: BSCI 11010 and CHEM 10055 (CHEM 10050) and UC 10001 and one from Kent Core Mathematics and Critical Reasoning category.
Schedule Type: Clinical Laboratory, Lecture
Contact Hours: 3.5 lecture, 1.83 lab, 2.67 other
Grade Mode: Standard Letter

NRST 10009 BASIC PRINCIPLES OF PHARMACOLOGY 2 Credit Hours
Students identify and apply the basic principles of pharmacology to client care. In addition, they explore pharmaceutics, pharmacokinetics, pharmacodynamics, pharmacology-related math, drug classification, and safe preparation and administration of medications.
Prerequisite: Major in one of the following: Nursing ADN, Nursing BSN, Radiologic Technology, Respiratory Therapy Technology, Physical Therapist Assistant Technology or Occupational Therapy Assistant Technology.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

NRST 10010 THERAPEUTIC USE OF SELF 1 Credit Hour
Course focus is on the self-care of individuals, with emphasis on understanding human relationships in the promotion of self-care. Culture, values and past experiences as factors in communication are explored.
Prerequisite: NRST 10001 with a minimum C grade; and minimum 2.000 overall GPA; and nursing ADN major.
Schedule Type: Lecture
Contact Hours: 1 lecture
Grade Mode: Standard Letter

NRST 10011 FUNDAMENTALS OF NURSING 5 Credit Hours
Course is designed to develop fundamental nursing skills and physical assessment. The student will acquire knowledge to be able to demonstrate implementation of the nursing process using Quality and Safety Education for Nurses (QSEN) concepts as the organizing framework. Emphasis is placed on a beginning nursing student who performs as a provider of care.
Prerequisite: Nursing ADN major; and admission to NRST technical course sequence.
Pre/corequisite: Minimum C in the following courses NRST 10012 or NRST 10016 or NRST 10018.
Schedule Type: Clinical Laboratory, Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 3 lecture, 3 lab, 3 other
Grade Mode: Standard Letter
Attributes: CTAG Nursing/Associate Degree, ITAG Nursing/Associate Degree

NRST 10012 PROFESSIONAL COMMUNICATION FOR NURSING 1 Credit Hour
Course is designed to facilitate integration of basic knowledge, interpersonal skills, attitudes and beliefs in human relationships with an emphasis on professional and caring communication as an essential dimension in nursing practice.
Prerequisite: Nursing ADN major; and admission to NRST technical course sequence; and minimum 2.000 overall GPA.
Corequisite: Minimum C grade in the following courses NRST 10011 or NRST 10016 or NRST 10018.
Schedule Type: Lecture
Contact Hours: 1 lecture
Grade Mode: Standard Letter
Attributes: CTAG Nursing/Associate Degree, ITAG Nursing/Associate Degree

NRST 10013 NURSING I 6 Credit Hours
Course is to facilitate integration of knowledge, skills, attitudes and clinical decision making in the nursing care of patients with acute health care needs.
Prerequisite: Minimum of C grade in BSCI 11010 and NRST 10011 and NRST 10012 and NRST 10014; and minimum 2.000 overall GPA; and Kent Core Mathematics and Critical Reasoning course; and nursing ADN major.
Schedule Type: Clinical Laboratory, Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 3.5 lecture, 3 lab, 4.5 other
Grade Mode: Standard Letter
Attributes: CTAG Nursing/Associate Degree, ITAG Nursing/Associate Degree

NRST 10014 PHARMACOLOGY FOR NURSING I 1 Credit Hour
Course is to introduce the science of pharmacology and consider the role of the registered nurse in the preparation, management and administration of medications. The course provides a working description of the principles of pharmacodynamics and pharmacokinetics.
An emphasis is on understanding the action of medications, safe administration practices and competence in drug calculations.
Prerequisite: Minimum 2.000 overall GPA; and Nursing ADN major.
Schedule Type: Lecture
Contact Hours: 1 lecture
Grade Mode: Standard Letter

NRST 10016 LPN TO ADN TRANSITION 3 Credit Hours
Course is to integrate the knowledge, skills, attitudes and clinical decision making in the nursing care of acute patients transitioning the knowledge of the LPN to RN practice.
Prerequisite: Minimum C grade in the following: BSCI 11010 and UC 10001 and one course from Kent Core Mathematics and Critical Reasoning category; and minimum 2.700 overall GPA; Nursing ADN major; and admission to technical study; and special approval from the nursing director.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, .5 lab, .5 other
Grade Mode: Standard Letter

NRST 10018 PARAMEDIC TO ADN TRANSITION 5 Credit Hours
Course is to integrate the knowledge, skills, attitudes and clinical decision-making in the nursing care of acute patients transitioning the knowledge of the Paramedic to RN practice.
Prerequisite: Minimum C grade in the following: BSCI 11010 and UC 10001 and one course from Kent Core Mathematics and Critical Reasoning category; and minimum 2.700 overall GPA; Nursing ADN major; and admission to technical study; and special approval from the nursing director.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 3 lecture, 3 lab, 3 other
Grade Mode: Standard Letter

NRST 20015 MENTAL HEALTH NURSING 3 Credit Hours
The focus of this course is to facilitate the integration of knowledge, skills, attitudes, and clinical decision making when providing mental health nursing care for patients, families, and the community.
Prerequisite: Minimum C grade in the following NRST 10011 and NRST 10012 and PSYC 11762; and minimum 2.000 overall GPA; and nursing ADN major.
Schedule Type: Clinical Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2.2 lecture, .3 lab, 2.1 other
Grade Mode: Standard Letter

NRST 20022 NURSING II 6 Credit Hours
Course is designed to facilitate integration of knowledge, skills, attitudes and clinical decision making in the nursing care of individuals and groups of patients with complex health care needs.
Prerequisite: Minimum C grade in the following courses BSCI 11020; and NRST 10013; and NRST 20214; and NRST 20015; and NUTR 23511 or NUTR 33512; and minimum 2.000 overall GPA; and Nursing ADN major.
Pre/corequisite: BSCI 20021 with a minimum C grade.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 3 lecture, 1.5 lab, 7.5 other
Grade Mode: Standard Letter

NRST 20023 NURSING III 6 Credit Hours
Course is designed to facilitate the integration of knowledge, skills, attitudes and clinical decision making in the nursing care of individuals and groups of patients with critical health care needs.
Prerequisite: NRST 20022 with minimum C grade; and minimum 2.000 overall GPA; and Nursing ADN major.
Schedule Type: Clinical Laboratory, Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 3 lecture, 1.5 lab, 7.5 other
Grade Mode: Standard Letter

NRST 20092 ADN NURSING PRACTICE INTERNSHIP (ELR) 1-4 Credit Hours
Opportunity for nursing practice is expanded to a selected population with complex health care needs. Focus is on increasing theoretical knowledge and using knowledge in complex care situations with patients and their families. Clinical practice will be guided by a clinical preceptor and assigned nursing faculty.
Prerequisite: NRST 10003 and NRST 10010 with a minimum C grade; and nursing adn major; and special approval.
Schedule Type: Clinical Laboratory
Contact Hours: 12 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

NRST 20205 PSYCHOSOCIAL SELF CARE DEFICITS 3 Credit Hours
Course focus is on providing mental health nursing care utilizing the nursing process for the emotionally ill client, family and community with psychiatric mental health needs. Emphasis is placed on understanding holistic human needs and promotion of the professional therapeutic nurse-client relationship.
Prerequisite: Minimum C grade in BSCI 11020, NRST 10003, NRST 10010, NUTR 23511 (or NUTR 33512) and PSYC 11762; and nursing ADN major; and minimum 2.000 overall GPA.
Schedule Type: Clinical Laboratory, Laboratory, Lecture
Contact Hours: 2 lecture, .333 lab, 2.667 other
Grade Mode: Standard Letter

NRST 20206 NURSING AGENCY II 5 Credit Hours
Course focuses on nursing care of adults with intermediate therapeutic self-care demands. Emphasis is placed on the nurse as a provider of care.
Prerequisite: Minimum C grade in BSCI 11020, BSCI 20021, NRST 10003, NRST 10010, NUTR 23511 (or NUTR 33512) and PSYC 11762; and nursing ADN major; and minimum 2.000 overall GPA.
Schedule Type: Clinical Laboratory, Laboratory, Lecture
Contact Hours: 2.5 lecture, 1.5 lab, 6 other
Grade Mode: Standard Letter

NRST 20207 PSYCHOSOCIAL SELF-CARE DEFICITS 4 Credit Hours
Course focus is on providing mental health nursing care utilizing the nursing process for the emotionally ill client, family and community with psychiatric mental health needs. Emphasis is placed on understanding holistic human needs and promotion of the professional therapeutic nurse-client relationships.
Prerequisite: Minimum C grade in NRST 10003, NUTR 33512 and PSYC 11762; and nursing ADN major; and minimum 2.000 overall GPA.
Schedule Type: Clinical Laboratory, Lecture
Contact Hours: 3 lecture, .333 lab, 2.667 other
Grade Mode: Standard Letter

NRST 20208 NURSING AGENCY III 6 Credit Hours
Course covers nursing care of individuals with complex therapeutic self-care demands. Emphasis is placed on the nurse as provider and manager of patient care.
Prerequisite: Minimum C grade in NRST 20205, NRST 20206 and NURS 20950; and nursing ADN major; and minimum 2.000 overall GPA.
Schedule Type: Clinical Laboratory, Combined Lecture and Lab
Contact Hours: 3 lecture, .5 lab, 8.5 other
Grade Mode: Standard Letter

NRST 20209 MATERNAL/NEWBORN DEVELOPMENT SELF-CARE 2 Credit Hours
Course covers nursing care of the expectant and newly-delivered family. The nursing approach acknowledges the mother's self-care abilities and dependent care agent role. Health deviations related to childbearing are incorporated.
Prerequisite: BSCI 11020, BSCI 20021, NRST 10003, NRST 10010, NURS 20950, NUTR 23511 (or NUTR 33512) and PSYC 11762; and nursing ADN major; and minimum 2.000 overall GPA.
Schedule Type: Clinical Laboratory, Laboratory, Lecture
Contact Hours: 1 lecture, 3 other
Grade Mode: Standard Letter

NRST 20210 CHILD AND FAMILY DEVELOPMENT SELF-CARE 2 Credit Hours
Course covers family-centered nursing care of children. Developmental self-care requisites and common health deviations are emphasized.
Prerequisite: Minimum C grade in NRST 20205, NRST 20206 and NURS 20950; and minimum 2.000 overall GPA.
Schedule Type: Clinical Laboratory, Combined Lecture and Lab
Contact Hours: 1 lecture, .4 lab, 2.6 other
Grade Mode: Standard Letter

NRST 20214 PHARMACOLOGY FOR NURSING II 2 Credit Hours
Course is to expand the understanding of science of pharmacology and consider the role of the registered nurse in the preparation, management and administration of advanced medications. The course provides an in-depth description of the principles of pharmacodynamics and pharmacokinetics of advanced medications. The course will expand on understanding the action of advanced medications, safe administration practices and competence in drug calculations acquired in Pharmacology for Nursing I.
Prerequisite: NRST 10011 and NRST 10014 with a minimum C grade; and minimum 2.000 overall GPA; and Nursing ADN major.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

NRST 20217 MATERNAL CHILD AND FAMILY NURSING 4 Credit Hours
Course is to facilitate the integration of complex knowledge, skills, attitudes and clinical decision making in the nursing care of patients in maternal, child and family settings with an emphasis placed on prevalent and critical problems.
Prerequisite: Minimum grade of C in the following courses NRST 10013 and NRST 20214 and BSCI 11020; and NUTR 23511 or NUTR 33512; and minimum 2.000 overall GPA; and nursing ADN major.
Pre/corequisite: NURS 20950 and BSCI 20021 with a minimum C grade.
Schedule Type: Clinical Laboratory, Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, .75 lab, 5.25 other
Grade Mode: Standard Letter

NRST 20219 TRANSITION TO NURSING PRACTICE 2 Credit Hours
Course is to facilitate the student's transition into the profession of nursing and enhance student preparation to take the NCLEX-RN examination.
Prerequisite: NRST 20022 with a minimum C grade; and minimum 2.000 overall GPA; and nursing ADN major.
Pre/corequisite: NRST 20023 with a minimum C grade.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

NRST 21095 SPECIAL TOPICS 2-4 Credit Hours
(Repeatable for credit) Scheduled topic of interest to students and faculty.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 2-4 lecture
Grade Mode: Standard Letter

NRST 21096 INDIVIDUAL INVESTIGATION IN NURSING 1-3 Credit Hours
(Repeatable for a total of 18 hours) Readings and/or investigation of nursing topics supervised by nursing faculty.
Prerequisite: Special approval.
Schedule Type: Individual Investigation
Contact Hours: 3 other
Grade Mode: Satisfactory/Unsatisfactory

Occupational Therapist Assistant (OTA)

OTA 10000 FOUNDATIONS IN OCCUPATIONAL THERAPY 2 Credit Hours
Introduction to basic theoretical concepts, professional development, profession of occupational therapy, its place in the health care system and the role and function of the Occupational Therapist and Occupational Therapist Assistant.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

OTA 10002 OCCUPATIONAL PERFORMANCE IN PSYCHOSOCIAL HEALTH 4 Credit Hours
Application of occupational therapy assessment, skills and techniques in treatment programs concerned with psychosocial health.
Prerequisite: OTA 10003 with a minimum C grade.
Schedule Type: Combined Lecture and Lab
Contact Hours: 3 lecture, 3 lab
Grade Mode: Standard Letter

OTA 10003 OCCUPATIONAL THERAPY INTERVENTIONS FOR PRACTICE I 1 Credit Hour
Development of basic assessment and intervention skills as related to clients with physical and mental disabilities.
Prerequisite: Admission to technical study; and occupational therapist assistant major.
Schedule Type: Laboratory
Contact Hours: 3 lab
Grade Mode: Standard Letter

