The Department of Health Sciences offers five (5) baccalaureate or undergraduate degrees: the Bachelor of Science in Environmental Health, the Bachelor of Science in Health Administration, the Bachelor of Science in Health Information Management, the Bachelor of Science in Clinical Laboratory Sciences (Medical Technology), and the Bachelor of Science in Respiratory Therapy. Each degree program has a Program Director, and courses specific to each degree discipline are offered through the unit under the following designations: HSEH (Environmental Health), HSHA (Health Administration), HSMR (Health Information Management), HSMT (Medical Technology), and HSRT (Respiratory Therapy). Student majors within the Health Sciences are required to complete three to six HSCR (Health Sciences Core) Courses, which are also offered through this unit.

Members of the Department of Health Sciences are housed in Nabrit Center with the Department Office located in Room 202. The Department supports the primary mission of the College: to produce quality health care professionals, especially African-Americans and other minorities, in Environmental Health, Health Administration, Health Information Management, Clinical Laboratory Sciences (Medical Technology), and Respiratory Therapy.

The Environmental Health Program provides graduates with the technical and administrative skills to function in industry, governmental agencies, consulting firms, and academia. Graduates are qualified to enter the workforce in air and water quality control, solid and hazardous waste management, occupational health and industrial hygiene, environmental toxicology and risk assessment, epidemiology, and disease surveillance.

The Health Administration Program provides graduates with the competencies and skills to become effective administrators, managers and supervisors for goal-oriented achievements in health delivery systems. Graduates are also prepared to function effectively in response to trends, issues, emergent problems, and other concerns that affect the health, welfare, and self-actualization of clients and citizens.

The Health Information Management Program provides graduates with the technical and administrative skills to manage health information systems consistent with professional standards (medical, administrative, ethical, and legal) in health care delivery systems. Graduates also possess the knowledge and skills needed to plan and develop health information systems which meet standards of accrediting and regulating agencies.

The Clinical Laboratory Sciences (Medical Technology) Program provides graduates with the technical and administrative skills required for the effective delivery of health care services consistent with the practices and standards of Clinical Laboratory Sciences. Graduates are prepared and qualified to perform evaluations of testing techniques, procedures, and personnel; to perform analytical testing of body samples; and to resolve discrepancies with the interpretation of diagnostic laboratory patient data. Graduates also possess the capabilities needed for public education, as well as for planning and developing clinical laboratory facilities that meet the standards of accrediting and governmental regulatory agencies.

The Respiratory Therapy Program provides graduates with the technical skills for performing diagnostic evaluation, therapy, patient/family education, and public education in cases of cardiopulmonary dysfunction. Graduates have the skills to perform diagnostic activities such as obtaining and analyzing physiological specimens, interpreting physiological data, and performing sleep disorder studies. They also have the skills for administering therapy involving such techniques as the application and monitoring of mechanical ventilation, environmental control systems, artificial airway care, and cardiopulmonary rehabilitation. These graduates have the further capability of conducting patient/family education activities that promote knowledge of disease processes, medical therapy, and self-help as well as public education activities that focus on the promotion of cardiopulmonary wellness.

Courses offered through this unit, curricular summaries for the various degrees, and the sequences in which discipline-specific courses and their primary prerequisite and corequisite courses should be taken are given below.

