ALLIED HEALTH

Welcome to the School of Allied Health where we are dedicated to shaping the future of healthcare through innovative education, research, and community service. Our school offers a comprehensive range of programs designed to prepare students for dynamic and rewarding careers in various allied health professions.

Our mission is to equip our students with the knowledge, skills, and compassion necessary to excel in their chosen fields and to make a meaningful impact on the health and well-being of individuals and communities. We achieve this through a combination of rigorous academic coursework, hands-on clinical experiences, and cutting-edge research opportunities.

In the School of Allied Health, you will learn from a distinguished faculty of experts and practitioners who are leaders in their respective fields. Our state-of-the-art facilities and simulation labs provide an immersive learning environment where students can apply their knowledge in real-world scenarios.

We offer a variety of degree and certificate programs, where each program is designed to meet the highest standards of academic excellence and professional practice.

Join us in the School of Allied Health and embark on a journey that will prepare you to become a compassionate and competent healthcare professional, ready to meet the challenges and opportunities of the ever-evolving healthcare landscape. Together, we can make a difference in the lives of those we serve.

The school collaborates closely with returning and transfer students to help them achieve their educational and career goals. We frequently engage with students who have gained valuable knowledge through life experiences, ensuring their unique backgrounds are recognized and integrated into their academic journey.

- **Allied Health Care Administration, BS**
- **Allied Health Care Administration, BS/ Accelerated Nursing, BSN**
- **Allied Health Care Administration, BS/ Cardiac Sonography**
- **Allied Health Care Administration, BS/ Doctor of Chiropractic**
- **Allied Health Care Administration, BS/ Juris Doctorate**
- **Allied Health Care Administration, BS/ Master of Business Administration**
- **Allied Health Care Leadership and Management, BS (4 year option)**
- **Allied Health Care Leadership and Management, BS (2 year option)**
- **Respiratory Therapy, BS**
- **Respiratory Therapy, BS (Degree Advancement Program)**
- **Health Services, AAS**
- **Health Services, AAS/ Radiologic Technology**
- **Health Care Administration Certificate**
- **Health Care Services Coding and Reimbursement Certificate**

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- Allied Health Care Administration, BS (https://bulletin.uakron.edu/undergraduate/colleges-programs/health-professions/allied-health-technology/allied-health-care-administration/)
- Allied Health Care Administration, Certificate (https://bulletin.uakron.edu/undergraduate/colleges-programs/health-professions/allied-health-technology/allied-health-care-admin-certificate/)
- Allied Health Care Administration/Doctor of Chiropractic Accelerated Program, BS (https://bulletin.uakron.edu/undergraduate/colleges-programs/health-professions/allied-health-technology/allied-health-care-administration-chiropratic/)
- Allied Health Care Administration/JD Accelerated, BS (https://bulletin.uakron.edu/undergraduate/colleges-programs/health-professions/allied-health-technology/allied-health-care-administration-juris-doctorate/)
- Allied Health Care Administration/Medical Sonography Accelerated Program, BS (https://bulletin.uakron.edu/undergraduate/colleges-programs/health-professions/allied-health-technology/allied-health-care-administration-medical-sonography/)
- Allied Health Care Administration/Nursing Accelerated Program, BS/BSN (https://bulletin.uakron.edu/undergraduate/colleges-programs/health-professions/allied-health-technology/allied-health-care-administration-nursing-accelerated/)
- Health Care Leadership and Management Step-Up, BS (https://bulletin.uakron.edu/undergraduate/colleges-programs/health-professions/allied-health-technology/health-care-leadership-management-step-up/)
- Health Care Leadership and Management, BS (https://bulletin.uakron.edu/undergraduate/colleges-programs/health-professions/allied-health-technology/health-care-leadership-management/)
- Health Care Services Coding and Reimbursement, Certificate (https://bulletin.uakron.edu/undergraduate/colleges-programs/health-professions/allied-health-technology/healthcare-services-coding-reimbursement/)
- Health Services, AAS (https://bulletin.uakron.edu/undergraduate/colleges-programs/health-professions/allied-health-technology/health_services_aas/)
- Health Services, Radiologic Technology, AAS (https://bulletin.uakron.edu/undergraduate/colleges-programs/health-professions/allied-health-technology/health-services-radiologic-technology-aas/)
- Health Services, BS (https://bulletin.uakron.edu/undergraduate/colleges-programs/health-professions/allied-health-technology/health-services/)
- Health Services, Medical Laboratory Sciences, BS (https://bulletin.uakron.edu/undergraduate/colleges-programs/health-professions/allied-health-technology/health-services-medical-laboratory-bs/)
- Medical Assisting, Certificate (https://bulletin.uakron.edu/undergraduate/colleges-programs/health-professions/allied-health-technology/medical-assisting-certificate/)
- Phlebotomy Technician, Certificate (https://bulletin.uakron.edu/undergraduate/colleges-programs/health-professions/allied-health-technology/phlebotomy-technician-certificate/)
- Respiratory Therapy, BS (https://bulletin.uakron.edu/undergraduate/colleges-programs/health-professions/allied-health-technology/respiratory-therapy-bs/)

