

DEPARTMENT OF CLINICAL AND DIAGNOSTIC HEALTH SCIENCES

330-941-3327

The department offers certificate, associate, baccalaureate, and master's degree programs for future clinical and diagnostic health care professionals.

Associate programs are offered in:

- Medical Laboratory Technology (MLT-AAS)
- Radiologic Technology

Baccalaureate programs are offered in:

- Dental Hygiene*
- Medical Laboratory Science*
- Respiratory Care*

Online Undergraduate Degree Programs

- Allied Health Completion Program (BSAS)
- Respiratory Care Completion Program (BSRC)
- Medical Laboratory Science Online Completion (BSMLS)

Certificate programs are offered in:

- Polysomnography
- Medical Assisting

* There is a restriction on the number of students that can be accepted into the following programs since only a limited number of students can be accommodated: Medical Laboratory Science and Medical Lab Technology, Dental Hygiene, Radiologic Technology and Respiratory Care. Detailed information on admission criteria and closing dates for applications are available in the Department of Clinical and Diagnostic Health Sciences, the Bitonte College of Health and Human Services Dean's Office, or the Admissions Office.

Important Notice

Fingerprinting, a criminal background check, record of up to date immunizations, and drug testing may be required as a condition for working with a variety of sites used by programs offered in this department. Some sites used by programs offered in the department require that a person have no felony convictions, have certain immunizations, and have passed a drug test within the past year. Students unable to meet these site requirements may not be able to complete their degree from the department. If you have questions concerning these requirements, please see an advisor in the department.

Faculty List

Chair

Joan O'Connell, Ed.D., Associate Professor, Chair

Professor

Heather O'Connell, DHA, Assistant Professor

Kelly Colwell, Ed.D., Associate Professor

Ruth Palich, M.H.H.S., Assistant Professor

Suzanne Smith, M.Ed., Associate Professor

Silvia Stefan, Ed.D., Assistant Professor

Lecturer

Dana Jordan, M.H.H.S., Lecturer

Farhana Mueez, M.H.A., Lecturer

Hiba Ismail, MHHS, Lecturer

Ida Fusillo, M.P.H., Senior Lecturer

Lisa Galich, B.S., Lecturer

Meri Surdoval-Fetkovich, M.S., Lecturer

Yvonne Dillon, M.S.-R.I.S., Lecturer

Baccalaureate Programs

- Allied Health - Completion Program (<https://catalog.ysu.edu/undergraduate/colleges-programs/college-health-human-services/department-clinical-diagnostic-health-sciences/allied-health-baccalaureate-completion-program/>)
- Dental Hygiene (<https://catalog.ysu.edu/undergraduate/colleges-programs/college-health-human-services/department-clinical-diagnostic-health-sciences/dental-hygiene/>)
- Medical Laboratory Science (<https://catalog.ysu.edu/undergraduate/colleges-programs/college-health-human-services/department-clinical-diagnostic-health-sciences/medical-laboratory-science-mls-bsas/>)
- Medical Laboratory Science, Advanced Placement Option (<https://catalog.ysu.edu/undergraduate/colleges-programs/college-health-human-services/department-clinical-diagnostic-health-sciences/medical-laboratory-science-advanced-placement-option/>)
- Respiratory Care (<https://catalog.ysu.edu/undergraduate/colleges-programs/college-health-human-services/department-clinical-diagnostic-health-sciences/bs-respiratory-care/>)
- Respiratory Care Completion Track (<https://catalog.ysu.edu/undergraduate/colleges-programs/college-health-human-services/department-clinical-diagnostic-health-sciences/bs-respiratory-care-completion-track/>)
- Respiratory Care Completion Track Advanced Placement to Grad Track (<https://catalog.ysu.edu/undergraduate/colleges-programs/college-health-human-services/department-clinical-diagnostic-health-sciences/bs-respiratory-care-completion-track-with-advanced-placement-option-master-of-respiratory-care/>)
- Respiratory Care Advanced Placement to Grad Track (<https://catalog.ysu.edu/undergraduate/colleges-programs/college-health-human-services/department-clinical-diagnostic-health-sciences/bs-respiratory-care-advanced-placement-option-to-master-of-respiratory-care/>)

Associate Programs

- Medical Laboratory Technician (MLT-AAS) (<https://catalog.ysu.edu/undergraduate/colleges-programs/college-health-human-services/department-clinical-diagnostic-health-sciences/medical-laboratory-technician-mlt-aas/>)
- Radiologic Technology (<https://catalog.ysu.edu/undergraduate/colleges-programs/college-health-human-services/department-clinical-diagnostic-health-sciences/radiologic-technology-aas/>)

Certificates

- Medical Assistant (<https://catalog.ysu.edu/undergraduate/colleges-programs/college-health-human-services/department-clinical-diagnostic-health-sciences/certificate-in-medical-assistant/>)

- Ophthalmic Clinical Assistant (<https://catalog.ysu.edu/undergraduate/colleges-programs/college-health-human-services/department-clinical-diagnostic-health-sciences/certificate-in-ophthalmic-clinical-assistant/>)
- Polysomnography (<https://catalog.ysu.edu/undergraduate/colleges-programs/college-health-human-services/department-clinical-diagnostic-health-sciences/certificate-in-polysomnography/>)

AHLT 1501 Medical Terminology 3 s.h.

This course will provide a basic understanding of the origin and components of medical terms needed to reach the goal of learning the language of health care. Included in the content will be definitions, pronunciation, spelling and proper abbreviations. Inherent in comprehending medical terminology would be the review of anatomical structures and systems involved in the functioning of the human body; as well as, diagnoses, surgeries, diagnostic tests and pharmaceutical terms needed to understand patient medical care. This is an online course.

Prereq.: None.

AHLT 1502 Applied Pathophysiology 4 s.h.

Introduction to clinical anatomy, physiology, and pathophysiology with application to acute and chronic illness.

AHLT 2605 Introduction to Pharmacology 3 s.h.