Students should refer to admission policies, comprehensive examination information, and other important information regarding the various B.S. degrees offered through this unit under the College of Pharmacy and Health Sciences introductory section of this document.
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Department</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allen, Reginald</td>
<td>Instructor</td>
<td>Respiratory Therapy</td>
<td>B.S., M.Ed., Texas Southern University</td>
</tr>
<tr>
<td>Bright, Mildred</td>
<td>Assistant Professor</td>
<td>Health Administration</td>
<td>B.S., Prairie View A&amp;M University, M.Ed., Texas Southern University, Dr.P.H., The University of Texas at Houston</td>
</tr>
<tr>
<td>Hampton, Jean M.</td>
<td>Assistant Professor</td>
<td>Respiratory Therapy</td>
<td>B.S., M.S., Ph.D., Texas Southern University</td>
</tr>
<tr>
<td>Hawkins, Fanny</td>
<td>Assistant Professor</td>
<td>Health Information Management</td>
<td>B.S., University of Southwestern Louisiana, M.P.A., Ed.D., Texas Southern University</td>
</tr>
<tr>
<td>James, Andrew B.</td>
<td>Assistant Professor</td>
<td>Health Administration</td>
<td>Dr.P.H., The University of Texas at Houston, J.D., Texas Southern University, L.L.M., University of Houston</td>
</tr>
<tr>
<td>Lawson, Melanie W.</td>
<td>Assistant Professor</td>
<td>Health Administration</td>
<td>M.P.H., The University of Texas at Houston, Ph.D., University of Houston</td>
</tr>
<tr>
<td>Mazique, Judith B.</td>
<td>Assistant Professor</td>
<td>Environmental Health</td>
<td>B.S., Howard University, M.P.H., The University of Texas at Houston, J.D., South Texas College of Law</td>
</tr>
<tr>
<td>McVea, Jackie</td>
<td>Adjunct Assistant Professor</td>
<td>Clinical Laboratory Sciences</td>
<td>B.S., M.Ed., Ed.D., Texas Southern University</td>
</tr>
<tr>
<td>Quiller, Dorothy</td>
<td>Adjunct Assistant Professor</td>
<td>Clinical Laboratory Sciences</td>
<td>B.S., M.Ed., Texas Southern University</td>
</tr>
<tr>
<td>Shelton, Andrea</td>
<td>Associate Professor</td>
<td>Health Administration</td>
<td>B.A., Howard University, M.A., University of South Florida, Ph.D., University of Pittsburgh</td>
</tr>
<tr>
<td>Taylor, Andrew</td>
<td>Instructor</td>
<td>Respiratory Therapy</td>
<td>B.S., M.S., Texas Southern University</td>
</tr>
<tr>
<td>Thomas, Renard</td>
<td>Assistant Professor</td>
<td>Environmental Health</td>
<td>B.S., University of Houston, M.S., Ph.D., Texas Southern University</td>
</tr>
<tr>
<td>Turner, Polly S.</td>
<td>Assistant Professor</td>
<td>Health Administration</td>
<td>B.S., Texas Southern University, M.P.H., Dr.P.H., The University of Texas at Houston</td>
</tr>
<tr>
<td>Williams, Karen</td>
<td>Assistant Professor</td>
<td>Health Administration</td>
<td>B.A., Texas A&amp;M University, M.H.S.A., The University of Arkansas at Little Rock, Ph.D., The University of Texas at Houston</td>
</tr>
<tr>
<td>Williams, Ramona</td>
<td>Instructor</td>
<td>Respiratory Therapy</td>
<td>B.S., M.S., Texas Southern University</td>
</tr>
<tr>
<td>Zikarge, Astatkic</td>
<td>Assistant Professor</td>
<td>Environmental Health</td>
<td>B.S., M.Ed., East Tennessee State University, M.P.H., The University of Texas School of Public Health, M.D., St. George's University School of Medicine</td>
</tr>
</tbody>
</table>
CORE COURSES

HSCR 150  Concepts of Health  (3)
Study of the health care industry and its transition from the past to the present via the scientific process and analysis of relationships among selected health problems. Three hours of lecture per week.

HSCR 260  Biomedical Ethics  (3)
Comprehensive study of ethical rules, principles, and theories; their application to contemporary moral issues/dilemmas; and their impact on the legal, social, and medical communities. Three hours of lecture per week. Prerequisite: HSCR 150 or concurrent enrollment.

HSCR 300  Health Sciences Seminar  (1)
Review of current social, political, and economics issues; their impact on specific health disciplines via discussions, simulations, and presentations. One hour of lecture per week. Prerequisite: HSCR 150 or concurrent enrollment.