OTA 10010 OCCUPATIONAL THERAPY INTERVENTIONS FOR PRACTICE II 3 Credit Hours
Course emphasizes development of occupation therapy intervention skills for health including vision, cognition, functional mobility, sensation, pain and feeding. Content will include basic documentation and therapeutic use of crafts while implementing intervention skills to promote functional performance.
Prerequisite: OTA 10003 with a minimum C grade.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter

OTA 10192 FIELDWORK 1A (ELR) 1 Credit Hour
During this Level I fieldwork experience, the student will observe and participate in learning opportunities to apply the knowledge, skills and techniques acquired in OTA Occupational Performance courses. These experiences may include: simulated environments, standardized patients, faculty-led site visits and/or supervision by a qualified fieldwork educator in a practice environment.
Prerequisite: OTA 10003 with a minimum C grade.
Schedule Type: Practical Experience
Contact Hours: 3 other
Grade Mode: Satisfactory/Unsatisfactory
Attributes: Experiential Learning Requirement

OTA 20001 OCCUPATIONAL THERAPY MANAGEMENT AND LEADERSHIP SKILLS 2 Credit Hours
Introduction to management and leadership issues in occupational therapy practice, including ethics, licensure, reimbursement related to practice settings, research and skills required for performance of administrative tasks in an occupational therapy department.
Prerequisite: OTA 10002.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

OTA 20002 OCCUPATIONAL PERFORMANCE IN PHYSICAL HEALTH 3 Credit Hours
Application of occupational therapy assessment, skills and techniques in treatment program specifically concerned with physical health.
Prerequisite: OTA 10010 with a minimum C grade.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter

OTA 20003 OCCUPATIONAL THERAPY INTERVENTIONS FOR PRACTICE III 3 Credit Hours
Development of the occupational therapy practice skills including therapeutic use of occupation, leisure, adapting equipment and environment, therapeutic exercises, activity analysis and documentation.
Prerequisite: OTA 10002.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter

OTA 20004 OCCUPATIONAL PERFORMANCE IN PEDIATRIC POPULATIONS 3 Credit Hours
Application of occupational therapy assessment, skills and techniques applied to pediatric populations and conditions.
Prerequisite: OTA 20002.
Schedule Type: Laboratory, Lecture
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter

OTA 20006 OCCUPATIONAL PERFORMANCE IN PHYSICAL HEALTH II 3 Credit Hours
Continued application of occupational therapy assessment, skills and techniques in treatment programs related to physical health.
Prerequisite: OTA 20002 with a minimum C grade.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter

OTA 20392 FIELDWORK 1B (ELR) 1 Credit Hour
During this Level I fieldwork experience, the student will observe and participate in learning opportunities to apply the knowledge, skills and techniques acquired in OTA Occupational Performance courses. These experiences may include: simulated environments, standardized patients, faculty-led site visits and/or supervision by a qualified fieldwork educator in a practice environment.
Prerequisite: OTA 10000 and OTA 10002.
Schedule Type: Practical Experience
Contact Hours: 3 other
Grade Mode: Satisfactory/Unsatisfactory
Attributes: Experiential Learning Requirement

OTA 20492 FIELDWORK 1C (ELR) 1 Credit Hour
During this Level I fieldwork experience, the student will observe and participate in learning opportunities to apply the knowledge, skills and techniques acquired in OTA Occupational Performance courses. These experiences may include: simulated environments, standardized patients, faculty-led site visits and/or supervision by a qualified fieldwork educator in a practice environment.
Prerequisite: OTA 20002.
Schedule Type: Practical Experience
Contact Hours: 3 other
Grade Mode: Satisfactory/Unsatisfactory
Attributes: Experiential Learning Requirement

OTA 21000 OCCUPATIONAL THERAPY LICENSURE PREPARATION 1 Credit Hour
Students in the course are informed on how to prepare for their national certification exam and apply for licensure in preparation for practice as occupational therapy assistants. Content includes a brief review of occupational therapy concepts and theories, test taking, study strategies and practice of simulated exam questions.
Prerequisite: OTA 20006.
Schedule Type: Seminar
Contact Hours: 1 lecture
Grade Mode: Standard Letter

OTA 21092 CLINICAL APPLICATIONS I (ELR) 4 Credit Hours
Under the supervision of personnel in selected healthcare agencies, the student will apply knowledge, skills and techniques acquired in prior OTA courses.
Prerequisite: Minimum C grade in OTA 10000 and OTA 10002 and OTA 20002 and OTA 20001 and OTA 20003 and OTA 20006.
Schedule Type: Field Experience
Contact Hours: 20 other
Grade Mode: Satisfactory/Unsatisfactory
Attributes: Experiential Learning Requirement

OTA 21095 SPECIAL TOPICS IN OCCUPATIONAL THERAPIST ASSISTANT 1-4 Credit Hours
(Repeatable for credit) Special topics in Occupational Therapy Assistant; topics announced when scheduled.
Prerequisite: OTA 10003.
Schedule Type: Lecture
Contact Hours: 1-4 lecture
Grade Mode: Standard Letter

OTA 21096 INDIVIDUAL INVESTIGATION IN OCCUPATIONAL THERAPIST ASSISTANT 1-4 Credit Hours
(Repeatable for credit) Individual study in Occupational Therapy Assistant and related fields; open to OTA majors.
Prerequisite: OTA 10003.
Schedule Type: Individual Investigation
Contact Hours: 1-4 other
Grade Mode: Standard Letter

OTA 21192 CLINICAL APPLICATIONS II (ELR) 4 Credit Hours
Under the supervision of personnel in selected healthcare agencies, the student will apply knowledge, skills and techniques acquired in prior OTA courses.
Prerequisite: OTA 10000 and OTA 10002 and OTA 10010 and OTA 20001 and OTA 20002 and OTA 20003 and OTA 20006.
Schedule Type: Practical Experience
Contact Hours: 20 other
Grade Mode: Satisfactory/Unsatisfactory
Attributes: Experiential Learning Requirement

Office Technology (OTEC)

OTEC 16620 WORD PROCESSING I 3 Credit Hours
Builds expertise in creating business documents applying the basic features of popular word processing software. Emphasis on hands on experience.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

OTEC 16621 WORD PROCESSING II 3 Credit Hours
Design and create documents by using advanced features of word processing software.
Prerequisite: OTEC 16620.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

OTEC 16625 BUSINESS PRESENTATIONS 3 Credit Hours
Development and production of professional computer-projected presentation materials using popular software. Includes use of graphic design techniques, color layout design principles and transparencies.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

OTEC 16638 GOOGLE APPLICATIONS FOR ADMINISTRATIVE PROFESSIONALS 3 Credit Hours
Introduction to Google Applications. Students will learn to create, modify and manage the various Google Applications; utilize Google Drive; and learn to apply Google Application skills in the work environment and for personal use.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

OTEC 16639 DATABASE APPLICATIONS 3 Credit Hours
Concepts, terminology and use of current database software to manage and retrieve business information. Emphasis on hands-on experiences.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

OTEC 16640 ADVANCED DATABASE APPLICATIONS 3 Credit Hours
Provides the student with the skills and knowledge on creating advanced queries, forms and reports. Students learn how to customize, automate and secure the database structure.
Prerequisite: OTEC 16639.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

OTEC 16680 COMPUTER KEYBOARDING 1 Credit Hour
Basic keyboarding course using computers for students having no previous keyboarding instruction or a speed of less than 30 words a minute. To pass the course students, must keyboard above 30 words a minute for three minutes with no more than three errors.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 1 lecture
Grade Mode: Standard Letter

OTEC 26611 SPREADSHEET APPLICATIONS 3 Credit Hours
Use of electronic spreadsheets from beginning to advanced applications that may prepare for software certification.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

OTEC 26622 DESKTOP PUBLISHING I 3 Credit Hours
Study and application of the principles of proper document design using high-end desktop publishing software for newsletters, brochures, reports, forms and other computer-based business documents.
Prerequisite: OTEC 16620.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

OTEC 26623 DESKTOP PUBLISHING II 3 Credit Hours
High-end layout design and illustration software. Includes advanced documents, Web publishing, makeovers, computer graphic concepts and formatting, image editing techniques and the use of color.
Prerequisite: OTEC 26622.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

OTEC 26635 ADMINISTRATIVE RESOURCE MANAGEMENT 3 Credit Hours
Explores how office professionals can apply resource management skills to the areas of space/workflow, forms, budgetary control, staff and materials supplies.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

OTEC 26636 PROJECT MANAGEMENT FOR ADMINISTRATIVE PROFESSIONALS 1 Credit Hour
Provides the basic tools needed to effectively manage projects and to automate and streamline such functions as resource allocation, work scheduling and communication. Project management software is used in the course.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 1 lecture
Grade Mode: Standard Letter

OTEC 26638 BUSINESS COMMUNICATIONS 3 Credit Hours
Theory and application of oral and written business communication with emphasis on business letters, reports, employment process, visual presentations, and digital communications. Students will learn how to develop proper communication skills including- proper grammar/spelling, punctuation and word usage. Basic word processing skills are suggested.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

OTEC 26640 CURRENT TECHNOLOGIES 3 Credit Hours
Current trends and technology for the marketplace from an end user perspective.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

OTEC 26650 MEDICAL BILLING PROCEDURES (ELR) 3 Credit Hours
Introductory course in the preparation of various medical documents and forms in the health care industry. Use of computers and various word processing software is included. This course requires a 40 clock hour internship.
Prerequisite: OTEC 26655 and OTEC 26656.
Schedule Type: Lecture, Practical Experience
Contact Hours: 2 lecture, 1 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

OTEC 26655 ICD CODING 3 Credit Hours
Basic medical coding using the current version of the ICD classification system and nomenclature.
Prerequisite: HED 14020.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

OTEC 26656 CURRENT PROCEDURAL TERMINOLOGY (CPT) CODING 3 Credit Hours
Introduction to coding rules for the CPT and Level II coding systems, incorporating and applying ICD rules to code patient services.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

OTEC 26691 SEMINAR FOR OFFICE TECHNOLOGY 3 Credit Hours
(Repeatable for Credit) Refines job search strategies, integrates coursework with realistic office settings, presents interpersonal and ethical issues, provides outreach activities and emphases career management.
Prerequisite: Sophomore standing.
Schedule Type: Seminar
Contact Hours: 3 other
Grade Mode: Standard Letter

OTEC 26692 INTERNSHIP FOR OFFICE TECHNOLOGY (ELR) 2-3 Credit Hours
(Repeatable for Credit) Supervised field experience of ten hours per week paid or seven hours per week unpaid in a business environment functioning as an administrative professional.
Prerequisite: Sophomore standing; and special approval.
Schedule Type: Practical Experience
Contact Hours: 7-21 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

OTEC 26695 SPECIAL TOPICS IN OFFICE TECHNOLOGY 1-3 Credit Hours
(Repeatable for credit) Special topics in office technology.
Prerequisite: Special approval.
Schedule Type: Lecture
Contact Hours: 1-3 lecture
Grade Mode: Standard Letter

OTEC 26696 INDIVIDUAL INVESTIGATION: OFFICE TECHNOLOGY 1-3 Credit Hours
(Repeatable for credit) Independent, in-depth research of an office technology topic supervised and coordinated by a program faculty member.
Prerequisite: 12 credit hours of OTEC courses; and special approval from a full-time office technology faculty member.
Schedule Type: Individual Investigation
Contact Hours: 1-3 other
Grade Mode: Standard Letter

Peace Officer Training Academy (POTA)

POTA 11001 PEACE OFFICERS ACADEMY I 6 Credit Hours
This course studies the role of the peace officer, principles of the American criminal justice system, ethics and professionalism. This course also studies the Ohio criminal code, constitutional law, the tenets of civil liability to law enforcement. It also covers case investigation, forensic procedures, interviews, execution of search warrants and physical conditioning. The student will comply with all the student performance objectives and requisite proficiencies as mandated by the Ohio Peace Officer Training Commission curriculum.
Prerequisite: Admission into the peace officers academy training certificate program.
Schedule Type: Combined Lecture and Lab
Contact Hours: 18.5 lecture, 3.6 lab
Grade Mode: Standard Letter

POTA 11002 PEACE OFFICERS ACADEMY II 5 Credit Hours
This course is designed to address the skills necessary for a first responder to administer aid and assistance in an emergency situation. Crowd control, HazMat, weapons of mass destruction, incident command systems and terrorism awareness is taught. Safe handling techniques and usage of firearms and they safety are covered. Students must demonstrate a measured skill level firing handguns and comply with all student performance objectives and requisite proficiencies as mandated by the Ohio Peace Officer Training Commission curriculum.
Prerequisite: Admission into the peace officers academy training certificate program.
Schedule Type: Combined Lecture and Lab
Contact Hours: 10.3 lecture, 8.4 lab
Grade Mode: Standard Letter

POTA 11003 PEACE OFFICERS ACADEMY III 6 Credit Hours
This course studies the means of dealing with interpersonal communications and intervention with groups and individuals who require law enforcement involvement. Emphasis is placed on patrol techniques, the principles and application of defense and pursuit driving. Students are trained in the reasonable responses to resistance or aggression and are taught self-defense techniques. The student will comply with all the student performance objectives and requisite proficiencies as mandated by the Ohio Peace Officer Training Commission curriculum.
Prerequisite: Admission into the peace officers academy training certificate program.
Schedule Type: Combined Lecture and Lab
Contact Hours: 12 lecture, 9.6 lab
Grade Mode: Standard Letter

POTA 11004 PEACE OFFICERS ACADEMY IV 5 Credit Hours
This course covers traffic enforcement, crash investigation, OVI enforcement, traffic technologies. Physical conditioning for law enforcement is mandatory. The student will comply with all the student performance objectives and requisite proficiencies as mandated by the Ohio Peace Officer Training Commission curriculum.
Prerequisite: Admission into the peace officers academy training certificate program.
Schedule Type: Combined Lecture and Lab
Contact Hours: 14.4 lecture, 3.6 lab
Grade Mode: Standard Letter