Identification and interactions of drugs used in patient care including the pharmacological action and effects on the patient. Various modes of administration and patient education regarding the effects of common drugs. This is an online course. Basic knowledge anatomy and physiology.

AHLT 3704 Quantitative Methods in Health Sciences 3 s.h.

This course is designed to provide the Health Care Professional with the ability to read and critically evaluate published research results and reports. Also, to become an educated consumer of medical/dental research and apply evidence based decision making. Critique research results to make judgments regarding the relevance, creditably and usefulness to clinical decision making. Allows for application of research results in the clinical setting.

AHLT 3711 Health Care Information Systems 3 s.h.

The course is comprehensive analysis of the concepts and applications of medical informatics. Relevant technologies and "real world" skills are presented in the field of Medical Informatics using data and medical software.

AHLT 3740 Pathology of Infectious Diseases 3 s.h.

Pathology, prevention, transmission, and treatment of infectious disease; emphasis on nosocomial, opportunistic, and emerging bacterial, fungal, parasitic, and viral organisms.

AHLT 3755 Principles of Occupational Health and Safety 3 s.h.

Contemporary concepts of occupational health and safety as they apply to health-related environments. Includes development of elements needed to implement comprehensive health and safety plans.

AHLT 4801 Special Topics 1-3 s.h.

The directed study and research of a special problem or issue related to the health field. The topic of interest allows the student to participate in the investigation of aspects of administration, education, business, or research as these pertain to the particular health specialty. May be repeated for a total of 6 semester hours.

AHLT 4804 Stress and the Health Care Professional 3 s.h.

Personal reactions of those involved in health education or the delivery of health care to patients, families, and their health environment. Indicators of stress and coping strategies, organizational systems, communication theory, conflict resolution, problem solving, and burnout.

AHLT 4805 Health Education for Allied Health 3 s.h.

University as well as hospital-based programs reviewed in regard to accreditation, clinical vs didactic instruction, use of simulations, and evaluation techniques. Public health education and the role of the Allied Health professional. A major learning unit and/or research project required.

AHLT 4806 Research Methods 3 s.h.

Measurement and interpretation of health data and their application in the research process. Research design considerations, data collection methods, and data analysis of health care research projects.

AHLT 4810 Management Skills for Health Professionals 3 s.h.

A study of the conceptual framework of supervision in Health Care Organizations with emphasis on managerial skills, formulation of policies, principles of budgeting, performance appraisals, and community relations.

AHLT 4820 Directed Research 3 s.h.

Individual study of an issue related to the health care field. Students must present research at a faculty and student forum.

Prereq.: Senior standing and AHLT 4806 or a research methods course approved by the course instructor.

Gen Ed: Capstone 2024.

AHLT 5807 Epidemiology 3 s.h.

A study of the interrelationships of the host, agent, and environment in determining the causation, frequency, and distribution of disease.

Prereq.: AHLT 3708, AHLT 5840, AHLT 4806, or permission of instructor.

AHLT 5816 Environmental Regulations 3 s.h.

Structure and function of federal, state, and local agencies responsible for implementing environmental legislation. Emphasis on the duties and authority of different health and environmental agencies and specific legislation dealing with environmental impacts.

AHLT 5831 Industrial Hygiene 3 s.h.

Basic concepts of industrial hygiene including anticipation, recognition, and evaluation of environmental and safety hazards as they pertain to the workplace.

AHLT 5840 Comparative Health Systems 3 s.h.

Problems and issues facing global health care systems including access to care, financing and rationing of services. A major project is included.

DHYG 1514L Clinical Dental Hygiene Remediation 1 s.h.

This course is designed to improve the dental hygiene student's clinical skills, and to develop the basic competencies essential for performing invasive dental hygiene procedures. The student's individual clinic deficiencies will be addressed, along with patient management and time utilization. This course may be repeated one time. Four hours of clinic per week for twelve weeks.

Prereq.: Unsatisfactory progress in clinical dental hygiene and/or recommendation of the clinic coordinator.

DHYG 2601 Dental Hygiene 1 3 s.h.

An introduction to providing dental hygiene care. Theories and principles of patient assessment, prevention of disease transmission, instrumentation, instrument sharpening, and coronal polishing. Application of risk assessment as it relates to the treatment plan through case studies.

Prereq.: Admission to the Dental Hygiene Program.

DHYG 2601L Clinical Dental Hygiene 1 2 s.h.

Preclinical dental hygiene instruction in a simulation laboratory. Introduction of basic dental hygiene procedures and equipment operation. Six hours of lab per week.

Prereq.: Admission to the Dental Hygiene Program.

DHYG 2602 Dental Hygiene 2 2 s.h.

Discussion of appropriate preventive dental agents and devices to improve various dental conditions and implementation techniques. Development of individualized patient education instruction and a tobacco cessation program as part of the dental hygiene care plan.

Prereq.: DHYG 2601.

DHYG 2602L Clinical Dental Hygiene 2 2 s.h.

Continuation of pre-clinical dental hygiene instruction in the clinical setting. Includes comprehensive patient care planning and implementation techniques. Twelve hours of lab per week.

Prereq.: DHYG 2601L.

DHYG 2620 Head and Neck Anatomy 2 s.h.

A study of the anatomy of the head and neck, oral structures and tooth morphology.

Prereq.: Admission to the Dental Hygiene program.

DHYG 2620L Head and Neck Anatomy Lab 1 s.h.

Applied study of the anatomy of the head and neck, oral structures and tooth morphology. Three hours of lab per week.

Prereq.: Admission to the Dental Hygiene program.

DHYG 2630 Management of Medical/Dental Emergencies 2 s.h.

Instruction in the prevention, recognition, and management of medical emergencies in the dental office. Emphasis on case studies to develop critical thinking and decision-making skills in patient management.

Prereq.: Admission to the Dental Hygiene Program.

DHYG 2640 Oral Histology 2 s.h.

A study of the tissues of the human body and embryological development.

Prereq.: DHYG 2620.

DHYG 3703 Dental Hygiene 3 3 s.h.