HSCR 360  Principles of Disease  (3)
Comprehensive study of principles and concepts in human disease focusing on the cellular and mechanistic processes involved in disease and the clinical and physiological manifestations that result. Etiology, pathogenesis, treatment, prognosis and research relative to human disease and health are stressed. Three hours of lecture per week.

HSCR 361  Research for Health Professionals  (3)
Study of the basic techniques and the principles of the research process in health facilities. Enrollees must perform quantitative health research using computer applications. Three hours of lecture per week.

ENVIRONMENTAL HEALTH COURSES

HSEH 232  Introduction to Environmental Health  (3)
Survey of topics in population and resource management, fundamentals of air and water pollution, solid and hazardous wastes, pest and vector control, and radiation protection. Open to majors and non-majors. Three lecture hours per week. Prerequisite: Consent of the Program Director.

HSEH 233  Epidemiology and Biostatistics  (4)
Principles of distribution and determinants of diseases in human populations, including statistical methods and computer applications in data collection and analysis. Four hours of lecture per week. Prerequisite: HSEH 232.

HSEH 234  Health Physics  (3)
Fundamentals of ionizing and non-ionizing radiation with respect to source, exposure dose, biological interaction, methods of surveillance, and protection. Three hours of lecture per week. Prerequisite: HSEH 233.

HSEH 235  Human Ecology  (3)
Principles of environmental physiology; medical geography and sociology; international and travel health; adaptation mechanisms to extremes of temperature, pressure, altitude, and microgravity; circadian rhythms. Three hours of lecture per week. Prerequisite: HSEH 233.