Physical Therapist Assistant Technology (PTST)

PTST 10000 INTRODUCTION TO PHYSICAL THERAPIST ASSISTANT 1 Credit Hour
Introduces the physical therapy profession; current and historical physical therapist practice; and the role, responsibilities and expectations of a physical therapist assistant.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 1 lecture
Grade Mode: Standard Letter

PTST 10001 PRINCIPLES OF PATIENT CARE IN PHYSICAL THERAPY 4 Credit Hours
Students develop an understanding of the underlying principles of basic physical therapy procedures and the applications of these concepts in the physical therapy setting.
Prerequisite: Admission to technical study; and physical therapist assistant technology major.
Schedule Type: Combined Lecture and Lab
Contact Hours: 3 lecture, 3 lab
Grade Mode: Standard Letter

PTST 10003 CLINICAL CONDITIONS I 2 Credit Hours
Introduction to the pathology, treatment and clinical implications for medical conditions commonly encountered in physical therapy practice: Integumentary, cardiovascular, pulmonary, endocrine and digestive systems.
Prerequisite: Admission to technical study; and physical therapist assistant technology major.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

PTST 10004 PHYSICAL THERAPY PROCEDURES I 4 Credit Hours
Theory and techniques of treatment procedures with emphasis on modalities. Maintenance of equipment and supplies.
Prerequisite: Admission to technical study; and physical therapist assistant technology major.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 3 lecture, 3 lab
Grade Mode: Standard Letter

PTST 10010 TRANSITIONS IN PHYSICAL THERAPY 8 Credit Hours
Validates prior learning in the course content of PTST 10004, PTST 20003, PTST 20004; builds knowledge necessary for the physical therapist assistant technology (PTST) degree; and prepares students who have previously completed an approved allied health program for advanced placement in PTST. Students successfully competing this course with a grade of C (2.000) or better will receive six (6) transfer credit hours.
Prerequisite: Physical therapist assistant technology transition concentration; and special approval.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 7 lecture, 3 lab
Grade Mode: Standard Letter

PTST 10011 INTRODUCTION TO THERAPEUTIC EXERCISE 1 Credit Hour
Course is for the student to develop an understanding of the basic concepts associated with therapeutic exercise principles and applications. Includes application of basic exercise programs for frequently encountered physical therapy diagnoses.
Prerequisite: Physical Therapist Assisting Technology major and admission to technical study; and department approval.
Schedule Type: Laboratory
Contact Hours: 3 lab
Grade Mode: Standard Letter

PTST 11001 PERSONAL TRAINING, WELLNESS AND EXERCISE 3 Credit Hours
(Repeatable for credit) Theoretical and practical competencies required of a qualified personal trainer, including exercise, nutrition and wellness concepts that are immediately applicable to improve personal lifestyle decisions. Receive hands-on experience in training, instruction and professional skill development. Upon completion, students are qualified to sit for the personal trainer certification exam administered by the National Council on Strength and Fitness (NCSF). Pre/corequisites: None Corequisites: None
Prerequisite: None.
Schedule Type: Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter

PTST 11005 PHYSICAL THERAPY PRACTICE I 2 Credit Hours
Learn the essentials of safe, ethical, legal, and value-based behaviors in patient care. Acquire documentation skills and prepare for clinical education.
Prerequisite: Admission to technical study; and physical therapist assistant technology major.
Schedule Type: Seminar
Contact Hours: 2 lecture
Grade Mode: Standard Letter

PTST 11092 CLINICAL EDUCATION I (ELR) 1 Credit Hour
Observes and participate in providing selected physical therapy services under the direct supervision of a licensed PT or PTA.
Prerequisite: Admission to technical study; and PTST 11005; and physical therapist assistant technology major.
Schedule Type: Practical Experience
Contact Hours: 10 other
Grade Mode: Satisfactory/Unsatisfactory
Attributes: Experiential Learning Requirement

PTST 20000 CLINICAL COMPETENCIES FOR THE FOREIGN TRAINED PHYSICAL THERAPIST 3 Credit Hours
This is an elective PTST course specifically designed to meet the competency needs related to prescriptive content from the Foreign Credentialing Commission on Physical Therapy. The course utilizes varied instructional activities and outcomes assessments to meet specific student outcomes. Topics include, selected interventions & patient related data collection skills and the role and relationship of the physical therapist assistant (PTA) and the physical therapist (PT). The course uses varied instructional activities and outcomes assessments, as well as skill acquisition in a hands-on laboratory format in the provision of physical therapist services for the entry-level physical therapist assistant (PTA) and physical therapist competency content for the foreign trained PT. The course content and student outcomes are specifically designed to meet the credentialing standards of the Foreign Credentialing Commission on Physical Therapy (FCCPT).
Prerequisite: None.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab, 0 other
Grade Mode: Standard Letter

PTST 20001 THERAPEUTIC COMMUNICATIONS IN PHYSICAL THERAPY 1 Credit Hour
Focus on understanding human behavior. Emotional needs of individuals. Therapeutic use of self. Development of communication skills and interpersonal relationships.
Prerequisite: Admission to technical study; and physical therapist assistant technology major.
Schedule Type: Seminar
Contact Hours: 1 other
Grade Mode: Standard Letter

PTST 20003 CLINICAL CONDITIONS II 2 Credit Hours
Study of medical conditions commonly encountered in PTST 11005. The focus is on orthopedic, psychiatric, and geriatric illnesses, disorders and diseases. Pharmacology interventions are also covered.
Prerequisite: Admission to technical study; and physical therapist assistant technology.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

PTST 20004 PHYSICAL THERAPY PROCEDURES II 4 Credit Hours
Basic principles, therapeutic effects and techniques of therapeutic exercises used in Physical Therapy practice.
Prerequisite: AHS 22002 and AHS 22003; and admission to technical study; and admission to the physical therapist assistant technology major.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 3 lecture, 3 lab
Grade Mode: Standard Letter

PTST 20006 PHYSICAL REHABILITATION PROCEDURES 4 Credit Hours
Course is designed to introduce the student to the neurologically based interventions seen in the practice of physical therapy. The Physical Therapy Assistant student will develop an understanding of treatments in the neurologically involved patient, the patient with spinal cord injury, the amputation patient, the pediatric patient, traumatic brain injured patient, as well as the complex geriatric patient.
Prerequisite: PTST 20004 and BSCI 11020; and admission to technical study; and physical therapist assistant technology major.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 3 lecture, 3 lab
Grade Mode: Standard Letter

PTST 20008 CLINICAL CONDITIONS III 2 Credit Hours
Discussion of neurological pathologies across the lifespan, treatment of the medically complex patient and functional testing for the geriatric patient.
Prerequisite: Admission to technical study; and physical therapist assistant technology major.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

PTST 20011 PHYSICAL THERAPIST ASSISTANT MANAGEMENT OF THE MEDICALLY COMPLEX PATIENT 2 Credit Hours
Course serves to review and synthesize primary diagnoses and co-morbidities and the effects they have on the medically complex patient. The course will also present the pharmacology associated with various body systems and the side effects/adverse effects that might impact patient outcomes. The course is designed to review body system pathologies and incorporate that information into Physical Therapy Assistant clinical decision making when treating a complex patient. Course culminates with PEAT exam (practice NPTE-PTA board exam).
Prerequisite: Physical Therapist Assisting Technology major and admission to technical study; and department approval.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

PTST 20020 CLINICAL COMPETENCIES FOR THE FOREIGN TRAINED PHYSICAL THERAPIST 3 Credit Hours
Course is with prescriptive content from the Foreign Credentialing Commission on Physical Therapy. The course utilizes varied instructional activities and outcomes assessments to meet specific student outcomes. Topics include, selected interventions & patient related data collection skills and the role and relationship of the physical therapist assistant and the physical therapist. The course uses varied instructional activities and outcomes assessments, as well as skill acquisition in a hands-on laboratory format in the provision of physical therapist services for the entry-level physical therapist assistant and physical therapist competency content for the foreign trained Physical Therapist. The course content and student outcomes are specifically designed to meet the credentialing standards of the Foreign Credentialing Commission on Physical Therapy.
Prerequisite: None.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter

PTST 21095 SPECIAL TOPICS IN PHYSICAL THERAPIST ASSISTANT TECHNOLOGY 1-4 Credit Hours
(Repeatable maximum 6 times for credit) Special topics in Physical Therapist Assistant Technology; topics announced when scheduled.
Prerequisite: Physical therapist assistant technology major.
Schedule Type: Lecture
Contact Hours: 1-4 lecture
Grade Mode: Standard Letter

PTST 21096 INDIVIDUAL INVESTIGATION IN PHYSICAL THERAPIST ASSISTANT TECHNOLOGY 1-3 Credit Hours
(Repeatable maximum 6 times for credit) Individual study in physical therapist assistant technology and related fields; open to PTST majors.
Prerequisite: Physical therapist assistant technology major.
Schedule Type: Individual Investigation
Contact Hours: 1-3 other
Grade Mode: Standard Letter

PTST 22005 PHYSICAL THERAPY PRACTICE II 2 Credit Hours
Understand the current professional, legal and regulatory implications in the provision of Physical Therapy services.
Prerequisite: PTST 11005; and admission to technical study; and physical therapist assistant technology major.
Schedule Type: Seminar
Contact Hours: 2 lecture
Grade Mode: Standard Letter

PTST 22007 PHYSICAL THERAPY PRACTICE III 2 Credit Hours
Preparation for licensure, employment and career development as a physical therapist assistant.
Prerequisite: Admission to technical study; and physical therapist assistant technology major.
Schedule Type: Seminar
Contact Hours: 2 lecture
Grade Mode: Standard Letter

PTST 22010 TRANSITIONS TO PHYSICAL THERAPY PRACTICE 2 Credit Hours
Athletic Trainers transitioning to physical therapy practice prepare for employment and licensure. Explores reimbursement regulations, evidence based practice, and various topics related to health care systems, and discuss current topics in the practice of physical therapy.
Prerequisite: Special approval.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

PTST 22092 CLINICAL EDUCATION PRACTICUM II (ELR) 2 Credit Hours
Provide physical therapy services under the direct supervision of a licensed Physical Therapist or Physical Therapist Assistant.
Prerequisite: Admission to technical study; and PTST 11005 with a minimum C grade; and PTST 11092 with a grade of satisfactory.
Schedule Type: Practical Experience
Contact Hours: 10 other
Grade Mode: Satisfactory/Unsatisfactory
Attributes: Experiential Learning Requirement

PTST 22392 ATHLETIC TRAINING PLUS PHYSICAL THERAPIST ASSISTANT CLINICAL EDUCATION PRACTICUM (ELR) 4 Credit Hours
Provide physical therapy services of an entry-level physical therapist assistant, under the supervision of a licensed PT or PTA.
Prerequisite: PTST 11005 with a minimum C grade; and PTST 11092; and special approval.
Corequisite: PTST 22010.
Schedule Type: Practical Experience
Contact Hours: 480 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

PTST 23092 CLINICAL EDUCATION PRACTICUM III (ELR) 2 Credit Hours
Provide physical therapy services of an entry-level physical therapist assistant, under the supervision of a licensed Physical Therapist or Physical Therapist Assitant.
Prerequisite: PTST 11005 and PTST 22092; and admission to technical study; and physical therapist assistant technology major.
Schedule Type: Practical Experience
Contact Hours: 10 other
Grade Mode: Satisfactory/Unsatisfactory
Attributes: Experiential Learning Requirement

Radiologic and Imaging Science (RIS)

RIS 34001 INTRODUCTION TO DIAGNOSTIC MEDICAL SONOGRAPHY 1 Credit Hour
Provides an introduction to diagnostic medical sonography. The course orients new students to the profession. Topics covered include basic sonographic principles, scanning technique, and introduction patient management techniques.
Prerequisite: Special approval.
Schedule Type: Lecture
Contact Hours: 1 lecture
Grade Mode: Standard Letter

RIS 34003 RADIATION THERAPY PRINCIPLES AND PRACTICE I 3 Credit Hours
An overview of cancer, radiation therapy and its physical and technical aspects. Includes the roles/responsibilities of the therapist, treatment parameters, documentation and delivery of patient care, education and procedures.
Prerequisite: Radiologic and imaging sciences major.
Corequisite: RIS 34030.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter-IP

RIS 34004 RADIATION THERAPY PATIENT MANAGEMENT 3 Credit Hours
Provides the basic concepts in patient assessment and evaluation. Includes communication skills, infection control, nutrition, medications, exams, emergencies, patient transfer techniques, medical ethics and law as applied to radiation therapy.
Prerequisite: Radiologic and imaging sciences major.
Corequisite: RIS 34030.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter-IP

RIS 34008 RADIATION THERAPY PHYSICS I 3 Credit Hours
Introduction to radiation therapy physics, including the fundamentals of atomic structure, radiation properties, radiation production, radiation quality, interactions of radiation with matter and principles of radiation detectors.
Prerequisite: Radiologic and imaging sciences major.
Corequisite: RIS 34030.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RIS 34030 RADIATION THERAPY CLINICAL EDUCATION I 1 Credit Hour
Observation and supervised clinical education with emphasis on administering radiation therapy treatments and patient care.
Prerequisite: Radiologic and imaging sciences major; and special approval.
Schedule Type: Clinical Laboratory, Laboratory
Contact Hours: 2.5 lab, 5 other
Grade Mode: Standard Letter-IP