Advanced dental hygiene instrumentation and techniques. Patient cases, problem identification, and strategies. Fundamentals of sonic and ultrasonic instrumentation.

Prereq.: DHYG 2602.

DHYG 3703L Clinical Dental Hygiene 3 3 s.h.

Clinic application of dental hygiene techniques on student partners and clinic patients. Emphasis on applied preventive measures and patient education. Eight hours of clinic per week.

Prereq.: C or better in DHYG 2602L or permission of the Program Administrator.

DHYG 3704 Dental Hygiene 4 3 s.h.

Concepts of nutrition science as they relate to the evaluation and education of dental hygiene patients with emphasis on caries risk assessment.

Prereq.: DHYG 3703.

DHYG 3704L Clinical Dental Hygiene 4 3 s.h.

Emphasis on the interpretation of patient assessment and evidence based research to evaluate patients' oral health and to develop effective treatment plans. Eight hours of clinic per week.

Prereq.: C or better in DHYG 3703L or permission of the Program Administrator.

DHYG 3750 Oral Pathology 2 s.h.

The cause and nature of disease, together with anatomical, histological and functional changes. Observation and evaluation of the patients' systemic and oral health status as it relates to treatment planning. Special emphasis is given to oral pathology and case studies.

Prereq.: DHYG 2640.

DHYG 3760 Dental Radiology 3 s.h.

History and development of radiographs, radiographic theory and techniques, hazardous effects of radiation, and methods of protection. Emphasis on interpretation of normal anatomic structures and pathologic entities; and the use of diagnosis in prevention of dental and related diseases.

Prereq.: DHYG 2602L.

DHYG 3760L Dental Radiology Lab 1 s.h.

The techniques necessary to expose and mount dental images with emphasis in radiographic interpretation. Three hours of lab per week.

Prereq.: C or better in DHYG 2602L.

DHYG 3770 Periodontology 3 s.h.

The study of prevention, diagnosis, and treatment of diseases affecting the gingival and supporting structures of the teeth, as well as implant placement and maintenance. Emphasis is on acquisition of knowledge of the histopathology of disease and the biologic basis for periodontal therapy.

Prereq.: DHYG 2640.

DHYG 3780 Pharmacology 3 s.h.

Importance of pharmacological aspects of those drugs and drug groups with which the dentist and dental hygienist are directly and indirectly concerned. Application of pharmacology in treatment planning.

Prereq.: DHYG 2630.

DHYG 3790 Local Anesthesia and Pain Control for Dental Hygienists 2 s.h.

Instruction in the anatomy, physiology, pharmacology, and administration of local anesthesia and other pain control methods.

Prereq.: DHYG 3703L or permission of the Program Director.

DHYG 3790L Local Anesthesia and Pain Control Clinic 1 s.h.

Application of the techniques of local anesthetic administration and pain control on anatomical models and clinical partners. Three hours of clinic per week.

Prereq.: DHYG 3703L or permission of the Program Director.

DHYG 4805 Dental Hygiene 5 3 s.h.

The role of the dental hygienist in providing care for special needs patients by recognizing the necessary treatment plan modifications due to physical, mental, medical, and social factors.

Prereq.: DHYG 3704.

DHYG 4805L Clinical Dental Hygiene 5 4 s.h.

Advanced clinical application of dental hygiene techniques with emphasis on patient management and radiographic assessment resulting in an individualized and comprehensive treatment plan for periodontal patients. Twelve hours of clinic per week.

Prereq.: DHYG 3704L.

DHYG 4806 Dental Hygiene 6 2 s.h.

A study of dental specialties enhancing students' knowledge, and understanding. Indications for referral, specialized instruments, diagnostic tests, and specific oral hygiene instructions will be discussed.

Prereq.: DHYG 4805.

DHYG 4806L Clinical Dental Hygiene 6 4 s.h.

Continued application of dental hygiene techniques with emphasis on professionalism and competency in private practice. Twelve hours of clinic per week.

Prereq.: DHYG 4805L.

DHYG 4830 Dental Materials 1 s.h.

The sources, physical properties, methods of manufacturing, and uses of various dental materials. Emphasis on the newest products, and interpretation of research supporting product effectiveness.

Prereq.: DHYG 3704L.

DHYG 4830L Dental Materials Lab 1 s.h.

Clinical application of selected dental materials and four-handed dentistry enhancing the students' understanding of dental procedures. Technical procedures and delegated responsibilities will be completed on manikins, and student partners. Three hours of lab per week.

Prereq.: DHYG 3704L.

DHYG 4840 Directed Dental Hygiene Research 3 s.h.

Development of research skills including problem identification, development of a hypothesis, research design, data collection, analysis, and interpretation. Approved dental hygiene topics will be completed as a group under faculty supervision.

Prereq.: AHLT 4806.

Gen Ed: Capstone 2024.

DHYG 4845 Expanded Functions for the Dental Hygienist 3 s.h.

Review of tooth morphology, properties and manipulation of dental restorative material, and techniques and procedures for restoring teeth with amalgam and tooth colored direct restorations. Concepts of four-handed dentistry and knowledge to perform as an Expanded Functions Dental Auxiliary (EFDA).

Prereq.: DHYG 2620, DHYG 2620L and junior standing or consent of instructor.

DHYG 4845L Expanded Functions for the Dental Hygienist Lab 1 s.h.

Laboratory application of restorative techniques utilizing the principles and skills of restorative four-handed dentistry. Preparation of the dental hygiene student to perform the duties of an expanded function dental auxiliary. Three hours of lab per week.

Prereq.: DHYG 2620, DHYG 2620L and junior standing or consent of instructor.

Coreq.: DHYG 4845.

DHYG 4850 Dental Public Health 2 s.h.

An introduction to public health dentistry, a study of the epidemiology of dental disease, writing grant proposals, and implementation of health promotion theories. Preventing and controlling dental disease through organized community efforts is addressed.

Prereq.: DHYG 4805.

DHYG 4850C CE Dental Public Health 2 s.h.

An introduction to public health dentistry, a study of the epidemiology of dental disease, writing grant proposals, and implementation of health promotion theories. Preventing and controlling dental disease through organized community efforts is addressed.