- Respiratory Therapy, BS, Degree Advancement Program (https://bulletin.uakron.edu/undergraduate/colleges-programs/health-professions/allied-health-technology/respiratory-therapy-dap/)

Allied Health (ANAT)

ANAT 206 Applied Human Anatomy & Physiology I (3 Units)
This course is designed to familiarize students to the structure, function, and physiology of the human body. Topics covered include organization of the body, chemistry, cells, tissues, integumentary system, the skeletal, articulations, muscular system, respiratory system, blood, and cardiovascular system. (Formerly 2780:206)
Ohio Transfer 36: Yes
Gen Ed: Natural Science

ANAT 207 Applied Human Anatomy & Physiology II (3 Units)
This course is designed to familiarize students the structure, function, and physiology of the human body. This course is the second portion of a two part course. Topics covered include the following body systems: nervous system, senses, endocrine system, lymphatic system, immune system, digestive system, urinary system, male reproductive system, female reproductive, and life span development. (Formerly 2780:207)
Ohio Transfer 36: Yes
Gen Ed: Natural Science

ANAT 210 Applied Human Anatomy & Physiology Lab I (1 Unit)
Pre/Corequisite: ANAT 206. This course is an adjunct to the lecture of the structure and function of the human body. This course will be hands on learning to assist in the understanding of anatomy and physiology. Topics covered include organization of the body, chemistry, cells, tissues, skeletal system, muscular system, hematology, cardiovascular, and respiratory systems (Formerly 2780:210)
Gen Ed: Natural Science with Lab

ANAT 211 Applied Human Anatomy & Physiology Lab II (1 Unit)
Pre/Corequisite: ANAT 207. This course is an adjunct course of an introduction to the structure and function of the human body. This course will be hands on learning to assist in the learning of anatomy and physiology. Topics covered include the following body systems; nervous, senses, endocrine, digestive, urinary, reproductive, lymphatic, and human development. (Formerly 2780:211)
Gen Ed: Natural Science with Lab

ANAT 290 Special Topics: Allied Health (1-2 Units)
Prerequisite: Permission. Selected topics or subject areas of interest in allied health. (May be repeated for a total of four credits) (Formerly 2780:290)

ANAT 350 Clinical Applications of Immunology for the Health Professions (3 Units)
Prerequisites: ANAT 206, ANAT 207, ANAT 210, and ANAT 211. This course offers an in-depth exploration of immunology with a focus on its applications in health and disease management. Students will gain a comprehensive understanding of the immune system's structure, function, and regulatory mechanisms, as well as its role in protecting against infections, cancer, and autoimmune disorders. The course emphasizes the clinical and translational aspects of immunology, including vaccine development, immunotherapies, and diagnostic technologies. Topics covered will include innate and adaptive immunity, hypersensitivities, immunodeficiencies, and the immune system's interaction with pathogens and microbiota. Students will also examine emerging research in fields such as precision medicine and immuno-oncology. Through a combination of lectures and case studies, students will develop practical skills in experimental immunology and critical analysis of scientific literature.

Allied Healthcare Administration (BAHA)

BAHA 120 Medical Terminology (3 Units)
This course provides a solid foundation and understanding of the medical language used by healthcare professionals through the introduction, reinforcement, and combination of medical word parts including prefixes, suffixes, word roots, and combining forms. Emphasis is placed on word building, analysis of word parts, spelling, special endings, plural forms, correct pronunciation of terminology related to body systems, procedures, and diseases of the various body systems. Commonly used abbreviations and symbols will also be introduced. (Formerly 2750:120)

BAHA 122 Emergency Responder I (1 Unit)
Theory and practice in recognition and response to emergencies by the medical professional including but not limited to: breathing difficulty, cardiac arrest, heart attack, stroke, bleeding, wound care, musculoskeletal injuries, burns. poisonings, heat and cold exposure, and diabetic care. (Formerly 2750:122)

BAHA 200 Introduction to Health Care Services (3 Units)
Introduction to the contents and design of health records; The health care oversight and regulatory bodies; and discussion of how clinical documentation facilitates the function of the health care delivery system. (Formerly 2750:200)

BAHA 220 Introduction to Health Care Analytics (3 Units)
This introductory course explores health care analytics, focusing on practical applications using Microsoft Excel. Students will learn to collect, organize, and analyze health care data, transforming it into actionable insights. They will also learn essential statistical functions in Excel, enabling students to identify trends and patterns within datasets. By the end, students will be equipped to leverage data-driven insights to improve patient outcomes and enhance organizational efficiency. The curriculum balances theory and hands-on application, ensuring a comprehensive understanding of health care analytics and its potential to transform the industry.