HSEH 334  Public Health Organization and Administration  (3)
Principles of organization and administration of environmental health programs by governmental agencies, including disease surveillance and health data management, environmental policy and ethics, and health education. Three hours of lecture per week. Prerequisite: HSEH 233.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSEH 337</td>
<td>Environmental Microbiology</td>
<td>4</td>
<td>Survey of microorganisms of ecological, medical, and industrial importance with respect to nutrient recycling, food spoilage, infectious diseases, and biotechnology. Two hours of lecture and four hours of laboratory per week. Prerequisite: HSEH 232.</td>
</tr>
<tr>
<td>HSEH 338</td>
<td>Water Pollution and Control</td>
<td>3</td>
<td>Survey of chemical, physical, and biological pollutants affecting water quality for drinking and other designated end uses. Pollution monitoring and control strategies also discussed. Three hours of lecture per week. Prerequisite: HSEH 337.</td>
</tr>
<tr>
<td>HSEH 339</td>
<td>Air Pollution and Control</td>
<td>3</td>
<td>Survey of ambient and indoor air quality changes due to toxic emissions. Atmospheric chemistry and meteorology, standard air pollution indicators, global climate changes, and control strategies discussed. Three hours of lecture per week. Prerequisites: HSEH 232 and HSEH 344.</td>
</tr>
<tr>
<td>HSEH 344</td>
<td>Environmental Chemistry</td>
<td>4</td>
<td>Comprehensive survey of behavior and fate of chemical pollutants in atmosphere, hydrosphere, geosphere, and biosphere, including standard methods of chemical analysis of environmental media. Two hours of lecture and four hours of laboratory per week. Prerequisite: HSEH 232.</td>
</tr>
<tr>
<td>HSEH 425</td>
<td>Insect and Vector Control</td>
<td>3</td>
<td>Comprehensive survey of agricultural and urban pests, disease transmitting vectors and their habitat, principles of entomology, parasitology and zoonoses, integrated vector control, and pest management. Three hours of lecture per week. Prerequisite: HSEH 344.</td>
</tr>
<tr>
<td>HSEH 431</td>
<td>Solid Waste Management</td>
<td>3</td>
<td>Municipal solid waste problems and solutions: generation, storage, collection, transport, processing, and disposal. Three hours of lecture per week. Prerequisite: HSEH 337.</td>
</tr>
<tr>
<td>HSEH 432</td>
<td>Hazardous Waste Management</td>
<td>3</td>
<td>Industrial, medical, and household hazardous waste problems and solutions: generation, characterization, transport, storage, treatment, and disposal. Minimization, exchange, recovery, incineration, and secure landfills discussed. Three hours of lecture per week. Prerequisites: HSEH 338 and HSEH 344.</td>
</tr>
<tr>
<td>HSEH 433</td>
<td>Institutional Health and Safety</td>
<td>3</td>
<td>Survey of structural, electrical, and fire safety of residential, school, hospital, day-care, and penal institutions. Sick building syndrome, emergency planning, and accommodation of disabled persons discussed. Three hours of lecture per week. Prerequisite: HSEH 235.</td>
</tr>
<tr>
<td>HSEH 434</td>
<td>Sewage Treatment and Disposal</td>
<td>3</td>
<td>Industrial, agricultural, and municipal wastewater collection, transport, treatment, and disposal. Design and operation of sewage treatment plants, on-site and waterless systems, and sludge management discussed. Three hours of lecture per week. Prerequisite: HSEH 338.</td>
</tr>
<tr>
<td>HSEH 435</td>
<td>Environmental Health Problems</td>
<td>3</td>
<td>Global environmental issues: famine and starvation, environmental refugees, environmental justice and equity, hazardous waste sites, housing and urban blight, crime and substance abuse. Three hours of lecture per week. Prerequisite: Consent of the Program Director.</td>
</tr>
<tr>
<td>HSEH 442</td>
<td>Occupational Safety and Health</td>
<td>3</td>
<td>Recognition, measurement, evaluation, and control of workplace hazard exposures. Fundamentals of industrial hygiene, ergonomics, occupational disease surveillance, hazard communication, and worker protection discussed. Three hours of lecture per week. Prerequisites: HSEH 339 and HSEH 450.</td>
</tr>
</tbody>
</table>
HSEH 450  Environmental Toxicology  (3)
Comprehensive survey of principles of toxicodynamics and toxicokinetics; xenobiotic dispersal and ecosystem response; exposure pathways and target organs; mechanisms of toxicity; toxicity testing for mutagenesis, carcinogenesis, and teratogenesis. Three hours of lecture per week. Prerequisite: HSEH 234.

HSEH 451  Environmental Impact Assessment  (3)
Consideration of environmental impacts and risks of legislative proposals, policies, programs, and projects following NEPA regulations: qualitative/quantitative risks, identification, characterization, exposure assessment, dose-response determination, interpretation, communication, and management. Three hours of lecture per week. Prerequisite: Consent of the Program Director.

HSEH 460  Internship  (6)
Field practicum in industry, governmental agencies, consulting firms, and academic research facilities providing observation and participation in the practice of environmental health programs. Twenty-two hours of laboratory (practicum) per week. Prerequisite: Consent of the Program Director.

HEALTH ADMINISTRATION COURSES

HSHA 211  Health Information Systems  (3)
Overview of the methods for collecting health data in the preparation of health surveys and reports with computer research applications emphasized. Three hours of lecture per week.

HSHA 262  Public Policy and Health Care  (3)
Overview of major national and state health legislation and health policy. Three hours of lecture per week.

HSHA 312  Health Administration in School Systems  (3)
Examination of health care issues in the Houston Independent School District where enrollees are provided an opportunity to perform projects in school health settings. Three hours of lecture per week.

HSHA 313  Health Care of the Poor  (3)
Examination of health care issues affecting the uninsured, the working uninsured, and the poor in the health care system. Three hours of lecture per week.

HSHA 314  Finance and Economics of Health Care  (3)
Overview of health care financial and economics concepts in health care facilities. Three hours of lecture per week.