Prereq.: DHYG 4805.

DHYG 4850L Community Clinicals 1 s.h.

Oral health care services provided by senior dental hygiene students at community sites. Culturally competent care to underserved populations is the primary course emphasis. Forty-five hours of community clinical experience throughout the semester.

Prereq.: DHYG 4805L.

DHYG 4855L Expanded Functions Clinical 2 s.h.

Clinical implementation of expanded functions dental auxiliary skills gained in DHYG 4845L. Planned, evaluated and supervised clinical experience. Ninety hours of clinical experience throughout the semester.

Prereq.: DHYG 2620, DHYG 2620L, and DHYG 4845L or consent of instructor.

DHYG 4860 Ethics and Practice Concepts 2 s.h.

The historical, professional, legal, and ethical aspects of dental hygiene. Study of practice management topics relevant to the changing roles of hygienists with emphasis on quality care in a patient centered practice.

Prereq.: DHYG 4805.

MATC 1502 Medical Law and Ethics 3 s.h.

Types of medical practices. Legal relationship of physician to patient, i.e., professional liability, implied and informed consent, malpractice, invasion of privacy. Emphasis on professional attitude and behavior.

MATC 2600 Medical Insurance Forms 2 s.h.

A study of private group and government insurance programs; Medicare, Medicaid, Worker's Compensation and Disability Insurance and the completion of required forms.

MATC 2610 Introduction to Disease Processes 3 s.h.

Introduction to the disease process including diagnostic symptoms and treatment aspects. Emphasis on the physical, psychological, and environmental conditions which influence the individual's well being.

MATC 2611L Clinical Procedures Lab 1 s.h.

Techniques of patient interviewing and history taking, performance of patient assessment, application of principles of body mechanics, and instructions for examinations and diagnostic procedures. Three hours lab.

MATC 2614 Medical Office Procedures 3 s.h.

Fundamentals in patient reception, appointment scheduling, communication techniques, office management systems and preparation of an office policy manual. Three hours lecture, six hours assigned practicum per week.

MATC 2620 Advanced Clinical Procedures 3 s.h.

Orientation to minor surgical and specialized examination techniques, physical examinations, preparation and administration of medication, performing electrocardiograms, application of physical therapy, and x-ray techniques including maintaining medical supplies and inventory.

Coreq.: MATC 2620L.

MATC 2620L Advanced Clinical Procedures Lab 1 s.h.

Laboratory experiences in minor surgical and specialized examination techniques, preparation and administration of medication, electrocardiograms, physical therapy, and x-ray procedure. Concurrent with: MATC 2620. Three hours of lab per week.

Coreq.: MATC 2620.

MATC 2680 Medical Laboratory Procedures 1 s.h.

An introduction to diagnostic laboratory procedures performed in the physician's office. Principles and techniques of laboratory procedures.

Coreq.: MATC 2680L.

MATC 2680L Medical Laboratory Procedures Lab 1 s.h.

Practice in diagnostic laboratory procedures. Emphasis on collection, proper handling, and identification of specimens. Basic hematologic procedures, urinalysis, bacteriological exams, serology, and pregnancy tests. Concurrent with: MATC 2680. Three hours of lab per week.

Coreq.: MATC 2680.

MATC 2692 Medical Assisting Externship 3 s.h.

A practical experience in the offices of qualified physicians, accredited hospitals, and/or clinics. This is a non-paid experience. 20 hours per week for a total of 300 hours per semester at the site. One-hour weekly seminar.

MLS 1501 Introduction to the Medical Laboratory Profession 2 s.h.

Overview of the medical laboratory profession, ethics, responsibilities and clinical relevance of laboratory procedures. Concurrent with: MLS 1501L.

Prereq.: MATH 1504 or level 20 on Math Placement Test, high school chemistry or CHEM 1501, high school biology or BIOL 1505.

MLS 1501L Introduction to the Medical Laboratory Profession Laboratory 1 s.h.

Phlebotomy, specimen collection and processing; basic medical laboratory exercises. Three hours lab per week. Concurrent with: MLS 1501.

Prereq.: MATH 1504 or level 20 on Math Placement Test, high school chemistry or CHEM 1501, high school biology or BIOL 1505.

MLS 1502 Urinalysis and Body Fluids 2 s.h.

MLS 1502L Urinalysis and Body Fluid Laboratory 1 s.h.
Chemical and microscopic analysis of urine and body fluids.

Prereq.: MLS 1501 and MLS 1501L.

Cross-Listed: MLT 1502L.

MLS 1503 Immunohematology 3 s.h.

Fundamental theories and techniques in immunohematology and blood banking.

Prereq.: MLS 1501 and MLS 1501L and BIOL 2601 and BIOL 2601L.

Coreq.: MLS 1503L.

Cross-Listed: MLT 1503.

MLS 1503L Immunohematology Laboratory 1 s.h.

ABO and RH typing, direct and indirect antiglobulin testing, compatibility testing. Three hours lab per week.

Prereq.: MLS 1501 and MLS 1501L, BIOL 2601 and BIOL 2601L.

Coreq.: MLS 1503.

Cross-Listed: MLT 1503L.

MLS 2601 Clinical Chemistry 1 2 s.h.

This course provides an introduction to the principles, procedures, and significance of tests performed in the clinical chemistry laboratory. Theory and principles of test methodologies are discussed and data are correlated to physiological processes.

Prereq.: C or better in MLS 1501 and MLS 1501L.

Coreq.: MLS 2601L.

Cross-Listed: MLT 2601.

MLS 2601L Clinical Chemistry 1 Laboratory 1 s.h.

Application of the procedures and techniques utilized in the clinical chemistry laboratory. 3 hours of lab per week.

Prereq.: C or better in MLS 1501 and MLS 1501L.

Coreq.: MLS 2601.

Cross-Listed: MLT 2601L.

MLS 2603L Advanced Immunohematology Laboratory 1 s.h.