BAHA 221 Study of Disease Processes (3 Units)
This course provides an overview of pathology, focusing on the essential principles of disease processes. Students will explore the causes (etiology), mechanisms (pathogenesis), and effects (morphological and functional changes) of diseases on the human body. Topics include cellular injury, inflammation, tissue repair, and the pathology of major organ systems. Emphasis will be placed on understanding how diseases develop and their clinical manifestations. This course serves as a foundation for advanced studies in health sciences, biology, and medicine. (Formerly 2750:121)

BAHA 226 Health Care Statistics and Registries (3 Units)
Prerequisites: 2030:130 and CISS 105. This course covers computations of routine health care institutional statistics, the presentation and interpretation of health care data, and the use of disease and procedural registries. (Formerly 2750:226)

BAHA 227 Basic Procedural Coding (3 Units)
This course is an introduction to the basic principles of procedure coding utilizing Current Procedural Terminology (CPT) and Health Care Common Procedure Coding System (HCPCS). Students will focus on evaluation and management codes based on the place of service, type of service and level of service according to CMS documentation guidelines. Basic procedural and surgical CPT codes will be applied based on established coding guidelines and the patient health record. Additionally, students will learn how to convert procedural statements into CPT and HCPCS codes along with learning how to apply carrier rules for reimbursement. (Formerly 2750:227)

BAHA 229 Basic Diagnostic Coding (3 Units)
This course provides an introduction to the principles and practices of diagnostic coding in health care settings. Students will learn the foundational concepts of medical coding systems, with an emphasis on ICD-10-CM (International Classification of Diseases, 10th Revision, Clinical Modification) and its application in health care documentation and billing. The course covers essential topics such as coding guidelines, accurate code selection, and the importance of coding for reimbursement and compliance. Through practical exercises and case studies, students will gain hands-on experience in coding diagnoses across various medical specialties. By the end of the course, students will be prepared to apply basic coding techniques in clinical or administrative health care role. (Formerly 2750:229)

BAHA 230 Basic Pharmacology (3 Units)
This course introduces the fundamental principles of pharmacology, focusing on the interactions between drugs and biological systems. Students will study the mechanisms of drug action, absorption, distribution, metabolism, and excretion. Topics include the major drug classes, their therapeutic uses, side effects, and the relationship between drugs and disease management. (Formerly 2750:230)

BAHA 302 Clinical Information Systems (3 Units)
This course offers an immersive, hands-on introduction and exploration of electronic health record (EHR) systems. Students will trace the evolution and understand the history of EHR while learning some of the advantages and challenges these systems present. The principal objective is for students to gain practical skills through interactive exercises and simulations using a dedicated teaching EHR system. (Formerly 2750:302)

BAHA 303 Health Care Coding Capstone (3 Units)
Prerequisites: BAHA 227 and BAHA 229. This coding capstone class integrating procedure and diagnosis coding of health care provider services, preparing students for the AAPC CPC exam and/or equivalent AHIMA certification exam. (Formerly 2750:303)

BAHA 304 Health Care Management Foundations (3 Units)
This course provides an introduction and overview to Health Care Management Foundations by focusing on the circumstances unique to the health care industry and its ever-changing environment. Health care organizational adaptation and survival through leadership elements are identified and presented both via the book, video lectures and a multitude of articles. Students will identify leadership responsibilities and present papers and videos covering topics including planning, decision making, organizing, staffing, budget preparations, training, staff development, motivation, conflict management, communications, and documentation. The class concludes with topics including improving performance, human resource management, and day to day management for health professionals as managers. (Formerly 2750:304)

BAHA 328 Medical Insurance (3 Units)
This course examines the nature of medical insurance reimbursement for medical services. Students will be equipped with an understanding of insurance and reimbursement methodologies. (Formerly 2750:328)

BAHA 331 Advanced Health Care Coding Topics (3 Units)
Prerequisites: BAHA 227 and BAHA 229. This advanced coding course builds on the CPT and HCPCS codes sets (BAHA 227) and the ICD-10-CM code set (BAHA 229) and introduces a series of detailed management topics related to coding. This class is intended to prepare the student for supervisory or management challenges related to coding, HIM administration, and department operations. (Formerly 2750:331)