RIS 34040 PATIENT MANAGEMENT IN DIAGNOSTIC MEDICAL SONOGRAPHY 3 Credit Hours
Methods of patient management in diagnostic medical sonography are examined with emphasis on patient communication, clinical assessment, medical legal aspects, medical records, emergencies, pharmacology, safety issues, ethics and critical thinking.
Prerequisite: Radiologic and imaging sciences major.
Corequisite: RIS 34045.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RIS 34042 ABDOMINAL SONOGRAPHY I 3 Credit Hours
Anatomy, physiology and pathology of the abdomen; instrumentation and scanning techniques; normal and abnormal sonographic appearances of abdominal structures will be presented.
Prerequisite: Radiologic and imaging sciences major.
Corequisite: RIS 34045.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RIS 34044 ULTRASOUND PHYSICS AND INSTRUMENTATION 3 Credit Hours
Ultrasound principles to include interaction of sound with matter, propagation of sound in tissue, physical units, transducer parameters, image storage and display, quality assurance, bioeffects, image artifacts and physical principles of doppler.
Prerequisite: Radiologic and imaging sciences major.
Corequisite: RIS 34045.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RIS 34045 ULTRASOUND CLINICAL EDUCATION I 2 Credit Hours
Provides clinical education and experience at a lab and clinical site to allow students the opportunity to practice skills necessary to obtain high quality sonographic images, to alter protocols on patients and to identify image quality problems. Content includes sonography of the liver, gallbladder, pancreas and spleen.
Prerequisite: Radiologic and imaging sciences major; and special approval.
Schedule Type: Clinical Laboratory, Laboratory
Contact Hours: 3 lab, 1 other
Grade Mode: Standard Letter-IP

RIS 34052 ABDOMINAL SONOGRAPHY II 3 Credit Hours
Continuation of RIS 34042; anatomy, physiology and pathology of the abdomen; instrumentation and sonographic scanning techniques; normal and abnormal sonographic appearance of abdominal structures will be presented.
Prerequisite: RIS 34042; and radiologic and imaging sciences major.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RIS 34060 ULTRASOUND CLINICAL EDUCATION II 4 Credit Hours
Provides clinical education and experience at a clinical site to allow students the opportunity to practice skills necessary to obtain high quality sonographic images, to alter protocols based on patients and to identify image quality problems. Content includes sonography of the abdominal vessels, kidneys, adrenal glands, lymphatics and gynecologic pelvis.
Prerequisite: RIS 34045.
Corequisite: RIS 34052.
Schedule Type: Clinical Laboratory, Laboratory
Contact Hours: 3 lab, 5 other
Grade Mode: Standard Letter-IP

RIS 34062 OBSTETRICS AND GYNECOLOGY SONOGRAPHY I 3 Credit Hours
Anatomy and pathophysiology of the non-pregnant female pelvis; instrumentation and scanning techniques; normal and abnormal sonographic appearances; and findings of the female reproductive tract are covered.
Prerequisite: RIS 34045; and radiologic and imaging sciences major.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RIS 34072 SUPERFICIAL STRUCTURES SONOGRAPHY 2 Credit Hours
Anatomy and pathophysiology of superficial structures; instrumentation and scanning techniques; normal and abnormal sonographic appearances of superficial structures; correlation with laboratory findings and other imaging modalities are presented. Introductory pediatric sonographic techniques and pathology are presented.
Prerequisite: RIS 34083.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

RIS 34075 ULTRASOUND CLINICAL EDUCATION III 2 Credit Hours
Provides clinical education and experience at clinical sites to allow students the opportunity to practice skills necessary to obtain high quality sonographic images, to alter protocols based on patients and to evaluate image quality. Content includes first, second and third trimester obstetric sonography and superficial structures sonography.
Prerequisite: RIS 34062.
Corequisite: RIS 44072.
Schedule Type: Clinical Laboratory, Laboratory
Contact Hours: 2 lab, 12 other
Grade Mode: Standard Letter-IP

RIS 34083 SECTIONAL ANATOMY IN MEDICAL IMAGING 3 Credit Hours
Presentation of sectional anatomy of the body in the transverse (axial), sagittal and coronal planes as seen in medical images in CT, MRI and diagnostic medical sonography.
Prerequisite: BSCI 11010 and BSCI 11020; or BSCI 21010 and BSCI 21020; and radiologic and imaging sciences major.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RIS 34084 COMPUTED TOMOGRAPHY AND MAGNETIC RESONANCE IMAGING SECTIONAL ANATOMY I 2 Credit Hours
Presentation of sectional anatomy of the human body in computed tomography and magnetic resonance imaging. Includes orientation of organs and structures and pathological processes present in images.
Prerequisite: Special approval.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

RIS 34086 COMPUTED TOMOGRAPHY AND MAGNETIC RESONANCE IMAGING SECTIONAL ANATOMY II 2 Credit Hours
Presentation of sectional anatomy of the human body in computed tomography and magnetic resonance imaging. Includes orientation of organs and structures and pathological processes present in images as seen in the extremities.
Prerequisite: Special approval.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

RIS 41095 SPECIAL TOPICS IN RADIOLOGIC AND IMAGING SCIENCES 1-3 Credit Hours
(Repeatable for credit) Courses will consist of various topics in medical imaging designed to enhance learning outcomes.
Prerequisite: Special approval.
Schedule Type: Lecture
Contact Hours: 1-3 lecture
Grade Mode: Standard Letter

RIS 44000 INTRODUCTION TO RADIATION THERAPY 2 Credit Hours
An introduction to patient care techniques and clinical procedures for freshman entry students admitted to the RIS major in radiation therapy.
Prerequisite: Radiologic and imaging sciences major.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

RIS 44003 MAGNETIC RESONANCE IMAGING CLINICAL EDUCATION I 2 Credit Hours
Students observe and become acquainted with Magnetic Resonance Imaging equipment and procedures at the clinical education setting and apply knowledge of physics, Magnetic Resonance Imaging safety and patient care. Students begin to perform some procedures under direct supervision of Magnetic Resonance Imaging technologists.
Prerequisite: Special approval.
Schedule Type: Clinical Laboratory
Contact Hours: 18 other
Grade Mode: Standard Letter-IP

RIS 44004 COMPUTED TOMOGRAPHY CLINICAL EDUCATION I 2 Credit Hours
Provides clinical education and experience at a clinical setting to allow the student the opportunity to become proficient in skills necessary to obtain quality images, to alter protocols based on patient pathology or physical condition and to identify image quality problems and to make appropriate corrections under direct supervision of a Computed Tomography Technologist.
Prerequisite: Special approval.
Schedule Type: Clinical Laboratory
Contact Hours: 18 other
Grade Mode: Standard Letter-IP

RIS 44009 RADIATION THERAPY PRINCIPLES AND PRACTICE II 2 Credit Hours
Examines the multidisciplinary treatment approaches. Consists of advanced topics in therapy, chemotherapy, immunotherapy, and surgery for combined modalities, for benign conditions, for emergencies and for managing side effects.
Prerequisite: RIS 34003.
Corequisite: RIS 44053.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

RIS 44018 RADIATION THERAPY PHYSICS II 3 Credit Hours
Continuation of the principles of radiation therapy physics and the study of photon beam dosimetry, electron beam dosimetry and treatment planning.
Prerequisite: RIS 34008.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter-IP

RIS 44021 PATIENT MANAGEMENT IN COMPUTED TOMOGRAPHY 2 Credit Hours
Provides knowledge about care-giving skills for patients undergoing Computed Tomography exams. Information includes effective communication, problem-solving techniques, patient safety/comfort, patient preparation, monitoring, contrast agents and venipuncture.
Prerequisite: Special approval.
Pre/corequisite: RIS 44004.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

RIS 44028 RADIATION THERAPY RADIOBIOLOGY 3 Credit Hours
Establishes a foundation in radiation biology for radiation therapy. Cell biology and its response to radiation are reviewed as well as the effect of radiation on pathology and body systems.
Prerequisite: RIS 44018.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter-IP

RIS 44029 RADIATION THERAPY PATHOLOGY I 3 Credit Hours
General overview of various disease processes with emphasis on cancer types. Includes epidemiology, etiology, symptoms, metastases, histology, tumor grading, staging, detection, screening and diagnosis, treatment, side effects and prognosis of malignancies of the head and neck, central nervous, respiratory, digestive, and female reproductive systems.
Prerequisite: RIS 34003 and RIS 34083.
Corequisite: RIS 44053.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RIS 44030 COMPUTED TOMOGRAPHY IMAGE PRODUCTION I 2 Credit Hours
Computer fundamentals, operations and applications of Computed Tomography equipment. Principles of Computed Tomography system operation and components, image processing and display and image quality.
Prerequisite: Special approval.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

RIS 44031 PATIENT MANAGEMENT IN MAGNETIC RESONANCE IMAGING 2 Credit Hours
Provides information on the role of the MRI technologist in maintaining patient safety and comfort as well as personal and co-worker safety. MR contrast agents and venipuncture will be studied. Includes problem solving with diverse patient types.
Prerequisite: Special approval.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

RIS 44038 RADIATION THERAPY PHYSICS III 3 Credit Hours
Covers concepts of radioactivity and brachytherapy. Describes specialized treatment units Discussion of human resource, therapy department budgets and billing, accreditation, certification, professional societies.
Prerequisite: RIS 44018.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RIS 44041 RADIATION THERAPY QUALITY MANAGEMENT 2 Credit Hours
Provides overview of quality management programs and continuing quality improvement in radiation therapy. Topics include validity of quality assurance checks, chart checks, image checks, testing on simulators, linear accelerators and brachytheraphy sources.
Prerequisite: RIS 44018.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter-IP

RIS 44042 RADIATION THERAPY PATHOLOGY II 3 Credit Hours
Continuation of Radiation Therapy Pathology I to include epidemiology, etiology, symptoms, metastases, histology, tumor grading, staging, detection, screening and diagnosis, treatment, side effects and prognosis of malignancies of the male reproductive, urinary, endocrine, circulatory, lymphatic, integumentary and musculoskeletal systems as well as pediatric solid malignancies.
Prerequisite: RIS 34083 and RIS 44029.
Corequisite: RIS 44056.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RIS 44043 RADIATION THERAPY PRINCIPLES/PRACTICE III 3 Credit Hours
Review and testing of major subject areas from all radiation therapy courses to prepare students to successfully pass the national certification exam based on the content specifications from the American Registry of Radiologic Technologists (ARRT).
Prerequisite: RIS 44009 and RIS 44018 and RIS 44028 and RIS 44042.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RIS 44044 MAGNETIC RESONANCE IMAGING PROCEDURES I 2 Credit Hours
Provides the imaging techniques related to the body, special clinical applications, coil selection, scan sequences, protocols, positioning criteria, normal and abnormal anatomical and pathologic structures and signal characteristics for all areas of the body except extremities and vascular areas.
Prerequisite: Special approval.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

RIS 44045 MAGNETIC RESONANCE IMAGING PROCEDURES II 2 Credit Hours
Provides the imaging techniques related to the body, special clinical applications, coil selection, scan sequences, protocols, positioning criteria, normal and abnormal anatomical and pathologic structures and signal characteristics for the extremities and vascular areas.
Prerequisite: Special approval.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

RIS 44047 COMPUTED TOMOGRAPHY PROCEDURES I 2 Credit Hours
Introduction to Computed Tomography procedures with scanning protocols, positioning and non-contrast anatomy.
Prerequisite: Special approval.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

RIS 44048 COMPUTED TOMOGRAPHY PROCEDURES II 2 Credit Hours
Overview of the procedures presented in RIS 44047. Anatomy as seen on scans both with and without contrast media, advanced processing and advanced imaging procedures.
Prerequisite: RIS 44047.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

RIS 44051 MAGNETIC RESONANCE EQUIPMENT AND IMAGE ACQUISITION I 2 Credit Hours
Develops and understanding of the physics of Magnetic Resonance Image acquisition and the hardware used. Provides information in the use and manipulation of the instrumentation and technical parameters used in the generation of images. Establishes safety procedures.
Prerequisite: Special approval.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

RIS 44052 MAGNETIC RESONANCE EQUIPMENT AND IMAGE ACQUISITION II 2 Credit Hours
Develops an understanding of Magnetic Resonance Image acquisition and the hardware used. Provides information in the use and manipulation of the hardware and technical parameters used in the generation of images. Reviews safety special applications such as advanced imaging techniques. Enables the student to maximize Magnetic Resonance Image quality.
Prerequisite: RIS 44051.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

RIS 44053 RADIATION THERAPY CLINICAL EDUCATION II 3 Credit Hours
Continuation of Clinical Education I with emphasis on clinical practice of treatment techniques and planning.
Prerequisite: RIS 34030.
Schedule Type: Clinical Laboratory, Laboratory
Contact Hours: 7.5 lab, 15 other
Grade Mode: Standard Letter-IP

RIS 44054 COMPUTED TOMOGRAPHY CLINICAL EDUCATION II 2 Credit Hours
Provides continued clinical education and experience at a clinical setting to allow the student the opportunity to become proficient in skills necessary to obtain quality images, to alter protocols based on patient pathology or physical condition, and to identify image quality problems and to make appropriate corrections under direct supervision of a Computed Tomography Technologist. Prerequisite: Special Approval
Schedule Type: Clinical Laboratory
Contact Hours: 18 other
Grade Mode: Standard Letter-IP

RIS 44058 RADIATION THERAPY CLINICAL EDUCATION III 2 Credit Hours
Continuation of Clinical Education II with added emphasis on critical thinking, problem solving and clinical competency.
Prerequisite: RIS 44053.
Schedule Type: Clinical Laboratory, Laboratory
Contact Hours: 5 lab, 10 other
Grade Mode: Standard Letter-IP

RIS 44062 COMPUTED TOMOGRAPHY IMAGE PRODUCTION II 2 Credit Hours
A continuation of RIS 44030, the course reviews basic computed tomography components, operations and applications, with advanced studies in post-processing techniques and image quality, while understanding the importance of radiation dose and quality control in computed tomography.
Prerequisite: RIS 44030.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