Clinical application of advanced Immunohematology procedures. Three hours of laboratory per week.

Prereq.: "C" or better in MLS 1503 and MLS 1503L.

Cross-Listed: MLT 2603L.

MLS 2605 Molecular Diagnostics 2 s.h.

This course focuses on the newest medical laboratory discipline known as molecular diagnostics. The content will include principles of molecular biology (nucleic acid) tools and their application to aid in identification, diagnosis, and prognosis of conditions and disease states.

Prereq. or Coreq.: BIOL 2601 and BIOL 2601L, MLS 1501 and MLS 1501L or MLT 1501 and MLT 1501L.

Cross-Listed: MLT 2605.

MLS 3700 Clinical Chemistry 2 4 s.h.

This course will explore the principles and procedures of routine clinical chemistry analysis, including correlation of test results with pathophysiology, testing criteria and variables that impact accuracy.

Prereq.: MLS 2601 and MLS 2601L.

MLS 3701 Clinical Hematology 1 2 s.h.

Hematopoiesis; theory and laboratory application of manual procedures in hematology including cell counts, hemoglobin, hematocrit, and differentials; introductory hemostasis and laboratory applications. Two hours of lecture per week.

Prereq.: MLS 1501, MLS 1501L, BIOL 2601 with a minimal grade of "C".

MLS 3701L Clinical Hematology 1 Laboratory 1 s.h.

Laboratory application of manual procedures in hematology including cell counts, hemoglobin, hematocrit, and differentials; introductory hemostasis and laboratory applications. Three hours of laboratory per week.

Prereq.: MLS 1501, MLS 1501L, BIOL 2601 with a minimal grade of "C".

Coreq.: MLS 3701.

MLS 3702 Clinical Hematology 2 2 s.h.

Advanced theory and laboratory procedures in hematology and hemostasis, including leukemia, anemia, hematopathology and coagulation disorders; abnormal differentials and automated methods. Two hours of lecture week.

Prereq.: MLS 3701, MLS 3701L with a minimal grade of "C".

MLS 3702L Clinical Hematology 2 Laboratory 1 s.h.

Laboratory procedures in hematology and hemostasis, including leukemia, anemia, hematopathology and coagulation disorders; abnormal differentials and automated methods. Three hours of laboratory per week.

Prereq.: MLS 3701, MLS 3701L with a minimal grade of "C".

Coreq.: MLS 3702.

MLS 3704 Clinical Immunology and Serology 3 s.h.

A study of the diagnostic applications of immunology and methods of serological testing. The immunology and diagnosis of infectious disease, autoimmunity, immunodeficiency, and immunoproliferative disease will be discussed.

Coreq.: MLS 3704L.

Cross-Listed: MLT 3704.

MLS 3704L Clinical Immunology and Serology 1 s.h.

A study of the diagnostic applications of immunology and methods of serological testing. The immunology and diagnosis of infectious disease, autoimmunity, immunodeficiency, and immunoproliferative disease will be discussed.

Coreq.: MLS 3704.

Cross-Listed: MLT 3704L.

MLS 3708 MLS Special Topics 1-3 s.h.

This course is designed to present a review in some of the disciplines of Clinical Laboratory Science and to help students organize their notes and manuals for the certification examination. You will participate in various computer assignments, self-evaluations, take home tests and conventional examinations Course credit: Variable 1-3. Enrolled in the Medical Laboratory Science Program and permission of instructor .

MLS 3787 Diagnostic Microbiology 3 s.h.

Clinical applications of human pathogenic microorganisms; infections, frequency, isolation, identification, and treatment of bacteria, fungi, viruses, and parasites. Case studies, problem solving, and quality assurance in clinical microbiology. Three hours lecture per week.

Prereq.: MLS 1501 and MLS 1501L.

Coreq.: MLS 3787L.

MLS 3787L Diagnostic Microbiology Laboratory 2 s.h.

A clinical approach to the study of bacteria, fungi, viruses, and parasites. Methods to isolate and identify clinically significant pathogens from clinical specimens; case studies in clinical microbiology. Six hours lab per week. Identical with MLT 3787L.

Prereq.: MLS 1501/L .

Coreq.: MLS 3787.

MLS 4800 MLS Chemistry Clinical Experience 7 s.h.

Didactics and critical analysis of clinical chemistry provided at the clinical site. 7 semester hours. Grading is Traditional or PR.

Prereq.: Acceptance into an MLS 3+1 clinical internship .

MLS 4801 MLS Hematology Clinical Experience 7 s.h.

Diacritics and clinical analysis of clinical hematology. 7 semester hours. Grading is Traditional or PR.

Prereq.: Acceptance into the 3+1 clinical internship year.

MLS 4802 MLS Immunohematology Clinical Experience 7 s.h.

Didactics and critical analysis of blood banking, Immunohematology, and Transfusion Medicine. Seven semester hours. Grading is Traditional or PR.

Prereq.: Acceptance into a 3+1 clinical internship.

MLS 4803 MLS Microbiology Clinical Experience 7 s.h.

Didactics and critical analysis of bacteriology, mycology, virology and Parasitology. Seven semester hours. Grading is Traditional or PR.

Prereq.: Acceptance into an MLS 3+1 clinical internship year.

MLS 4804 Miscellaneous Clinical Experience 7 s.h.

Didactic and clinical analysis of specimen collection and processing. Management, education, molecular diagnostics. hemostasis, clinical immunology, and urinalysis and body fluids. Seven semester hours. Grading is Traditional or PR.

Prereq.: Acceptance into an MLS 3+1 clinical internship year.

MLS 4807 Advanced Clinical Chemistry 4 s.h.

The study of fundamental principles of chemical analysis in the laboratory and correlation to pathological disease states. Web based lecture .

Prereq.: Acceptance into the MLS Advanced placement online completion program .

MLS 4807L Advanced Clinical Chemistry Lab Competency 2 s.h.

Laboratory procedures in clinical chemistry. Students may submit verified competency and receive experiential credit. Students who do not meet required competency must register for and engage in clinical training at an affiliated clinical site. Acceptance into the MLS Advanced Placement online completion program.