BAHA 336 Legal Concepts of Health Care (3 Units)
This course explores the legal principles and regulations that govern the health care industry. Students will examine key topics such as patient rights, confidentiality, informed consent, medical malpractice, and health care provider liabilities. The course also covers the regulatory framework, including laws such as HIPAA, the Affordable Care Act, and other state and federal health care regulations. Through case studies and legal analysis, students will develop an understanding of the ethical and legal responsibilities of health care providers, administrators, and institutions. (Formerly 2750:336)

BAHA 350 Coding Practicum (3 Units)
Prerequisites: BAHA 227, BAHA 229, BAHA 303, and BAHA 331. The coding practicum course provides professional experience in an approved site under the direction of a coding or HIM faculty member and an onsite coordinator. (Formerly 2750:350)

BAHA 360 Health Care Human Resource Management (3 Units)
This course will acquaint you with concepts and methods needed to plan, forecast, recruit, train, develop, maintain, and evaluate health manpower. It will also provide an understanding of the impact of licensing, regulation, and 2 labor relations activities on health care institutions, with an emphasis on organization effectiveness and productivity. The course will include human resource planning, staffing, job analysis, job descriptions, job evaluation, availability of human resources, recruiting, selection, orientation, training, credentialing, communication, motivation, performance criteria, TQM, performance appraisal, counseling, career development, wage, salary, and benefits administration, OSHA, institutional labor relations, the National Labor Relations Act, collective bargaining, bargaining units, elections, contracts, strikes, Civil Rights Act, Affirmative Action, Fair Labor Standards Act, Employee Retirement Income Security Act, Workers Compensation Act, Unemployment Insurance, Americans with Disabilities Act and the Family

BAHA 400 Special Topics in Health Care (1-6 Units)
Analysis of current topics in health care. Topics and credits variable

BAHA 401 Management Information Systems (3 Units)
This course introduces the key concepts and methods required for effective health manpower planning, including forecasting, recruiting, training, developing, and evaluating personnel. It also covers the impact of licensing, regulation, and labor relations on health care institutions, with a focus on organizational effectiveness and productivity. Topics include human resource planning, job analysis, staffing, performance evaluation, motivation, and credentialing. Additionally, the course explores wage and benefits administration, OSHA regulations, labor relations laws, collective bargaining, and key legislation such as the Civil Rights Act, ADA, FLSA, and more. (Formerly 2750:401)

BAHA 402 Quality Management in Health Care (3 Units)
Prerequisite: Senior standing or permission . This capstone course will discuss and utilize methods used to define, implement, and monitor total quality management in health care. The doctrine of the quality assessment process and risk management will be emphasized. The course will provide an opportunity for the student to gain skills in collecting and analyzing data through a team approach. This course utilizes information that is acquired throughout the program. (Formerly 2750:402)
Gen Ed: Capstone

BAHA 403 Health Care Planning & Marketing (3 Units)
This course will focus on health care planning and marketing. It will include an overview of business analysis and application within the business of health care with a special emphasis on the development, application of plans, and their implementation in a health care institution. This course will also pay special attention to ethical and societal dimensions of marketing as it is applied in health care industries.

BAHA 410 Health Care Research (3 Units)
Prerequisites: ENGL 222 and STAT 260. Through review of research, HIM students in this class will learn how to support clinicians' data needs while research is conducted. (Formerly 2750:410)

BAHA 411 Health Care Finance (3 Units)
Prerequisites: [ACCT 200 or ACCT 201] and senior or greater standing. This course provides the student with a thorough understanding of financial analysis techniques as they are used in health care management and public health. Because clinicians work in a wide array of health care environments (retail chains, hospitals, PBMs, MCOs, etc.), this course will focus on a very general set of tools and concepts used in the management of clinical services. That is, this course focuses on those general financial analysis skills used by clinicians in managing their own practice or department within a large organization, and primarily from the perspective of clinical practice. Students will also be asked to complete a substantial amount of “hands-on” financial analysis work using real data. (Formerly 2750:411)

BAHA 412 Current Topics in HIM (3 Units)
Prerequisites: BAHA 200, BAHA 302, BAHA 303, BAHA 304, BAHA 331, BAHA 336, BAHA 402, and BAHA 411. Concepts of HIM are integrated and applied through the analysis of case studies and the completion of a capstone project. (Formerly 2750:412)

BAHA 420 HIM Capstone (4 Units)
Prerequisites: BAHA 200, BAHA 226, BAHA 302, BAHA 303, BAHA 304, BAHA 331, BAHA 336, BAHA 402, and BAHA 411. This course prepares senior HIM students for the Registered Health Information Administrator (RHIA) national certification examination. (Formerly 2750:420)