RIS 44063 MAGNETIC RESONANCE IMAGING CLINICAL EDUCATION II 2 Credit Hours
Continuation of RIS 44003. Students apply knowledge of patient care, anatomy and pathology, equipment and image acquisition when observing and performing Magnetic Resonance Imaging procedures clinically.
Prerequisite: Special approval.
Schedule Type: Clinical Laboratory
Contact Hours: 18 other
Grade Mode: Standard Letter-IP

RIS 44066 MAGNETIC RESONANCE IMAGING TECHNIQUES 2 Credit Hours
Integrates concepts of Magnetic Resonance Imaging including patient care, imaging procedures, data acquisition and processing as well as principles of image formation for review for the national certification exam in Magnetic Resonance Imaging.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

RIS 44067 RADIATION THERAPY CLINICAL EDUCATION IV 3 Credit Hours
Continuation of Clinical Education III with added emphasis on critical thinking, problem solving and clinical competency.
Prerequisite: RIS 44058.
Schedule Type: Clinical Laboratory, Laboratory
Contact Hours: 2 lecture, 7.5 lab, 15 other
Grade Mode: Standard Letter-IP

RIS 44068 COMPUTED TOMOGRAPHY TECHNIQUES 2 Credit Hours
Students will review knowledge in each content area of the national certification exam in Computed Tomography including patient management, imaging procedures and physics and instrumentation.
Prerequisite: Special approval.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

RIS 44069 COMPUTED TOMOGRAPHY CLINICAL EDUCATION III 1 Credit Hour
Allows students to advance clinical education skills and experiences at a clinical setting in order to obtain quality images, objectively alter protocols based on patient pathology or physical condition, and to identify image quality problems and to make appropriate corrections under the direct supervision of a Computed Tomography Technologist.
Prerequisite: RIS 44054.
Schedule Type: Clinical Laboratory, Laboratory
Contact Hours: 6 other
Grade Mode: Standard Letter-IP

RIS 44072 OBSTETRICS AND GYNECOLOGY SONOGRAPHY II 3 Credit Hours
Embryonic and fetal development throughout gestation; fetal measurements, normal fetal anatomy and physiology; and abnormal sonographic appearances of the fetus will be covered as well as invasive obstetric procedures and antepartum testing.
Prerequisite: RIS 34062.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RIS 44073 MAGNETIC RESONANCE IMAGING CLINICAL EDUCATION III 1 Credit Hour
Continuation of RIS 44063 with student advancing skills and proficiency in performing Magnetic Resonance Imaging procedures in the clinical setting and are able to solve problems in a more independent manner.
Prerequisite: RIS 44063.
Schedule Type: Clinical Laboratory
Contact Hours: 6 other
Grade Mode: Standard Letter-IP

RIS 44074 VASCULAR SONOGRAPHY 2 Credit Hours
Anatomy, physiology and hemodynamics of the cerebrovascular, abdominal and peripheral vascular systems; normal and abnormal sonographic vascular appearances; Doppler instrumentation and scanning techniques are covered.
Prerequisite: Radiologic and imaging science major.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

RIS 44076 ULTRASOUND CLINICAL EDUCATION IV 4 Credit Hours
Provides clinical education and experience at a clinical site to allow students the opportunity to practice skills necessary to obtain high quality sonographic images, to alter protocols based on patients and to identify image quality problems. Content includes abdominal, pelvic, obstetrical, superficial structure and vascular sonography.
Prerequisite: RIS 34075.
Corequisite: RIS 44074.
Schedule Type: Clinical Laboratory, Laboratory
Contact Hours: 4 lab, 24 other
Grade Mode: Standard Letter-IP

RIS 44078 SONOGRAPHIC TECHNIQUES 3 Credit Hours
Course integrates diagnostic medical sonography concepts in preparation for certification exams.
Prerequisite: RIS 34044 and 34052 and 44072.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RIS 44083 PATHOPHYSIOLOGY FOR MEDICAL IMAGING 3 Credit Hours
Provides students with basic information on the causes of disease and the body's response to disease, as well as the medical imaging modalities that will demonstrate them.
Prerequisite: RIS 34045 or RIS 44003 or RIS 44004; and radiologic and imaging science major.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RIS 44084 ULTRASOUND IMAGE EVALUATION 1 Credit Hour
Presentation of sonographic findings in specific disease processes, with evaluation of image quality and emphasis on diagnostic features of pathologic entities.
Prerequisite: Radiologic and imaging science major.
Schedule Type: Lecture
Contact Hours: 1 lecture
Grade Mode: Standard Letter

RIS 44088 LEADERSHIP IN MEDICAL IMAGING 1 Credit Hour
An introduction to the key strategies needed for success in health care leadership positions for both new and seasoned professionals. Includes supervision skills, competent communication, employment law, performance coaching, quality standards, accreditation and regulations, budgeting and finance, project management, leadership skills and health economics.
Prerequisite: Special approval.
Schedule Type: Lecture
Contact Hours: 1 lecture
Grade Mode: Standard Letter

RIS 44092 COMPUTED TOMOGRAPHY/MAGNETIC RESONANCE INTERNSHIP (ELR) 1-3 Credit Hours
(Repeatable for credit) Supervised work experience in a job related to the student's training. Student works with an organization for a minimum of 45 hours for each hour of credit.
Prerequisite: Special approval.
Schedule Type: Practical Experience
Contact Hours: 3-9 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

RIS 44096 INDIVIDUAL INVESTIGATION IN MEDICAL IMAGING DIRECTED READINGS 3 Credit Hours
(Repeatable for credit) Students are assigned prescribed number of medical imaging journal articles, completes post test and submits a summary paper and online discussions.
Prerequisite: Special approval.
Schedule Type: Individual Investigation
Contact Hours: 3 other
Grade Mode: Standard Letter

RIS 44098 RESEARCH IN MEDICAL IMAGING (ELR) (WIC) 3 Credit Hours
Fundamental concepts and procedures for systematic collection, analysis critique and application of qualitative and quantitative data in medical imaging.
Prerequisite: RIS 34030 or RIS 34045 or RIS 44003 or RIS 44004; and radiologic and imaging science major.
Schedule Type: Research
Contact Hours: 3 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement, Writing Intensive Course

Radiologic Technology (RADT)

RADT 14003 INTRODUCTION TO RADIOLOGIC TECHNOLOGY 2 Credit Hours
Introduction to radiologic technology program, general anatomy, radiographic procedures, imaging equipment and techniques, radiation protection, professional organizations and clinical education.
Prerequisite: Admission to technical study; and radiologic technology major.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 1.5 lecture, .5 lab
Grade Mode: Standard Letter

RADT 14005 CLINICAL EDUCATION I 1 Credit Hour
Supervised observation and experience at the clinical education site with an emphasis on clinical practice of basic skills of radiologic technology and the exams covered in RADT 14006.
Prerequisite: None.
Schedule Type: Clinical Laboratory
Contact Hours: 9 other
Grade Mode: Standard Letter-IP

RADT 14006 RADIOGRAPHIC PROCEDURES I 1 Credit Hour
Introduction to radiographic procedures and positioning of the chest, abdomen, fingers, hand and wrist.
Prerequisite: None.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 1.2 lecture, 1.2 lab
Grade Mode: Standard Letter

RADT 14015 CLINICAL EDUCATION II 3 Credit Hours
Continuation of RADT 14005 with emphasis on skeletal radiography, including upper and lower extremities, shoulder and pelvic girdles, vertebral spine and bony thorax.
Prerequisite: RADT 14005 and RADT 14006 with a minimum C grade.
Schedule Type: Clinical Laboratory
Contact Hours: 27 other
Grade Mode: Standard Letter-IP

RADT 14016 PATIENT CARE MANAGEMENT 2 Credit Hours
Interpersonal communication, history taking, medical/legal issues in radiology, physical assistance, patient monitoring, vital signs, patient tubes/catheters, infection control, aseptic and non-aseptic techniques, sterile procedures, tube and line insertions, medical emergencies and pharmacology.
Prerequisite: RADT 14003 with a minimum C grade.
Schedule Type: Combined Lecture and Lab
Contact Hours: 1 lecture, 2 lab
Grade Mode: Standard Letter

RADT 14018 IMAGING EQUIPMENT 2 Credit Hours
A study of the equipment used in radiographic imaging including x-ray tubes, x-ray filters, beam restrictors, grids, image receptors, fluoroscopic and mobile equipment and methods of quality control.
Prerequisite: None.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 1.8 lecture, .2 lab
Grade Mode: Standard Letter

RADT 14021 RADIOGRAPHIC PROCEDURES II 4 Credit Hours
Radiographic anatomy, positioning and image evaluation of the upper extremities, shoulder girdle, lower extremities, pelvic girdle, vertebral spine and bony thorax.
Prerequisite: RADT 14006 with a minimum C grade.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 3.6 lecture, 2.4 lab
Grade Mode: Standard Letter

RADT 14024 RADIOGRAPHIC PROCEDURES III 4 Credit Hours
Radiographic anatomy, positioning, procedures and image evaluation of the gastrointestinal, biliary and urinary systems and skull and facial bones positioning.
Prerequisite: RADT 14021 with a minimum C grade.
Corequisite: RADT 14025.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 3.6 lecture, 2.4 lab
Grade Mode: Standard Letter

RADT 14025 CLINICAL EDUCATION III 3 Credit Hours
Continuation of RADT 14015 with emphasis on the clinical practice of previous course content plus digestive, biliary and urinary procedures as well as skull and facial bones positioning.
Prerequisite: RADT 14015 with a minimum C grade.
Corequisite: RADT 14024.
Schedule Type: Clinical Laboratory
Contact Hours: 27 other
Grade Mode: Standard Letter-IP

RADT 14034 IMAGE ACQUISITION AND PROCESSING 2 Credit Hours
Study of the technical factors and process of image acquisition, factors affecting image quality, processing of digital images and data management.
Prerequisite: RADT 14018.
Schedule Type: Combined Lecture and Lab
Contact Hours: 1 lecture, 2 lab
Grade Mode: Standard Letter

RADT 14085 CLINICAL EDUCATION IV 2 Credit Hours
Continuation of RADT 14025 with emphasis on clinical practice of content in previous clinical courses. More emphasis on independent clinical practice of procedures previously mastered.
Prerequisite: RADT 14025 with a minimum C grade.
Schedule Type: Clinical Laboratory, Laboratory
Contact Hours: 4.47 lab, 17.92 other
Grade Mode: Standard Letter-IP

RADT 14096 INDIVIDUAL INVESTIGATION IN DIRECTED READINGS IN RADIOLOGIC TECHNOLOGY 3 Credit Hours
(Repeatable for Credit) Student selects prescribed number of medical journals, completes questions, paper and presentation.
Prerequisite: Special approval.
Schedule Type: Individual Investigation
Contact Hours: 3 other
Grade Mode: Standard Letter

RADT 21095 SPECIAL TOPICS IN RADIOLOGIC TECHNOLOGY 2-4 Credit Hours
(Repeatable for credit) Student participation course on topics pertinent to radiologic technology. Topics are chosen by the instructor. Student may enroll in course more than once.
Prerequisite: Special approval from instructor.
Schedule Type: Lecture
Contact Hours: 2-4 lecture
Grade Mode: Standard Letter

RADT 24008 RADIOBIOLOGY AND RADIATION PROTECTION 3 Credit Hours
Biological aspects of radiation, radiation interaction with matter, minimizing patient radiation exposure and personnel protection are topics covered.
Prerequisite: BSCI 11010 and BSCI 11020; or BSCI 21010 and BSCI 21020; or ATTR 25057 and ATTR 25058; or EXSC 25057 and EXSC 25058; and RADT 14003 with a minimum C grade.
Corequisite: RADT 24015.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RADT 24014 ADVANCED IMAGING 2 Credit Hours
Procedures and equipment used in advanced medical imaging including fluoroscopy, mammography, CT, MRI, interventional imaging, nuclear medicine, PET imaging, diagnostic medical sonography, radiation therapy and fusion studies as well as quality assurance.
Prerequisite: RADT 14025.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

RADT 24015 CLINICAL EDUCATION V 3 Credit Hours
Continuation of RADT 14085 with emphasis on clinical practice of content of previous clinical courses. More emphasis on independent clinical practice previously mastered.
Prerequisite: RADT 14085 with a minimum C grade.
Schedule Type: Clinical Laboratory
Contact Hours: 27 other
Grade Mode: Standard Letter

RADT 24016 IMAGING PHYSICS 3 Credit Hours
Introduction to general physics, units and measurement, atomic structure, electromagnetic energy, x-ray production, electrodynamics, magnetism and electromagnetic devices, x-ray tube and x-ray circuitry.
Prerequisite: RADT 14018.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RADT 24025 CLINICAL EDUCATION VI 3 Credit Hours
Continuation of RADT 24015 with emphasis on mastery of clinical procedures.
Prerequisite: RADT 24015 with a minimum C grade.
Schedule Type: Clinical Laboratory
Contact Hours: 27 other
Grade Mode: Standard Letter-IP

RADT 24028 RADIOLOGIC PATHOLOGY 3 Credit Hours
Disease process and the pathologies associated with each anatomical system are described and their application to all modalities in the radiologic and imaging sciences.
Prerequisite: RADT 24015.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RADT 24048 RADIOGRAPHIC TECHNIQUES 3 Credit Hours
Review of radiologic technology to include review of patient care, safety, image production and procedures in preparation for the radiography certification exam.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RADT 24058 DIVERSIFIED EMPLOYMENT SKILLS 3 Credit Hours
Course features multiple topics in medical imaging to prepare graduates for employment in healthcare.
Prerequisite: RADT 24015.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RADT 24068 RADIOLOGY AND IMAGING EXPLORATION 2 Credit Hours
The course is designed for both the non-major or pre-radiology major learner. The course will provide an overview of the major medical imaging sciences. It will include the historical development of the area, indications/contraindications, strengths and weaknesses and basic image identification. It includes but is not limited to: Radiography, Fluoroscopy, Mammography, Interventional Radiology, Computed Tomography (CT), Magnetic Resonance Imaging (MRI), Diagnostic Medical Sonography, Nuclear Medicine and Radiation Therapy.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