MLS 4808 Advanced Hematology 4 s.h.

Advanced study of human blood and laboratory analysis and correlation to hematological and hematopoietic disorders. Web based lecture.

Prereq.: Acceptance into the MLS Advanced Placement Online Completion Program.

MLS 4808L Advanced Hematology Clinical Competency 2 s.h.

Laboratory application of hematological and hematopoietic analysis. Admission to the MLS Advanced Placement Online Completion Program.

MLS 4809 Advanced Immunohematology 4 s.h.

Didactic and critical analysis of bloodbanking, immunohematology, and transfusion medicine. Web based lecture.

Prereq.: Admission to the MLS Advanced Placement Online Completion Program .

MLS 4809L Advanced Immunohematology Clinical Competency 2 s.h.

Clinical application of IH procedures in the laboratory. Admission to the MLS Advanced Placement Online Completion Program .

MLS 4810 Advanced Diagnostic Microbiology 4 s.h.

Didactics and critical analysis of host/Microbial interaction and laboratory identification of medically significant bacteria, fungi, parasites, and viruses. Correlation to disease states and analysis of laboratory techniques utilized in the diagnosis of infections and disease. Web based lecture.

Prereq.: Admission to the MLS Advanced Placement Online Completion Program .

MLS 4810L Advanced Microbiology Competency 3 s.h.

Clinical competency in Microbiological procedures utilized in the Medical Laboratory. Admission to the MLS Advanced Placement Online Completion Program.

MLS 4811 Advanced Immunology and Urinalysis 4 s.h.

Didactics and Critical analysis of Immunological and Serological principles and analysis in the clinical laboratory and correlation to disease states. Web based lecture.

Prereq.: Admission to the MLS Advanced Placement Online Completion Program.

MLS 4811L Adv Immuno/Sero, Urinalysis, and Molecular Competency 2 s.h.

Competent application of Immunological and Serological techniques utilized in the medical laboratory. Competent application of techniques in Urinalysis and Molecular Diagnostics. Admission to the MLS Advanced Placement Online Completion Program.

MLS 4812 Advanced Laboratory Operations 2 s.h.

Didactics and critical analysis of laboratory management, regulations, safety, quality control and quality assurance in the clinical laboratory. Web based lecture.

Prereq.: Acceptance in MLS Advanced Placement Online Completion Program.

MLS 4813 Advanced Placement Seminar 1 s.h.

Certification preparation.

Prereq.: Admission to MLS advanced placement program and instructor approval.

MLT 1501 Introduction to the Medical Laboratory Profession 2 s.h.

Overview of the medical laboratory profession, ethics, responsibilities and clinical relevance of laboratory procedures.

Prereq.: Level 20 on Math Placement Test, high school chemistry or CHEM 1501, high school biology or BIOL 1505.

Coreq.: MLT 1501L.

MLT 1501L Introduction to the Medical Laboratory Profession Laboratory 1 s.h.

Phlebotomy, specimen collection and processing; basic medical laboratory exercises. Three hours lab per week. Concurrent with: MLT 1501.

Prereq.: MATH 1504 or level 20 on Math Placement Test, high school chemistry or CHEM 1501, high school biology or BIOL 1505.

MLT 1502 Urinalysis and Body Fluids 2 s.h.

Theory and techniques in the analysis of urine and body fluids. Concurrent with: MLT 1502L.

Prereq.: MLT 1501, MLT 1501L, BIOL 2601.

MLT 1502L Urinalysis and Body Fluids Laboratory 1 s.h.

Chemical and microscopic analysis of urine. Concurrent with: MLT 1502. Three hours lab per week.

Prereq.: MLT 1501, MLT 1501L, BIOL 2601.

MLT 1503 Immunohematology 3 s.h.

Fundamental theories and techniques of immunohematology and blood banking; genetic theories, problem solving, and case studies. Three hours of lecture per week.

Prereq.: MLT 1501.

Prereq. or Coreq.: BIOL 2601.

Coreq.: MLT 1503L.

Cross-Listed: MLS 1503.

MLT 1503L Immunohematology Laboratory 1 s.h.

ABO and RH typing, direct and indirect antiglobulin testing, compatibility testing. Three hours lab per week. 1 s.h.

Prereq.: MLT 1501, MLT 1501L, BIOL 2601.

Coreq.: MLT 1503.

Cross-Listed: MLS 1503L.

MLT 2601 Clinical Chemistry 1 2 s.h.

This course provides an introduction to the principles, procedures, and significance of tests performed in the clinical chemistry laboratory. Theory and principles of test methodologies are discussed and data are correlated to physiological processes.

Prereq.: C or better in MLT 1501 and MLT 1501L.

Coreq.: MLT 2601L.

Cross-Listed: MLS 2601.

MLT 2601L Clinical Chemistry 1 Laboratory 1 s.h.

Application of the procedures and techniques utilized in the clinical chemistry laboratory. 3 hours of lab per week.

Prereq.: C or better in MLT 1501 and MLT 1501L.

Coreq.: MLT 2601.

MLT 2603L Advanced Immunohematology Laboratory 1 s.h.

Application of advanced theories in Immunohematology. Three hours of laboratory per week.

Prereq.: MLT 1502 and 1502L with a "C" or better.

Cross-Listed: MLS 2603L.

MLT 2605 Molecular Diagnostics 2 s.h.

This course focuses on the newest medical laboratory discipline known as molecular diagnostics. The content will include principles of molecular biology (nucleic acid) tools and their application to aid in identification, diagnosis, and prognosis of conditions and disease states.

Prereq.: BIOL 2601, BIOL 2601L.

Cross-Listed: MLS 2605.

MLT 3700 Clinical Chemistry 2 4 s.h.

This course will explore the principles and procedures of routine clinical chemistry analysis, including correlation of test results with pathophysiology, testing criteria and variables that impact accuracy. Cross-Listed: MLS 3700.

MLT 3701 Clinical Hematology 1 2 s.h.