BAHA 450 Health Care Externship (1-12 Units)
Prerequisite: Permission of department. Field-oriented supervised learning activities outside the college classroom that include a preplanned assessment of the experience, registration during the term the experience is conducted, and post evaluation with the instructor. Departmental approval. (Formerly 2750:450)

BAHA 495 Senior Honors Project: Health Care Administration (1-6 Units)
Prerequisite: Admission into Honors College. University Honors Project course in Health Care Administration provides senior-level honors students the opportunity to engage in a rigorous, independent research project that integrates theoretical knowledge and practical application in the field of health care management. Under the guidance of a faculty advisor, students will identify a relevant health care issue, conduct comprehensive research, and develop a solution-oriented project that demonstrates analytical, leadership, and decision-making skills. The course emphasizes critical thinking, scholarly inquiry, and professional development, preparing students for advanced roles in health care administration or further academic pursuits. Through presentations, reports, and peer discussions, students will refine their ability to communicate complex ideas and contribute meaningfully to health care systems and policies. Successful completion of the course requires a formal presentation and/or submission of a final project report that meets university honors standards.

BAHA 602 Quality Management in Health Care (3 Units)
Prerequisite: Permission. This course will discuss and utilize methods used to define, implement, and monitor total quality management in health care. The doctrine of the quality assessment process and risk management will be emphasized. The course will provide an opportunity for the student to gain skills in collecting and analyzing data through a team approach.

BAHA 611 Health Care Finance (3 Units)
Prerequisite: Permission. This course provides the student with a thorough understanding of financial analysis techniques as they are used in health care management and public health. Because clinicians work in a wide array of health care environments (retail chains, hospitals, PBMs, MCOs, etc.), this course will focus on a very general set of tools and concepts used in the management of clinical services. That is, this course focuses on those general financial analysis skills used by clinicians in managing their own practice or department within a large organization, and primarily from the perspective of clinical practice. Students will also be asked to complete a substantial amount of hands-on financial analysis work using real data.

Medical Assisting (MEDAS)

MEDAS 135 Clinical Medical Assisting I (4 Units)
First clinical course preparing future medical assistants in medical laboratory, physical examination, vital signs, EKGs, microbiology, procedural asepsis, suture removal, basic rehabilitation, eye and ear treatments, and basic nutrition. (Formerly 2740:135)

MEDAS 200 Administrative Medical Assisting (3 Units)
Theory and practice in administrative medical assisting competencies such as legal and ethical concepts, medical front-office responsibilities, and financial administration.

MEDAS 235 Clinical Medical Assisting II (4 Units)
Prerequisite: MEDAS 135. The second medical assisting clinical course covers theory and practice of POL laboratory tests, medication administration, minor office surgery, venipuncture, emergent services, and radiography principles. (Formerly 2740:235)

MEDAS 246 Medical Assisting Practicum (4 Units)
Prerequisites: Permission of the clinical educator and the program director. The practicum work experience will allow the student to have direct practice experience. This class also prepares students for their national certification exam. The accrediting body requires a minimum of 160 hours. (Formerly 2740:246)

Phlebotomy (PHLEB)

PHLEB 200 Phlebotomy Technician Theory (2 Units)
This course for Phlebotomy Technician includes theoretical experience in phlebotomy where the student can gain the knowledge of administrative/clinical procedures. This course also will prepare the student for the national certification exam.

PHLEB 250 Phlebotomy Technician Practicum (2 Units)
This course for Phlebotomy Technician includes 40 hours of practicum experience in phlebotomy where the student can perform administrative/clinical procedures with actual patients. This course also will prepare the student for the national certification exam.

Radiologic Technology (RADT)

RADT 141 Anatomy & Positioning I (3 Units)
Prerequisite: Admission to the Radiologic Technology Program. Radiographic anatomy and positioning of skeletal systems, including introductory cross-sectional anatomy. Identification of correct and incorrect positioning including remedies. (Formerly 2760:141)

RADT 142 Anatomy & Positioning II (3 Units)
Prerequisites: Admission to the Radiologic Technology Program and RADT 141. Radiographic anatomy and positioning of various body systems in all planes, including cross-sectional anatomy. Identification of correct and incorrect positioning, including remedies. (Formerly 2760:142)

RADT 151 Methods of Patient Care I (3 Units)
Prerequisite: Admission to the Radiologic Technology Program. Covers basic radiologic patient care and professionalism issues. Includes surgical aseptic training for performing radiographic images in the operating room. (Formerly 2760:151)

RADT 152 Methods of Patient Care II (3 Units)
Prerequisite: RADT 151. Addresses patient care considerations for medical emergencies, patients receiving contrast media, alternative medical treatments. Overview of pharmacology and drug administration. (Formerly 2760:152)