RADT 24096 INDIVIDUAL INVESTIGATION IN RADIOLOGIC TECHNOLOGY 1 Credit Hour
Directed research of special interest or need in the student's program. A research paper will be written on an assigned topic in radiologic technology.
Prerequisite: Admission to technical study; and RADT 14003 with a minimum C grade; and radiologic technology major.
Schedule Type: Individual Investigation
Contact Hours: 3 other
Grade Mode: Standard Letter

RADT 24196 INDIVIDUAL INVESTIGATION IN ADVANCED READINGS IN RADIOLOGIC TECHNOLOGY 3 Credit Hours
(Repeatable for credit) Course permits scholarly activities for research, study and summary of medical journal articles. Information aids in understanding recent advancements in medical imaging.
Prerequisite: Admission to technical study; and radiologic technology major.
Schedule Type: Individual Investigation
Contact Hours: 3 other
Grade Mode: Standard Letter

RADT 25010 MAMMOGRAPHIC EQUIPMENT, QUALITY ASSURANCE AND PROCEDURES 3 Credit Hours
Course provides students with foundational concepts of mammographic quality assurance testing and the factors that govern and influence quality control equipment. Students learn how to construct a quality assurance program for a mammography program following the American College of Radiology and Mammography Quality Standards Act guidelines. Students also gain an understanding of various radiographic imaging procedures, including routine localization, specimen radiography, ultrasound of the breast, cyst aspiration, fine needle aspiration cytology and breast magnetic resonance imaging. Course also covers minimally invasive mammographic needle breast biopsy procedures, core biopsy, stereotactic procedures and interventional procedures used in breast cancer diagnosis.
Prerequisite: RADT 14085.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RADT 25011 MAMMOGRAPHIC POSITIONING AND PATIENT CARE 3 Credit Hours
Course provides the fundamentals of mammography positioning. Students study breast anatomy and physiology and pathologic changes and the relevance of these to mammographic appearance and positioning, including correlation to the radiographic appearance of normal anatomy and benign and malignant mammographic findings. Course also provides the basic concepts in patient assessment and evaluation in mammography. It includes effective communication, patient safety/comfort, patient preparation, professionalism, ethics and critical thinking. Course content emphasizes the importance of establishing a positive relationship with the patient, addressing their psychological needs and providing patient information related to the procedure.
Prerequisite: RADT 14085.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RADT 25092 MAMMOGRAPHY CLINICAL (ELR) 2 Credit Hours
(Repeatable for credit) Course provides students with the clinical experience required to become competent in performing mammographic procedures, mammographic image critique and time to perform required quality control testing. Students learn to complete the entire examination, from request and chart review to patient screening; explaining the procedure to the patient; positioning the patient; using required accessories; setting the equipment; making a correct exposure; processing the image; completing the paperwork; using the computer to store patient data; and maintaining quality control. At successful conclusion, students obtain documentation of clinical competence as required by the ARRT for eligibility to take the advanced level examination in mammography. Students must perform 25 supervised examinations required by the initial MQSA mammography requirements and 75 mammographic examinations (screening and/or diagnostic). Examinations must be performed on patients (not phantoms or simulations).
Prerequisite: RADT 14085.
Schedule Type: Practical Experience
Contact Hours: 6 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

Reading (READ)

READ 00003 CORE READING STRATEGIES FOR COLLEGE SUCCESS 3 Credit Hours
Development of reading strategies necessary for successful completion of college coursework. Emphasis on improving reading comprehension. The credit hours completed for this course do not count toward graduation. Students who have a high school GPA of 1.59 or lower are placed into RC 00003 with an option to challenge the placement.
Prerequisite: ACT Reading score of 0-13; or SAT Evidence Based Reading and Writing score of 200-380; Accuplacer Next Generation Reading Comprehension score of 200-221 (required if student does not have ACT or SAT score).
Schedule Type: Lecture
Contact Hours: 3 lecture, 0 lab, 0 other
Grade Mode: Standard Letter

READ 00006 CRITICAL READING STRATEGIES FOR COLLEGE SUCCESS 3 Credit Hours
Development and application of content area reading and study strategies for successful completion of college coursework. Emphasis on application of critical reading strategies. Credit hours for this course do not count toward graduation. Students who have a high school GPA of 1.6 through 2.79 are placed into RC00006 with the option to challenge the placement.
Prerequisite: ACT reading 14-19 score; or SAT Evidenced-Based Reading and Writing score of 390-470; or Accuplacer Next Generation Reading Comprehension 222-249; or a minimum C grade or higher in READ 00003.
Schedule Type: Lecture
Contact Hours: 3 lecture, 0 lab, 0 other
Grade Mode: Standard Letter

READ 00009 SWIFT KICK STUDY SKILLS 1 Credit Hour
Development of study strategies necessary for successful completion of college coursework. The credit hour completed for this course does not count toward graduation.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

Respiratory Care (RSPC)

RSPC 30000 PROFESSIONAL PRACTICE IN RESPIRATORY CARE 3 Credit Hours
Course guides students in responsible professional practice and encourages personal development of the skills and key traits of the professional. The importance of continuing professional development, being reflective, ethical, accountable and culturally competent are also explored.
Prerequisite: Respiratory care major.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RSPC 30002 LEADERSHIP AND MANAGEMENT IN RESPIRATORY CARE 3 Credit Hours
Course allows students to utilize their knowledge and experience in understanding leadership as a team leader or team member in the practice of respiratory care. Management in respiratory care is explored, including hospital organization; department structure; outcomes; staffing, billing, budgeting and staff development; decision-making; and effective communication.
Prerequisite: Respiratory care major.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RSPC 30004 EDUCATIONAL INSTRUCTION IN RESPIRATORY CARE 3 Credit Hours
Course guides students in perspectives on teaching and learning, characteristics of the learner and techniques and strategies for teaching and learning. Delivery of respiratory therapy education in various settings.
Prerequisite: Respiratory care major.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RSPC 30006 SLEEP MEDICINE AND POLYSOMNOGRAPHY 3 Credit Hours
A fundamental overview of a variety of sleep and breathing disorders that affect sleep. Topics include the identification of normal sleep and sleep disorders, methods of diagnosing sleep disorders, and treatment options. Practice in comparing and evaluating the indications and contraindications for sleep studies and evaluating sleep study results in relation to types of respiratory sleep disorders.
Prerequisite: Respiratory care major.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RSPC 31095 SPECIAL TOPICS IN RESPIRATORY CARE 1-3 Credit Hours
(Repeatable for credit) Scheduled topics of interest to students and faculty.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 1-3 lecture
Grade Mode: Standard Letter

RSPC 40000 DISEASE MANAGEMENT IN RESPIRATORY CARE 3 Credit Hours
Provides an advanced understanding of the pathophysiology and management of cardiopulmonary disease and comorbidities. Provides training in critical thinking in the management of chronic disease and utilization of patient-therapist participation principles; patient communication, evaluation, development of care plans and action plans utilizing evidence-based medicine; and protocols and clinical practice guidelines.
Prerequisite: Respiratory care major.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RSPC 40002 RESEARCH DEVELOPMENT IN RESPIRATORY CARE (WIC) 3 Credit Hours
Introduces the respiratory care practitioner to research methodology and design, their application to health science research and the application of research to everyday health care.
Prerequisite: MATH 10040 or MATH 10041 or BA 24056 or BMRT 21004 or PH 30002 or PSYC 21621 or SOC 32220 and SOC 32221; and ENG 21011 or HONR 10297; and respiratory care major.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: Writing Intensive Course

RSPC 40004 ADVANCED PRACTICE IN RESPIRATORY CARE 3 Credit Hours
Explores the traditional practice roles filled by respiratory therapists; the advanced practice roles that exist, as well as those that are emerging within the profession; and the career opportunities they represent for practitioners.
Prerequisite: Admission to professional study; and respiratory care major.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RSPC 40006 CONTEMPORARY ISSUES AND TRENDS IN RESPIRATORY CARE 3 Credit Hours
Analysis of contemporary issues and trends in respiratory care and their impact and influence on the profession.
Prerequisite: Respiratory care major.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RSPC 40008 CHRONIC DISEASE MANAGEMENT PRINCIPLES 3 Credit Hours
This course focuses on the application of critical thinking in the area of managing chronic disease and the impact healthcare professionals have on affecting positive patient population outcomes. Current practices, utilization of evidence-based medicine, protocols and current principles and trends in managing the impact of acute to chronic disease are discussed.
Prerequisite: Respiratory care major.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RSPC 40075 INFORMATION AND PATIENT CARE TECHNOLOGY FOR HEALTHCARE PROFESSIONALS 3 Credit Hours
(Cross-listed with NURS 40075) Focuses on the use of information management and information systems, technology and the human technology interface utilized in professional practice.
Prerequisite: Admission to professional study; and respiratory care major.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RSPC 41092 PRACTICUM FOR RESPIRATORY CARE (ELR) 3 Credit Hours
An individually planned practicum that provides students the opportunity to explore real world application of program principles and practice options, or to conduct research within the realm of respiratory care under the guidance of a registered respiratory therapy practitioner. Focus is on options for practice or enhancing practice through application of program principles. Student's practicum experience requires prior faculty approval before registration.
Pre/corequisite: Admission to professional study; and RSPC 30000; RSPC 30002; RSPC 30004; RSPC 30006; RSPC 40006; RSPC 40075 or NURS 40075; NURS 46000; RSPC 40002; RSPC 40004; RSPC 40000 or RSPC 40008; and special approval.
Schedule Type: Practical Experience
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

Respiratory Therapy (RESP)

RESP 10000 INTRODUCTION TO RESPIRATORY THERAPY 4 Credit Hours
Establishes a foundation in the profession of respiratory care. Topics include: patient assessment and monitoring, medical gas and humidity therapy, infection control, communication and diversity, clinical environment, patient education, disaster management, ethics and law, quality assurance and evidence based medicine, industry standards, healthcare reimbursement.
Prerequisite: Admission to technical study.
Schedule Type: Laboratory, Lecture
Contact Hours: 3 lecture, 2.5 lab
Grade Mode: Standard Letter

RESP 11001 RESPIRATORY CARE PHARMACOLOGY 2 Credit Hours
Basic principles in pharmacology, specific to respiratory care, covering the pharmacokinetic action of drugs, administration, calculations, and effects on the body systems.
Prerequisite: RESP 11003 with a minimum C grade.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

RESP 11002 CARDIOPULMONARY DISEASES 3 Credit Hours
A study of diseases and disorders affecting the cardiopulmonary system; etiology, pathophysiology, clinical manifestations, analyzing and interpreting data, constructing respiratory care plans and the role of the respiratory therapist in treatment.
Prerequisite: RESP 10000 and RESP 11003 with a minimum C grade.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RESP 11003 APPLICATION AND MECHANISMS OF CARDIOPULMONARY ANATOMY AND PHYSIOLOGY 3 Credit Hours
Provides a solid foundation in cardiopulmonary anatomy and physiology with relevant applied physiology as it relates to the profession of respiratory care.
Prerequisite: Admission to technical study; and respiratory therapy technology major.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

RESP 11004 THERAPEUTICS 6 Credit Hours
Introduction to inhaled medication administration, hyperinflation therapy, bronchopulmonary hygiene, and airway management. There is a laboratory and clinical component.
Prerequisite: RESP 10000 and RESP 11003 with a minimum C grade.
Pre/corequisite: BSCI 20021; and ENG 11011 or ENG 21011.
Schedule Type: Clinical Laboratory, Laboratory, Lecture
Contact Hours: 4 lecture, 3 lab, 7.4 other
Grade Mode: Standard Letter

RESP 11008 BLOOD GAS ANALYSIS 2 Credit Hours
A study of methods, equipment, and procedures for obtaining arterial blood; additionally, the principles and standards of analysis and applications of physiological data is stressed.
Prerequisite: RESP 10000 and RESP 11003 with a minimum C grade.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 1.67 lecture, 1.33 lab
Grade Mode: Standard Letter

RESP 21000 CRITICAL CARE 4 Credit Hours
An advanced-level course that provides a foundation for managing patients in critical care utilizing mechanical ventilation, pharmacology, and hemodynamic monitoring systems. Students perform, interpret and apply data, and learn advanced life support. There is a clinical component.
Prerequisite: RESP 21001 and RESP 21003 with a minimum C grade.
Schedule Type: Clinical Laboratory, Lecture
Contact Hours: 3 lecture, 12.8 other
Grade Mode: Standard Letter

RESP 21001 MECHANICAL VENTILATION 5 Credit Hours
Establishes a foundation of mechanical ventilation and associated equipment; assessment, monitoring and modifying parameters. There is a laboratory and clinical component.
Prerequisite: Minimum C grade in RESP 11001 or AHS 12000; and minimum C grade in RESP 11002,RESP 11004 and RESP 11008; and minimum C grade BSCI 11010 and BSCI 11020 or BSCI 21010 and BSCI 21020; and minimum C grade in CHEM 10050 or CHEM 10055 or CHEM 10060; and minimum C grade in ENG 11011 or ENG 21011 or HONR 10197 or HONR 10297.
Schedule Type: Clinical Laboratory, Laboratory, Lecture
Contact Hours: 3 lecture, 3 lab, 14.93 other
Grade Mode: Standard Letter