Hematopoiesis; theory and laboratory application of manual procedures in hematology including cell counts, hemoglobin, hematocrit, and differentials; introductory hemostasis and laboratory applications. Two hours of lecture per week.

Prereq.: MLT 1501, MLT 1501L, BIOL 2601 with a minimal grade of "C".

MLT 3701L Clinical Hematology 1 Laboratory 1 s.h.

Laboratory application of manual procedures in hematology including cell counts, hemoglobin, hematocrit, and differentials; introductory hemostasis and laboratory applications. Three hours of laboratory per week.

Prereq.: MLT 1501, MLT 1501L, BIOL 2601 with a minimal grade of "C".

Coreq.: MLT 3701.

MLT 3702 Clinical Hematology 2 2 s.h.

Advanced theory and laboratory procedures in hematology and hemostasis, including leukemia, anemia, hematopathology and coagulation disorders; abnormal differentials and automated methods. Two hours of lecture week.

Prereq.: MLT 3701, MLT 3701L with a minimal grade of "C".

MLT 3702L Clinical Hematology 2 Laboratory 1 s.h.

Laboratory procedures in hematology and hemostasis, including leukemia, anemia, hematopathology and coagulation disorders; abnormal differentials and automated methods. Three hours of laboratory per week.

Prereq.: MLT 3701, MLT 3701L with a minimal grade of "C".

Coreq.: MLT 3702.

MLT 3704 Clinical Immunology and Serology 3 s.h.

A study of the diagnostic applications of immunology and methods of serological testing. The immunology and diagnosis of infectious disease, autoimmunity, immunodeficiency, and immunoproliferative disease will be discussed.

Coreq.: MLT 3704L.

Cross-Listed: MLS 3704.

MLT 3704L Clinical Immunology/Serology Laboratory 1 s.h.

The immunology and diagnosis of infectious disease, autoimmunity, immunodeficiency, and immunoproliferative disease will be discussed. 2 hours of lab per week.

Coreq.: MLT 3704.

Cross-Listed: MLS 3704L.

MLT 3706 Medical Laboratory Seminar 3 s.h.

Internship evaluation, special topics in the clinical laboratory. Case studies and interpretation of laboratory results.

Prereq.: Acceptance into 3716 or instructor permission.

Coreq.: MLT 3716.

MLT 3716 Clinical Internship 6 s.h.

Students will be placed at clinical sites for 40 hours per week for 7 weeks during the semester.

Prereq.: Permission of instructor.

Coreq.: MLT 3706 and MLT 3717.

MLT 3717 Clinical Microbiology Interpretation 1 s.h.

A study of the diagnostic procedures and interpretation of microbiological cultures relevant to the clinical laboratory.

Prereq.: Instructor Permission.

Coreq.: MLT 3716 and MLT 3706.

MLT 3787 Diagnostic Microbiology 3 s.h.

Clinical applications of human pathogenic microorganisms; infections, frequency, isolation, identification, and treatment of bacteria, fungi, viruses, and parasites. Case studies, problem solving, and quality assurance in clinical microbiology. Three hours lecture per week.

Prereq.: MLT 1501, MLT 1501L.

Coreq.: MLT 3787L.

MLT 3787L Diagnostic Microbiology Laboratory 2 s.h.

A clinical approach to the study of bacteria, fungi, viruses, and parasites. Methods to isolate and identify clinically significant pathogens from clinical specimens; case studies in clinical microbiology. Six hours lab per week. Identical with BIOL 3787L, MLS 3787L.

Prereq.: MLT 1501 and MLT 1501L.

Coreq.: MLT 3787.

RESC 1503 Respiratory Procedures 1 3 s.h.

Appropriate use of selected respiratory care procedures. Three hours lecture.

Coreq.: RESC 1503L.

RESC 1503L Respiratory Procedures 1 Lab 1 s.h.

Appropriate use of selected respiratory care procedures. Three hours lab.

Coreq.: RESC 1503.

RESC 1520 Respiratory Care Assessment 1 2 s.h.

Diagnostic techniques used in evaluating patients with cardiopulmonary disorders. Two hour lecture.

Coreq.: RESC 1520L.

RESC 1520L Respiratory Assessment 1 Lab 1 s.h.

Diagnostic techniques used in evaluating patients with cardiopulmonary disorders. Two hour lab.

Coreq.: RESC 1520.

RESC 1530 Foundations of Respiratory Care 3 s.h.

Review of the professional scope of practice for a respiratory therapist including key organizational roles within the profession. Basic application of scientific gas laws and theories will be examined along with basic description and function of oxygen delivery equipment related to respiratory care. Includes applied anatomy and physiology of the respiratory system and basic patient assessment. 3 hour lecture.

RESC 2620 Respiratory Assessment 2 2 s.h.

Advanced techniques in the assessment of cardiopulmonary disorders. Two hours lecture.

Coreq.: RESC 2620L.

RESC 2620L Respiratory Assessment 2 Lab 1 s.h.

Advanced techniques in the assessment of cardiopulmonary disorders, Two hours lab.

Coreq.: RESC 2620.

RESC 2621 Cardiopulmonary Disease 3 s.h.

Comprehensive overview of cardiopulmonary disorders encountered by respiratory therapists. Includes applications to clinical protocols and evidence based practices.

RESC 2699 Clinical Practice 1 1 s.h.

Orientation to hospital and department policies, including exposure to and practice with basic respiratory care procedures. Five hours a week in clinics.

Prereq.: RESC 2621.

RESC 3706 Respiratory Procedures 2 2 s.h.

Airway management techniques and other critical care procedures. Two hours lecture.

Prereq.: acceptance into the respiratory care program.

Coreq.: RESC 3706L.

RESC 3706L Respiratory Procedures 2 Lab 1 s.h.

Airway management techniques and other critical care procedures. Three hours lab.

Prereq.: Acceptance into the respiratory therapy program.

Coreq.: RESC 3706.

RESC 3708 Respiratory Clinical Specialties 3 s.h.

Fundamentals of hemo-dynamic monitoring, management of burn patients, and assessment of neuro-trauma. Three hours lecture.