RADT 161 Radiologic Physics and Principles I (3 Units)
Prerequisite: Admission to the Radiologic Technology Program. Orientation to radiologic sciences. Introduction to systems of measurement, physics, electromagnetism, and components of the x-ray tube. Also includes electricity, radiation physics, and radiation protection. (Formerly 2760:161)

RADT 162 Radiologic Physics and Principles II (3 Units)
Prerequisite: RADT 161. Discussion of radiologic factors involved in producing quality radiographs. Review of various radiographic components and their influences on photographic technique. Includes quality assurance testing. Sequential. (Formerly 2760:162)

RADT 181 Clinical I (3 Units)
Prerequisite: Admission to the Radiologic Technology Program. Hands-on application of didactic anatomy and positioning lessons in learning how to image the skeletal system. Includes mobile and surgical radiography. (Formerly 2760:181)

RADT 182 Clinical II (3 Units)
Prerequisite: RADT 181. Hands-on application of didactic anatomy and positioning lessons in learning how to image the various body systems. Includes mobile and surgical radiography. (Formerly 2760:182)

RADT 192 Radiobiology (2 Units)
Prerequisite: RADT 161. History and development of federal and state radiation standards. Identifying natural vs. artificial radiation sources. Includes applications of diagnostic imaging and therapeutic radiation modalities. (Formerly 2760:192)

RADT 252 Imaging Obstacles and Solutions (3 Units)
Prerequisite: Admission to the Radiologic Technology Program. Introduction problem solving skills, using case studies and role-playing situations. Includes comprehensive image analysis of proper technique, positioning, and the use of radiation protection principles. (Formerly 2760:252)

RADT 262 Radiologic Technology Registry Review (3 Units)
Comprehensive review prepare for the ARRT Registry examination. A global perspective on positioning, using critical thinking skills. (Formerly 2760:262)

RADT 271 Special Imaging I (3 Units)
Prerequisite: Admission to the Radiologic Technology Program. Review of anatomy and advanced radiologic procedures for the following anatomical systems: Cardiac and Circulatory System, Respiratory and Lymphatic Systems, GI System, and Skeletal Articulations. (Formerly 2760:271)

RADT 272 Special Imaging II (3 Units)
Prerequisite: RADT 271. Review of anatomy and advanced procedures for the following anatomical systems: Genitourinary System, Nervous System, Muscular System, and computer based imaging. (Formerly 2760:272)

RADT 281 Clinical III (3 Units)
Prerequisite: RADT 182. Competency level skills are refined radiographing the vertebral column, skull, facial bones, surgical and mobile Radiography, special procedures, and other infrequently seen radiologic procedures. (Formerly 2760:281)

RADT 282 Clinical IV (3 Units)
Prerequisite: RADT 281. Competency level skills are refined in all radiologic areas. (Formerly 2760:282)

RADT 291 Radiologic Pathophysiology (3 Units)
Prerequisite: RADT 142. Review of disease processes of the various body systems related to the effect pathology produces on radiographic images. Extensive discussion of optimum techniques used. (Formerly 2760:291)

RADT 292 Cross Sectional Anatomy (3 Units)
Prerequisite: RADT 271. Reorientation of anatomical structures and their relationships to axial, coronal, and sagittal planes. These structures are then identified on cadaver, CT, and MRI images. (Formerly 2760:292)

Radiology Ultrasound (RADUS)

RADUS 101 Adult Echocardiography I (4 Units)
Prerequisite: Acceptance into the Cleveland Clinic Cardiothoracic Ultrasound Program. This course provides detailed instruction of heart anatomy and physiology. It will discuss medical terminology, cardiac anatomy, ECG basics, introduction to the sonographic assessment and technical interpretation of heart disease, and the cardiac cycle. Additionally, this course discusses evaluation of right and left ventricular function, valve disease, prosthetic valve, diastology and hemodynamics.

RADUS 102 Ultrasound Physics and Instrumentation I (2 Units)
Prerequisite: Acceptance into the Cleveland Clinic Cardiothoracic Ultrasound Program. Fundamental principles of ultrasound physics including sound wave generation and propagation in tissue; factors affecting acoustical impedance and reflection. Transducer design, characteristics and construction, and principles of Doppler ultrasound will also be covered. Integration of these theories, principles, and their clinical applications will be emphasized.

RADUS 103 Clinical Externship I (4 Units)
Prerequisite: Acceptance into the Cleveland Clinic Cardiothoracic Ultrasound Program. Corequisites: RADUS 101 and RADUS 111. This practicum enables the student to learn and obtain images in a clinical setting. It provides an orientation to clinical aspects of medical imaging in a hospital environment for students without significant previous experience in clinical health care. It includes an introduction with emphasis on the basic orientation to a hospital cardiology department, its function, and its basic patient care techniques. Students will assist with routine echo lab procedures in all cardiac sonography studies and apply the skills learned in scanning lab.