HSHA 361  Long Term Care  (3)
Introductory examination of health issues on the rehabilitation and continuing care level: nursing homes, geriatric wellness centers, and homes for the mentally retarded. Three hours of lecture per week.

HSHA 363  Ambulatory Health Care Services  (3)
Examination of outpatient health care delivery settings: ambulatory surgery centers, fitness centers, clinics, and HMO’s. Three hours of lecture per week.

HSHA 411  Health Administration Internship  (3)
Direct exposure of students to professional work experiences and responsibilities through workplace settings. May be taken twice for credit. One hour of lecture and thirty-eight hours of laboratory per week. Prerequisite: Consent of the Program Director and instructor.
HSHA 412  Legal, Ethical, and Biomedical Aspects of Health Care  (3)
Examination of issues in health care from an ethical, medical, sociological, and legal perspective. Three hours of lecture per week.

HSHA 413  Seminar in Community Health  (3)
Detailed examination of state and local health care issues: role of the U. S. Department of Health and Human Services and the Harris County Health System. Three hours of lecture per week.

HSHA 414  Seminar in Issues in Health Care  (3)
Detailed study of health care management issues. Three hours of lecture per week. Prerequisites: HSHA 211, HSHA 363, PA 311, and PA 312.

HSHA 451  Health Care of the Aged  (3)
Detailed review of current and future issues in the delivery of health care services to the aged for interdisciplinary students. Three hours of lecture per week. Prerequisites: HSHA 211, HSHA 363, PA 311, and PA 312 or consent of the instructor.

HEALTH INFORMATION MANAGEMENT COURSES

HSMR 362  Medical Terminology/Word Processing  (3)
Designed to extensively develop the student's medical vocabulary: Greek and Latin prefixes, suffixes, word roots, and combining forms used to build medical terms. Three hours of lecture per week. Prerequisites: BIOL 135 and BIOL 136.

HSMR 363  Basic Foundations I  (3)
Introduction to health information systems and technology; assessment of institutional and patient-related information needs; departmental, informational, service, and operational needs. Three hours of lecture per week. Prerequisite: HSCR 150.

HSMR 363L  Basic Foundations Laboratory  (2)
Designed to simulate a health information department with the activities of health information management. Concurrent enrollment in HSMR 363 required. Six hours of laboratory per week.

HSMR 364  Management of Health Data I  (3)
Indexes and registries; nomenclature and classification systems; data abstraction; departmental operations and services. Three hours of lecture per week. Prerequisites: HSMR 362, HSMR 363, HSMR 363L, HSMR 365, and HSMR 366.

HSMR 364L  Management of Health Data Laboratory  (2)
Simulated activities where students are given the opportunity to practice coding diagnoses and procedures from actual medical records using computer technology. Six hours of laboratory per week. Prerequisites: HSMR 362, HSMR 363, HSMR 363L, HSMR 365, and HSMR 366.

HSMR 365  Directed Practice I  (2)
Students assigned to Health Information Management Departments for experiences in the technical aspects of health information management. Two hours of lecture and one hour of laboratory per week. Prerequisites: BIOL 135 and BIOL 136.

HSMR 366  Legal Aspects  (2)
Legal terminology; the court system; control and use of health information; health care legislation and regulations; confidentiality; ethical standards for health information managers. Two hours of lecture per week. Prerequisites: HSCR 150 and HSCR 260.
HSMR 373 **Basic Foundations II**  (2)
Management of health information in non-traditional settings: long-term care, ambulatory care, hospices, home health care, psychiatric centers, and rehabilitation facilities. Two hours of lecture per week. Prerequisites: HSMR 363 and HSMR 363L.

HSMR 374 **Management of Health Data II**  (2)
Clinical coding procedures, outpatient coding, statistics, and reporting guidelines. Two hours of lecture per week. Prerequisites: HSMR 362, HSMR 363, HSMR 363L, HSMR 364, HSMR 365, and HSMR 366.