RESP 21003 PERINATAL AND PEDIATRIC RESPIRATORY THERAPY 2 Credit Hours
An intense study of assessing, providing, and evaluating neonatal and pediatric respiratory care. Topics include: assessment of growth and development from conception to delivery, resuscitation, persistent illness, therapeutic interventions, and managing mechanical ventilation.
Prerequisite: RESP 11001 or AHS 12000 with a minimum grade of C; and minimum C grade in RESP 11002 and RESP 11004 and RESP 11008.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 1 lecture, 1 lab
Grade Mode: Standard Letter

RESP 21004 ADVANCED DIAGNOSTICS 3 Credit Hours
Provides knowledge and skills necessary to work effectively in a pulmonary function laboratory. Topics include: spirometry, testing standards and techniques, equipment set up and utilization, analyzing test results and applying them in the clinical setting.
Prerequisite: RESP 11003 and RESP 11008 with a minimum C grade.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter

RESP 21006 PULMONARY REHABILITATION AND CONTINUING CARE 1 Credit Hour
Roles and functions of respiratory therapists in cardiopulmonary rehabilitation and home care.
Prerequisite: RESP 21001 with a minimum C grade.
Schedule Type: Lecture
Contact Hours: 1 lecture
Grade Mode: Standard Letter

RESP 21013 RESPIRATORY THERAPY CAPSTONE 2 Credit Hours
Contemporary issues and trends in respiratory care, preparation for the Respiratory Therapy entry level credentialing examinations and transitioning into the role of Respiratory Care Practitioner.
Prerequisite: RESP 21000 with minimum C grade.
Schedule Type: Clinical Laboratory, Laboratory, Lecture
Contact Hours: 1 lecture, 1 lab, 16 other
Grade Mode: Standard Letter

RESP 21095 SPECIAL TOPICS IN RESPIRATORY THERAPY 1-3 Credit Hours
(Repeatable for credit) Select topics of interest to students and faculty.
Prerequisite: Special Approval.
Schedule Type: Lecture
Contact Hours: 1-3 lecture
Grade Mode: Standard Letter

RESP 21096 INDIVIDUAL INVESTIGATION IN RESPIRATORY THERAPY 1-3 Credit Hours
(Repeatable for a maximum of 6 credit hours) Readings and/or investigation of respiratory therapy topics supervised by respiratory therapy faculty.
Prerequisite: Respiratory therapy majors.
Schedule Type: Individual Investigation
Contact Hours: 1-3 other
Grade Mode: Satisfactory/Unsatisfactory

Social Work (SWK)

SWK 24140 INTRODUCTION TO SOCIAL WORK 3 Credit Hours
Course provides an overview of the field of social work, including the historical development of social welfare, social work processes and programs and the emergence of social work as a profession. The impact of diverse leaders in social work is explored. Students are exposed to various career opportunities related to social work micro, mezzo and macro practice.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: TAG Social and Behavioral Sciences

SWK 24146 PERSPECTIVES ON BEHAVIOR AND ENVIRONMENT I 3 Credit Hours
An overview of human development throughout the life span. Students examine developmental stages, tasks and situational environmental influence upon individuals throughout their lives. The organization of the course includes instruction regarding the impact of psychological, biological, spiritual and social systems on individual lifespan development. Assess social work theories and knowledge base. Explore protective and risk factors throughout the life course.
Pre/corequisite: SWK 24140.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

SWK 24147 PERSPECTIVES ON BEHAVIOR AND ENVIRONMENT II 3 Credit Hours
Course increases students' potential for effective generalist social work assessment and interventions with individuals, families, groups, organizations, social systems and communities. The influence of "person-in-environment" perspective is taken regarding influences that affect individuals' lives. Students explore microsystems, mesosystems and macrosystems, in addition to risk and protective factors for systems of various sizes.
Prerequisite: SWK 24140 and SWK 24146.
Schedule Type: Lecture
Contact Hours: 3 lecture, 0 lab, 0 other
Grade Mode: Standard Letter

SWK 25100 SOCIAL WORK IN RURAL SETTINGS 3 Credit Hours
Course explore the challenges, special needs and cultural beliefs of those individuals and families living in rural communities. In the course, students (1) discuss and build upon strengths of rural individuals and communities; (2) examine needs and issues of special populations and vulnerable groups in rural areas; and (3) develop and apply innovative social work interventions and programs.
Prerequisite: SWK 24140.
Schedule Type: Lecture
Contact Hours: 3 lecture, 0 lab, 0 other
Grade Mode: Standard Letter

SWK 25195 SPECIAL TOPICS IN SOCIAL WORK 1-4 Credit Hours
(Repeatable for credit) In-depth examination of particular topics of current interest to students. Specialized areas of social work theory or practice may be covered. Specific topics vary per offering and will be listed by title in the Schedule of Classes.
Prerequisite: SWK 24140.
Schedule Type: Lecture
Contact Hours: 1-4 lecture
Grade Mode: Standard Letter

SWK 25248 SOCIAL WELFARE POLICY 3 Credit Hours
Analysis of social welfare systems, policies, programs, services and practice. Critical exploration of social welfare policy in relation to government policy development. In the course, students (1) examine philosophical, historical and present day perspectives; (2) assess social welfare policies at the local, state and federal levels; and (3) review the impact of leaders and legislation in the field of social work.
Pre/corequisite: SWK 24140.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: TAG Social and Behavioral Sciences

SWK 34140 PRACTICE CONTENT FOR SOCIAL WORK I 3 Credit Hours
Students engage in coursework related to micro-level social work practice. Course focuses on practice with diverse individuals and families and utilizes evidence-based models. Included are introductions to the DSM-5, treatment planning and medical terminology. Also covered are family systems, dynamics, culturally competent practice and diversity within families. Students examine risk factors and protective factors, in addition to the impact of environmental factors on individuals and families such as poverty, unemployment, discrimination, community violence and rural and urban settings. Additional factors such as substance use, intimate partner violence and child abuse are discussed.
Prerequisite: SWK 24140.
Pre/corequisite: SWK 24146.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

SWK 34141 PRACTICE CONTENT FOR SOCIAL WORK II 3 Credit Hours
Course considers the importance of group dynamics, processes, content and roles at the micro levels, as well as the use of groups in various agency, organizational and community settings. Experiential and traditional teaching methods are used. Group intervention and treatment skills are addressed in relation to social work values, ethics and diversity within the group setting. Students explore power dynamics and group composition.
Prerequisite: SWK 24140 and SWK 24146 and SWK 34140.
Pre/corequisite: SWK 24147.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

SWK 34149 APPLIED RESEARCH IN SOCIAL WORK 3 Credit Hours
As an orientation to research procedures for the prospective social work practitioner. Students examine the methods of scientific inquiry as applied in social work research. Concept formation, research design, procedures, sources, collection and the presentation of data are all explored. The course prepares future social work practitioner to aid in practice evaluation when they begin work in the field. Research design and statistical analysis are focused on, and students complete a research project.
Prerequisite: SWK 24140.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

SWK 35120 SOCIAL WORK IN MENTAL HEALTH SETTINGS 3 Credit Hours
In the course, students discuss diagnosis and treatment of mental health disorders; learn how the DSM-5 and ICD-10 are used in diagnosis of mental health conditions; develop client treatment plans and discharge summaries; and examine various means of treatment of those with mental health conditions.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

SWK 35121 SOCIAL WORK IN SUBSTANCE USE DISORDER SETTINGS 3 Credit Hours
In the course, students examine social work with individuals and communities with substance use disorders and dysfunction; assess signs, symptoms and treatment of substance use disorders; explore prevention, theory and concepts of substance use in individuals, families and communities; and discuss implications for families, organizations and communities using the person-in-environment perspective.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

SWK 35122 SOCIAL WORK IN CHILD WELFARE SETTINGS 3 Credit Hours
In the course, students learn identification of symptoms of child abuse and neglect; examine theories of prevention and treatment for victims of child abuse and neglect, incorporating aspects of trauma-informed care; and explore effective case management techniques and social work practices for child welfare.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

SWK 35123 SOCIAL WORK AND TRAUMA-INFORMED CARE 3 Credit Hours
Course provides students with the tools to acknowledge and learn about the impact of trauma on human behavior and mental health. Students examine risk and protective factors involved in fostering resilience in difficult circumstances, in addition to exploring prevention and the impact of adverse childhood experiences on children, adolescents and adults.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

SWK 35124 SOCIAL WORK PERSPECTIVES ON AGING 3 Credit Hours
Course is a survey of the special needs of older adults. Within a varied theoretical framework, students examine sociological, psychological and biological age-related concepts, needs, problems and issues. In addition, students use historical and current demographic data to understand societal patterns, trends and policies toward the elderly.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

SWK 35125 INTERPROFESSIONAL APPROACHES TO SUICIDE PREVENTION 3 Credit Hours
Using readings and interactive case studies from health sciences, public health, law and psychology, students address multi-level influences on suicide and its prevention. Topics covered include suicide prevention-related ethical issues, terminology, attitudes and social norms, vulnerable populations, risk/protective factors, and mental health services and public health approaches to suicide prevention.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

SWK 35195 SPECIAL TOPICS IN SOCIAL WORK 1-4 Credit Hours
(Repeatable for credit) In-depth examination of particular topics of current interest to students. Specialized areas of social work theory or practice may be covered. Specific topics vary per offering and will be listed by title in the Schedule of Classes.
Prerequisite: SWK 24140.
Schedule Type: Lecture
Contact Hours: 1-4 lecture
Grade Mode: Standard Letter

SWK 35196 INDIVIDUAL INVESTIGATION IN SOCIAL WORK 1-4 Credit Hours
(Repeatable for credit) Provides students an opportunity to examine an individual topic of specialization within the field of social work while working closely with a faculty member. Involves a final project or research opportunity.
Prerequisite: SWK 24140.
Schedule Type: Individual Investigation
Contact Hours: 1-4 other
Grade Mode: Standard Letter

SWK 44192 FIELD EXPERIENCE I (ELR) 3 Credit Hours
Field work experiences are conducted in social service agencies, mental health settings, hospitals and non-profit organizations. This experiential learning builds upon students' foundation-level coursework and allows them to implement and use problem solving-skills, active listening, therapeutic techniques and a variety of interventions.
Prerequisite: Special approval.
Corequisite: SWK 44210.
Schedule Type: Practical Experience
Contact Hours: 9 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

SWK 44210 INTEGRATIVE SEMINAR 3 Credit Hours
Promotes practice-theory integration emphasizing development of strong, ethical, and culturally competent social work practice skills. Supports students in their field experience in the seminar format with discussion and processing of practice issues, challenges and ethical dilemmas. Uses traditional and experiential learning to enhance students' learning environment.
Prerequisite: SWK 24140 and SWK 34140.
Pre/corequisite: SWK 34141.
Corequisite: SWK 44192.
Schedule Type: Seminar
Contact Hours: 3 other
Grade Mode: Standard Letter

SWK 44292 FIELD EXPERIENCE II (ELR) 3 Credit Hours
Students continue field work experiences in social service agencies, mental health settings, hospitals and non-profit organizations. This experiential learning builds upon students' foundation level coursework and allows them to implement and use problem solving-skills, active listening, therapeutic techniques and a variety of interventions.
Prerequisite: Special approval.
Corequisite: SWK 44299.
Schedule Type: Practical Experience
Contact Hours: 9 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

SWK 44299 SOCIAL WORK CAPSTONE (ELR) (WIC) 3 Credit Hours
Course integrates comprehensive student learning involving theory, practice, methods and research. Students discuss and process the exhaustive knowledge and skills learned throughout the program. Culminates in a social work portfolio of completed papers, projects and/or videos.
Prerequisite: SWK 24140, SWK 34140, SWK 34141, SWK 44192 and SWK 44210.
Corequisite: SWK 44292.
Schedule Type: Project or Capstone, Seminar
Contact Hours: 3 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement, Writing Intensive Course

Technical and Applied Studies (TAS)

TAS 20092 PRACTICUM FOR TECHNICAL AND APPLIED STUDIES (ELR) 1-3 Credit Hours
(Repeatable for credit) Supervised work experience in a job related to the student's program and career objectives.
Prerequisite: Sophomore standing.
Schedule Type: Practical Experience
Contact Hours: 3-9 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

TAS 22095 SPECIAL TOPICS IN TECHNICAL AND APPLIED STUDIES 1-4 Credit Hours
(Repeatable for credit) Various special topics will be announced in the schedule of classes under this course number with different section numbers.
Prerequisite: Special approval.
Schedule Type: Lecture
Contact Hours: 1-4 lecture
Grade Mode: Standard Letter

TAS 30095 SPECIAL TOPICS IN TECHNICAL AND APPLIED STUDIES 1-4 Credit Hours
(Repeatable for credit) Various special courses will be announced in the schedule of classes under this course number with different section numbers.
Prerequisite: Special approval.
Schedule Type: Lecture
Contact Hours: 1-4 lecture
Grade Mode: Standard Letter

TAS 37900 TECHNICAL AND APPLIED STUDIES CORNERSTONE 3 Credit Hours
Cornerstone course instructs students about how the work role in industrial and information societies has evolved to its current organization. Students personalize the information by reflecting on the role of work in their own lives by reviewing theory and application of their own career management, examine the stages of career development, job stress, entrepreneurial careers and organization.
Prerequisite: Major in Technical and Applied Studies, Information Technology, Insurance Studies or Engineering Technology.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

TAS 40092 INTERNSHIP FOR TECHNICAL AND APPLIED STUDIES (ELR) 1-3 Credit Hours
(Repeatable for credit) Supervised work experience in a job related to the student's life and career objectives. Student works with a business or organization for a minimum of 45 hours for each hour of credit.
Prerequisite: Junior standing.
Schedule Type: Practical Experience
Contact Hours: 3-9 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