RADUS 111 Adult Echocardiography Scan Lab I (4 Units)
Prerequisite: Acceptance into the Cleveland Clinic Cardiothoracic Ultrasound Program. Corequisite: RADUS 101. This course compliments the didactic instruction of AE – 101. Laboratory demonstration and student practice in scanning techniques and protocol related to the various heart structures are included. This course provides an orientation to clinical aspects of medical imaging by scanning each other and other volunteers. Under supervision, the students will become familiar with the imaging equipment controls, transducer positions relative to anatomy, and scanning techniques.

RADUS 201 Adult Echocardiography II (4 Units)
Prerequisites: RADUS 101 and Acceptance into the Cleveland Clinic Cardiothoracic Ultrasound Program. Corequisite: RADUS 211. This course is an extension of AE 101 Adult Echocardiography I, covering in depth pathophysiology of heart disease and the role of ultrasound diagnosis. Introduction of global longitudinal strain, three-dimensional imaging, transesophageal echo, structural heart disease and advanced valve disease. Course Requirements: Students must earn the minimum grade of 75% to progress to the next semester and continue the program.

RADUS 203 Clinical Externship II (3 Units)
Prerequisite: Acceptance into the Cleveland Clinic Cardiothoracic Ultrasound Program. This practicum enables the student to learn and obtain images in a clinical setting. Students will continue to assist with routine echo lab procedures in all cardiac sonography studies and apply the skills learned in scanning lab.

RADUS 211 Adult Echocardiography Scan Lab II (3 Units)
Prerequisites: RADUS 111 and Acceptance into the Cleveland Clinic Cardiothoracic Ultrasound Program. Corequisite: RADUS 201. This course compliments the didactic instruction of AE 201. Laboratory demonstration and student practice in scanning techniques and protocol related to the various heart structures are included. Under supervision, the students will be proficient with the imaging equipment controls, transducer positions relative to anatomy, and scanning techniques. This course will also involve echocardiography image review and preliminary reporting with ongoing question and answers. It is structured to increase in complexity and difficulty and the student progresses.

RADUS 301 Adult Echocardiography III (6 Units)
Prerequisite: Acceptance into the Cleveland Clinic Cardiothoracic Ultrasound Program. This course is an extension of AE 201 Adult Echocardiography II and will be a comprehensive review of material covered throughout the year. New topics such as embryology and congenital pathologies will be introduced, and complex pathophysiology and ultrasound findings.

RADUS 303 Clinical Externship III (6 Units)
Prerequisite: Acceptance into the Cleveland Clinic Cardiothoracic Ultrasound Program. This is the last of three consecutive clinical practicum courses in which the student is supervised in a clinical setting. Students will assist with routine echo lab procedures in all cardiac sonography studies. The final goal is to achieve a competency level of an entry-level cardiac sonographer upon completion of the clinical course sequence.

Respiratory Care (RESP)

RESP 100 Concepts in Respiratory Therapy (3 Units)
Prerequisite: MATH 143 or MATH 144. Introductory concepts regarding the practice and application of the theories employed in the respiratory therapy profession including career information, clinical practice guidelines, and respiratory therapist driven protocols. (Formerly 2790:100)

RESP 210 Respiratory Therapy Procedures I (4 Units)
Prerequisites: RESP 100, BAHA 120 and ([ANAT 206 and ANAT 210] or [BIOL 200 and BIOL 201]). Study and application of medical gas safety regulations, oxygen and aerosol therapy administration, and humidification devices. (Formerly 2790:210)

RESP 215 Respiratory Therapy Pharmacology (3 Units)
Prerequisites: RESP 100, CHEM 110, and CHEM 111. Detailed study of pharmacologic classes, actions, routes of administration, and physiologic effects of cardiopulmonary medications. (Formerly 2790:215)

RESP 301 Cardiopulmonary Assessment Techniques (3 Units)
Prerequisite: [ANAT 207 and ANAT 211] or [BIOL 202 and BIOL 203]. Discussion and application of overall patient assessment with concentration on cardiopulmonary systems. Overview of common illnesses and related clinical manifestations will also be discussed. (Formerly 2790:301)

RESP 302 Cardiopulmonary Anatomy and Physiology (3 Units)
Prerequisites: RESP 210 and ([ANAT 207 and ANAT 211] or [BIOL 202 and BIOL 203]). Detailed study of anatomy and physiology of the cardiopulmonary systems, including the physics of gas exchange, ventilation, and blood flow. (Formerly 2790:302)