Prereq.: RESC 3706.

RESC 3709 Neonatal/Pediatric Respiratory Care 3 s.h.

Respiratory care applications in neonatal/pediatric settings. Three hours lecture.

Prereq.: Acceptance into the Respiratory Care Program.

Coreq.: RESC 3709L.

RESC 3709L Neonatal/Pediatric Respiratory Care Lab 1 s.h.

Respiratory care applications in neonatal/pediatric settings. Three hours lab.

Prereq.: Acceptance into the Respiratory Care program.

Coreq.: RESC 3709.

RESC 3710 Respiratory Care Pharmacology 3 s.h.

This course will review the therapeutic effects, side effects, indications and contraindications along with dosages, drug delivery routes as well as standard and modified delivery absorption methods of pulmonary related pharmacological agents and medications for aspects of pulmonary related medicine. 3 hour lecture.

Prereq.: none.

RESC 3720 Mechanical Ventilation 1 2 s.h.

Basic theory and application of mechanical ventilation in critical care areas. Two hours lecture.

Prereq.: Acceptance into the respiratory care program.

Coreq.: RESC 3720L.

RESC 3720L Mechanical Ventilation 1 Lab 1 s.h.

Basic theory and application of mechanical ventilation in critical care areas. Three hours lab.

Prereq.: Acceptance into the Respiratory Care Program.

Coreq.: RESC 3720.

RESC 3725 Mechanical Ventilation 2 2 s.h.

Advanced theory and application of mechanical ventilation. Includes home care ventilators. Two hours lecture to be taken concurrently with RESC 3720L.

Prereq.: RESC 3720.

RESC 3725L Mechanical Ventilation 2 Lab 1 s.h.

Advanced theory and application of mechanical ventilation. Includes home care ventilators. Three hours lab.

Prereq.: RESC 3720.

Coreq.: RESC 3725.

RESC 3740 Clinical Practice 2 3 s.h.

Application of basic and advanced respiratory care modalities in the clinical hospital setting.

Prereq.: RESC 2699.

RESC 3741 Clinical Practice 3 3 s.h.

Application of basic and advanced respiratory care modalities for pediatric and adult patients. Twenty hours a week.

Prereq.: RESC 3740.

RESC 3765 Advanced Respiratory Care Diagnostics 3 s.h.

The study of the fundamentals of advanced respiratory care diagnostics. Three hour lecture.

Prereq.: none.

RESC 4801 Special Topics in Respiratory Care 1-3 s.h.

Focused research of a special problem/issue related to respiratory care. The topic of interest allows the student to participate in focused investigation of aspects of administration, clinical specialization, or research. May be repeated up to a total of 3 s.h.

Prereq.: none.

RESC 4813 Adult Cardiac and Pediatric Advanced Life Support 3 s.h.

This course is designed for healthcare providers who will participate in the management of cardio pulmonary resuscitation and will focus on advanced cardiopulmonary resuscitation modalities and hands on procedures for the adult and pediatric patient populations. Cardiovascular pharmacology, advanced airway management, vascular access, and resuscitation techniques used in the management of adult and pediatric cardiac emergencies will be explored. Successful completion of the course will result in AHA, ACLS and AHA PALS certifications. 3hour lecture.

Prereq.: Students need basic cardiac life support certification to take this course.

RESC 4831 Pulmonary Care Management 3 s.h.

Pathology as it relates to care of patients with pulmonary-related disorders.

Prereq.: RESC 3725.

RESC 4835 Clinical Practice 4 3 s.h.

Application of advanced respiratory modalities and diagnostics for pediatric and adult patients. Capstone course for RC program. Fifteen hours a week.

Prereq.: RESC 3741.

RESC 4838 Respiratory Seminar 1 1 s.h.

Review of current aspects of clinical respiratory care. A content analysis of the updated NBRC Entry-Level exam will be included.

Prereq.: None.

RESC 4842 Respiratory Seminar 2 1 s.h.

Review of current aspects of clinical respiratory care. A content analysis of the updated NBRC Advanced Practitioner exam will be included.

Prereq.: RESC 4838.

RESC 4846 Sleep Diagnostics 1 3 s.h.

This course will explore Scientific theory and clinical techniques needed to perform polysomnography. The course is asynchronous web based.

RESC 4848 Sleep Diagnostics 2 3 s.h.

This course will explore theory, clinical techniques and interpretation of testing results related to polysomnography. The course is delivered asynchronous web-based.

RESC 4867 Fundamentals of Leader Development 3 s.h.

This course will form the necessary core of self-awareness in relation to leader development. Through introducing concepts and examples of leadership and awareness of how one leads as an expression of self, RCPs will enhance leadership awareness and personal expression within their discipline.

RESC 4870 Advanced Cardiopulmonary Case Management 3 s.h.

This course is designed to strengthen the student's knowledge of C-P disorders by incorporating evidence-based practices into C-P case management. The student will learn to apply these strategies in acute care, transitional and long-term care settings. Current protocols will also be discussed.

Prereq.: none.

RESC 5820 The Respiratory Care Profession 3 s.h.

Study of origins, current role, and future directions of respiratory care profession within the framework of the current health care environment. Examination of professional resources is also included.

Prereq.: None.

RESC 5860 Technology Applications for Health and Human Services 3 s.h.

Exploration of technology applications for education, presentations, communications and management in Health and Human Service disciplines. Creation of digital media such as audio and/or video files, spreadsheet macros, e-portfolios and Web-based applications of various technologies will be required. Application of technology to education, supervision or management will be evaluated through completion of a technology-enhanced project.

Prereq.: Acceptance in MRC program.

RESC 5880 Advanced Management of the Ventilator Patient 3 s.h.

Course will present current classifications, evidence-based research and application of mechanical ventilator concepts in critical care areas. Technical capabilities of modes will be described along with optimal settings. Current protocols in RC will also be discussed.

Prereq.: Acceptance in the BSRC, BSRC degree advancement/completion program or Master of respiratory care program, junior standing, or permission of program director.