TAS 47999 TECHNICAL AND APPLIED STUDIES CAPSTONE (ELR) (WIC) 3 Credit Hours
Acts as the culminating experience of degree program. Designed to help students articulate and integrate the competencies that are part of their bachelor's degree program. Students will engage in research, writing and application of program specific ethical issues, knowledge and skills specific to their chosen field. Students will explore career opportunities and trends in their field of study. In part, an electronic portfolio is used to help describe familiarity with the competencies gained throughout their degree program.
Prerequisite: Technical and Applied Studies major, Information Technology major, Insurance Studies major, Cybercriminology major or Animation and Game Design major.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement, Writing Intensive Course

Veterinary Technology (VTEC)

VTEC 10001 INTRODUCTION TO VETERINARY TECHNOLOGY 2 Credit Hours
Introduction to veterinary technician's career: medical terminology, career choices, occupational safety, human-animal bond, pet loss, euthanasia, animal husbandry and basic nutrition and basic animal behavior.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

VTEC 10002 VETERINARY NURSING I 3 Credit Hours
Introduction to animal nursing: record keeping, kennel sanitation, animal restraint, syringe and needle identification/handling, injection techniques, physical exams, grooming and administration of medications and breed identification.
Prerequisite: Admission to technical study; and veterinary technology major.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter

VTEC 10003 VETERINARY PHARMACOLOGY I 2 Credit Hours
This is the first of two courses in the Veterinary Technology program that presents an introduction to the principles of pharmacology for the Veterinary Technician. The course will provide an overview of veterinary pharmacology and therapeutics, including a basic understanding of pharmacokinetics, terminology, prescription writing, methods of administration, controlled substance use and regulations and dosage calculations.
Prerequisite: CHEM 10050 or CHEM 10055; and VTEC 10001 and VTEC 10002 and VTEC 10204.
Pre/corequisite: VTEC 10205.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

VTEC 10204 CLINICAL LABORATORY I 3 Credit Hours
Introduction to clinical laboratory: equipment and equipment maintenance; internal and external parasites; urinalysis. Lecture 2 hours, laboratory 3 hours weekly.
Prerequisite: Veterinary technology major.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter

VTEC 10205 VETERINARY NURSING II 3 Credit Hours
Clinical application off-site. Emphasis on skills from VTEC 10002; physical exam, medications, blood vessels catheterization, venipuncture; fluid therapy, wound care, patient rehabilitation and physical therapy, first aid, bandaging and CPR.
Prerequisite: Minimum C grade in all the following courses: BSCI 10005 and CHEM 10050; or CHEM 10055; and VTEC 10002 and VTEC 10204.
Pre/corequisite: VTEC 10001.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 1.7 lecture, 5 lab
Grade Mode: Standard Letter

VTEC 20001 NUTRITION OF DOMESTIC ANIMALS FOR VETERINARY TECHNICIANS 2 Credit Hours
Students will gain a basic understanding of clinical nutrition for domestic animals, both small and large, for various life stages and illnesses. Concepts will include nutrient composition, reading pet food labels, evaluation pet foods, understanding specialty, prescription, and alternative diets, use of various feeding tubes and their application to domestic animals and understanding illnesses that can occur due to improper nutrition.
Prerequisite: VTEC 10001 and VTEC 10002 and VTEC 10204.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

VTEC 20002 DISEASES OF DOMESTIC ANIMALS FOR VETERINARY TECHNICIANS 2 Credit Hours
Students will gain knowledge of disease and pathology in domesticated large and small animal species. Discussion of the immune system and it's role in disease, classifications of disease, basic vaccination protocols, preventative medicine, as well as the etiology, clinical signs, treatment and control of diseases of domestic animals will take place.
Prerequisite: VTEC 10001 and VTEC 10205 and VTEC 20008 and VTEC 20215.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

VTEC 20003 VETERINARY PHARMACOLOGY II 2 Credit Hours
Course includes continuation of dosage calculations, classification of medication including indications, side effects and contraindications of commonly used veterinary drugs.
Prerequisite: CHEM 10050 or CHEM 10055; and VTEC 10003 and VTEC 10205.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

VTEC 20008 CLINICAL LABORATORY II 3 Credit Hours
Continuation and application of laboratory skills from Clinical Laboratory I; hematology, serology, cytology and other laboratory skills. Lecture 2 hours, laboratory 3 hours weekly.
Prerequisite: Minimum C grade in the following courses: BSCI 10005 and CHEM 10050; or CHEM 10055; and VTEC 10002 and VTEC 10204.
Pre/corequisite: VTEC 10001 and VTEC 10205.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 1.7 lecture, 5 lab
Grade Mode: Standard Letter

VTEC 20009 LARGE ANIMAL NURSING 3 Credit Hours
Continuing nursing skills/techniques emphasizing large animal species: restraint, venipuncture, behavior, breeds, feedstuffs, food safety, meds, preventive care, surgical procedures, lameness.
Prerequisite: BSCI 10110 and CHEM 10050 (or CHEM 10055) and VTEC 10001 and VTEC 10002 and VTEC 10204 and VTEC 10205 and VTEC 20008 and VTEC 20010.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 1.7 lecture, 5 lab
Grade Mode: Standard Letter

VTEC 20010 IMAGING TECHNIQUES 3 Credit Hours
Principles and application of the production of X-rays, processing, radiation safety, storage, patient positioning and other imaging techniques.
Prerequisite: BSCI 10005 and CHEM 10050 (or CHEM 10055) and VTEC 10001 and VTEC 10002 and VTEC 10003 and VTEC 10204 and VTEC 10205 and VTEC 20008.
Pre/corequisite: VTEC 20003.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 1.7 lecture, 5 lab
Grade Mode: Standard Letter

VTEC 20212 SURGERY AND ANESTHESIA 3 Credit Hours
Principles and application of the use of anesthetics, patient monitoring, dental prophylaxis, pre-surgery preparation, post-surgical patient care, sterilization, surgical preparation and assisting and equipment maintenance.
Prerequisite: Minimum C grade in the following courses: BSCI 10005 and CHEM 10050 (or CHEM 10055) and VTEC 10001 and VTEC 10002 and VTEC 10003 and VTEC 10204 and VTEC 10205 and VTEC 20008.
Pre/corequisite: VTEC 20003.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 1.7 lecture, 5 lab
Grade Mode: Standard Letter

VTEC 20215 VETERINARY OFFICE APPLICATIONS 1 Credit Hour
Overview of veterinary practice management including veterinary medical record keeping, marketing, staff responsibilities, interoffice communications and public relation techniques. Automated veterinary office processing and record-keeping. Computer hardware and software commonly found in small to mid-sized veterinary practices described along with office procedures and work flow.
Prerequisite: BSCI 10005 and VTEC 10001 and VTEC 10002 and VTEC 10204.
Schedule Type: Laboratory
Contact Hours: 3 lab
Grade Mode: Standard Letter

VTEC 20216 LABORATORY AND EXOTIC ANIMAL MEDICINE 2 Credit Hours
Introduction to laboratory medicine and management, including basic husbandry, common diseases, and treatment protocols for various laboratory animal species, pocket pets, avian and exotic species. The student will learn scientific names and primary use of common laboratory animals and will practice restraint, sexing, appropriate methods of venipuncture, administration of medications and anesthetic techniques.
Prerequisite: VTEC 10001 and VTEC 10205 and VTEC 20003 and VTEC 20008 and VTEC 20010 and VTEC 20212.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 1 lecture, 3 lab
Grade Mode: Standard Letter

VTEC 20392 PRACTICUM IN VETERINARY HOSPITAL (ELR) 5 Credit Hours
(Repeatable for credit)Students gain practical experience in veterinary clinic or approved clinical site to focus on mastery of all clinical skills needed for this career.
Prerequisite: BSCI 20021 and VTEC 20009 and VTEC 20010 and VTEC 20212.
Corequisite: VTEC 20213 and VTEC 20214.
Schedule Type: Practical Experience
Contact Hours: 5 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

Viticulture and Enology (VIN)

VIN 10510 MOLECULAR PRINCIPLES IN WINE AND BEER 4 Credit Hours
Covers the basic chemistry involved in the wine and winemaking process and the beer and brewing process. Includes basic understanding of the chemistry involved in the fermentation process, flavor, aroma and color of wine and beer.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 4 lecture
Grade Mode: Standard Letter-IP

VIN 11100 INTRODUCTION TO VITICULTURE AND VINEYARD ESTABLISHMENT 3 Credit Hours
Introduces students to current practices for establishing a commercial vineyard and maintaining its health and productivity once established. Topics covered include varietal selection, site preparation, equipment, site selection, first season establishment, vine growth development and training, trellis systems, vine propagation, weed control and vine disease control. Field work sessions consisting of 16 hours of hands-on experience is scheduled in area vineyards.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter-IP

VIN 11200 BOTANICAL VITICULTURE 4 Credit Hours
Provides students with an overview of the plant kingdom and an examination of grapevine form and function from a botanical perspective.
Prerequisite: None.
Schedule Type: Combined Lecture and Lab
Contact Hours: 3 lecture, 2 lab
Grade Mode: Standard Letter-IP

VIN 11392 WINTER VITICULTURE FIELDWORK (ELR) 2 Credit Hours
(Repeatable for credit) Provides students initiated in the field of viticulture practical experience in winter vineyard operations. Students are required to partner with an approved vineyard to participate in the required fieldwork portion of the course, which serves as experience for those seeking employment in commercial viticulture.
Prerequisite: VIN 11100.
Schedule Type: Field Experience, Lecture
Contact Hours: 1.5 lecture, 2.5 other
Grade Mode: Standard Letter-IP
Attributes: Experiential Learning Requirement

VIN 11492 SPRING VITICULTURE FIELDWORK (ELR) 2 Credit Hours
(Repeatable for credit) Designed to provide students initiated in the field of viticulture practical experience in spring vineyard operations. Students are required to partner with an approved vineyard to participate in the required fieldwork experience portion of the course, which serves as experience for those seeking employment in commercial viticulture.
Prerequisite: VIN 11100.
Schedule Type: Field Experience, Lecture
Contact Hours: 1.5 lecture, 2.5 other
Grade Mode: Standard Letter-IP
Attributes: Experiential Learning Requirement

VIN 11592 SUMMER/FALL VITICULTURE FIELDWORK (ELR) 2 Credit Hours
(Repeatable for credit) Provides viticulture students practical experience in summer and fall vineyard operations. Students are required to partner with an approved vineyard to participate in the required fieldwork portion of the course, which serves as experience for those seeking employment in commercial viticulture.
Prerequisite: VIN 11100.
Schedule Type: Field Experience, Lecture
Contact Hours: 1.5 lecture, 2.5 other
Grade Mode: Standard Letter-IP
Attributes: Experiential Learning Requirement

VIN 11800 INTRODUCTION TO BREWING 3 Credit Hours
This course is designed to introduce students to the basic principles of brewing on the home scale with an overview of brewing on the commercial scale. Students will learn about brewing, malt extracts, beer kits, brewing sugars, water, hops, yeast, boiling and cooling, fermentation, lagering beer, and priming and bottling. At the conclusion of this class, students will have the knowledge to brew small batches of beer successfully on the home scale.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter-IP

VIN 14000 INTERMEDIATE BREWING 3 Credit Hours
Intermediate Brewing is designed to give students a depth of knowledge in all grain brewing on the home scale, developing skills and knowledge of brewing on the commercial scale. Students will delve into brewing, water, hops, yeast, boiling and cooling, fermentation, lagering beer, filtering, and priming and bottling.
Prerequisite: VIN 11800.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter-IP

VIN 20095 SPECIAL TOPICS IN VITICULTURE AND ENOLOGY 1-3 Credit Hours
(Repeatable for a maximum of 9 credit hours) Various special topics to be announced in the Schedule of Classes, offering current topics in viticulture and enology.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 1-3 lecture
Grade Mode: Standard Letter

VIN 21100 INTEGRATED PEST MANAGEMENT 2 Credit Hours
Effective grape production depends on the grower developing a system of grape management that is appropriate for each vineyard. Decisions need to be made for how to manage all of the normal cultural practices such as planting, fertility, harvesting and pruning, as well as managing the insect, disease and weed problems that occur either regularly or sporadically. Course addresses management issues related to common, expected pest problems, as well as the occasional appearance of minor pest problems.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter-IP

VIN 21300 REGIONAL VINEYARD MANAGEMENT 2 Credit Hours
A general study of vineyard management in the general wine growing regions in the Continental United States. Covers management of the mature vineyard from region to region and builds on the topics covered in prerequisite course.
Prerequisite: VIN 11100.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter-IP

VIN 24000 SENSORY EVALUATION OF BEER 3 Credit Hours
Intended for those individuals who need to develop an understanding of the principles of sensory evaluation used in commercial beer making. It also benefits beer enthusiasts interested in reaching advanced levels of appreciation, as well beer producers, beer merchants and beer chemists, who by the nature of their profession need to discern flavors and establish tasting benchmarks. Students practice sensory analysis at home and in workshops to further their sensory evaluation skills and techniques.
Prerequisite: VIN 11800.
Schedule Type: Combined Lecture and Lab
Contact Hours: 2.5 lecture, 1 lab
Grade Mode: Standard Letter-IP

VIN 28992 BREWERY PRODUCTION FIELD EXPERIENCE (ELR) 2 Credit Hours
Provide students initiated in the field of brewing with actual and practical exposure to the technology of brewing. Students are expected to improve their understanding of the methods and science involved by on-site participation in each of the various activities associated with finished beer production. Course serves as actual practical exposure and may qualify as experience for those seeking employment in commercial brewing.
Prerequisite: VIN 11800 and VIN 14000.
Schedule Type: Lecture, Practical Experience
Contact Hours: .6 lecture, 4.25 other
Grade Mode: Standard Letter-IP
Attributes: Experiential Learning Requirement

VIN 29300 SOILS FOR VITICULTURE 3 Credit Hours
Explores soil properties and behavior and their influence on wines. Focuses not only on growth and production, but on the long-term effects of viticulture on soil quality and the wider environment.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter-IP