RESP 303 Cardiopulmonary Pathology (3 Units)
Prerequisites: RESP 301 and RESP 302. Detailed study of cardiopulmonary disease processes and their relationship to the role of respiratory therapists. (Formerly 2790:303)

RESP 311 Respiratory Therapy Procedures II (4 Units)
Prerequisites: RESP 210 and ([ANAT 207 and ANAT 211] or [BIOL 202 and BIOL 203]). Study and application of lung hyperinflation therapy, bronchopulmonary hygiene, and advanced airway management procedures. (Formerly 2790:311)

RESP 312 Cardiopulmonary Diagnostics I (3 Units)
Prerequisite: RESP 210. Exploration of current cardiopulmonary diagnostic techniques including invasive monitoring, arterial blood gas interpretation, and radiographic imaging interpretation. (Formerly 2790:312)

RESP 313 Cardiopulmonary Diagnostics II (4 Units)
Prerequisites: RESP 311 and RESP 312. Detailed study and application of hemodynamic monitoring, advanced pulmonary function testing techniques, and advanced electrocardiography interpretation. (Formerly 2790:313)

RESP 320 Neonatal/Pediatrics for Respiratory Therapy (3 Units)
Prerequisite: RESP 301. Introduction to neonatal and pediatric respiratory therapy concepts. Emphasis placed on anatomy and physiology, assessment, and basic respiratory therapeutics. (Formerly 2790:320)

RESP 325 Mechanical Ventilation (4 Units)
Prerequisites: RESP 303, RESP 312, RESP 320, and RESP 341. Detailed study of invasive and non-invasive mechanical ventilation. Emphasis placed on terminology, technology, patient assessment and determination of appropriate modes, initiation of ventilation, humidification, adverse effects, and liberation. Equipment testing and troubleshooting will also be discussed and applied. (Formerly 2790:325)

RESP 340 Application of Clinical Concepts (2 Units)
Prerequisite: RESP 210. Corequisite: RESP 301. Introduction to basic respiratory therapy in a hospital setting, and hands-on practice with respiratory therapy equipment, including CPR for the professional. Clinical. (Formerly 2790:340)

RESP 341 Respiratory Therapy Clinical Experience I (3 Units)
Prerequisites: RESP 215, RESP 311, and RESP 340. Application of clinical procedures in a hospital setting, with emphasis on basic respiratory therapeutic interventions. (Formerly 2790:341)

RESP 342 Respiratory Therapy Clinical Experience II (2 Units)
Prerequisites: RESP 325 and RESP 341. Application of clinical procedures in a hospital setting, with emphasis on critical care and mechanical ventilation. (Formerly 2790:342)

RESP 413 Evolving Roles of Respiratory Therapists (3 Units)
Prerequisite: RESP 313. Detailed study of evolving roles for Respiratory Therapists including career opportunities and outlook for roles in alternative settings. (Formerly 2790:413)

RESP 420 Advanced Neonatal/Pediatrics for Respiratory Therapy (3 Units)
Prerequisite: RESP 320. Detailed study of pathophysiology and advanced respiratory therapy treatment modalities as they relate to neonatal/pediatrics. (Formerly 2790:420)

RESP 421 Advanced Critical Care (3 Units)
Prerequisites: RESP 215, RESP 303, RESP 320 and RESP 325. Detailed study of advanced mechanical ventilator modes and management strategies for critically ill adult and pediatric patients. Critical care pharmacology, trauma assessment, advanced airway management, and advanced resuscitation skills will also be discussed. (Formerly 2790:421)

RESP 430 Survey of Research in Respiratory Therapy (4 Units)
Prerequisites: RESP 313, RESP 420, and RESP 443. Capstone course. Applies the concepts from clinical research cases and surveys research in the field of respiratory therapy. Statistical analysis and literature research components are reviewed. An evaluation of insurance reimbursement is included as well as a brief synopsis on career preparedness and licensure board exam tactics. (Formerly 2790:430)

RESP 443 Respiratory Therapy Clinical Experience III (4 Units)
Prerequisite: RESP 342. Clinical rotations to a variety of healthcare facilities to practice respiratory therapy specialty procedures in various institutions. (Formerly 2790:443)

RESP 444 Respiratory Therapy Clinical Experience IV (4 Units)
Prerequisite: RESP 443. Clinical rotations to a variety of healthcare facilities to practice respiratory therapy specialty procedures in various institutions. (Formerly 2790:444)

RESP 490 Special Topics: Respiratory Therapy (3 Units)
Prerequisite: Permission. Advanced independent study on selected topics or subject areas of interest in the field of respiratory therapy. (Formerly 2790:290)