HSMR 401 **In-Service Training for Health Information Managers**  (1)
Presentation of in-service training tools and techniques. One hour of lecture per week. Prerequisite: HSMR 479.

HSMR 402 **Comprehensive Health Information Management**  (1)
Review of competencies addressed in all professional courses. Students enrolled must pass a comprehensive examination with a score of 75 or better prior to graduation. Prerequisites: Completion of all HSCR and HSMR courses, except HSMR 476 and HSMR 478.

HSMR 473 **Quality Assurance Management**  (3)
Theory and application of quality improvement, utilization review, risk management, Medicare and Medicaid review process, and other laws and regulations applicable to health information systems. Three hours of lecture per week. Prerequisites: HSMR 362, HSMR 363, HSMR 363L, HSMR 364, HSMR 365, and HSMR 366.

HSMR 474 **Computerized Health Information Systems**  (3)
Evaluation of hardware and software components of computers for health information systems: design and cost effectiveness, record linkages, and data sharing. Three hours of lecture per week. Prerequisites: HSMR 362, HSMR 363, HSMR 363L, HSMR 364, HSMR 365, and HSMR 366.

HSMR 475 **Directed Practice II**  (3)
Students assigned to a health information management center for experiences in quality improvement, computer applications, classification systems, and statistical analysis of health information. One hour of lecture, one hour of laboratory, independent study per week. Prerequisites: HSMR 362, HSMR 363, HSMR 363L, HSMR 364, HSMR 365, and HSMR 366.

HSMR 476 **Preceptorship**  (4)
Students assigned to a health information center for administrative management training. Individual projects assigned for completion at site. One hour of lecture and ten hours of laboratory per week. Prerequisite: Consent of the Program Director.

HSMR 477 **Management of Health Information Systems**  (4)
Theories of managerial concepts and control mechanisms as applied to health information systems. Four hours of lecture per week. Prerequisites: All HSMR courses through HSMR 475.

HSMR 478 **Problems in Medical Records / Health Information Management**  (2)
Problem identification and resolution, including formulation of alternative solutions, for health information management. Post-preceptorship discussions also included. Two hours of lecture per week. Prerequisite: Consent of the Program Director.

HSMR 479 **Health Information Personnel Management**  (3)
Discussion of the skills, techniques, policies, and procedures needed for successful human resource management: interview process, performance appraisals, wage and salary administration. Three hours of lecture per week. Prerequisites: All HSMR courses through HSMR 475.
MEDICAL TECHNOLOGY COURSES

HSMT 252  
**Serology Practices and Procedures**  
(3)  
Study of the immune system, its cellular and non-cellular products, and serological tests to detect and identify these products and associated pathogens. Two hours of lecture and two hours of laboratory per week. Prerequisites: CHEM 232.

HSMT 304  
**Clinical Laboratory Science Application I**  
(1)  
The course integrates didactic instruction with case studies and performance of laboratory procedures to provide a comprehensive understanding of clinical laboratory policies and procedures inclusive of an overview of the profession, phlebotomy, laboratory safety, compliance and regulatory agencies. One hour of lecture per week.

HSMT 305  
**Clinical Laboratory Science Application II**  
(1)  
The course is designed to provide an orientation to the theory and required skills in education methodology, laboratory information systems, laboratory calculation and quality assurance. One hour of lecture per week.

HSMT 306  
**Comprehensive Clinical Laboratory Science**  
(1)  
This course will provide exposure to laboratory management as well as research skills and techniques. Research class will culminate in a presentation of the clinical research. Additionally there will be reinforcement of theoretical acquisition of core knowledge in CLS to facilitate application to board type questions. The class will be repeated with the first semester of the senior year covering management and the second semester of the senior year covering research. One hour of lecture per week. Prerequisites: HSCR 300 or concurrent enrollment, HSMT 304, and HSMT 305.

HSMT 352  
**Hematology I**  
(4)  
Study of cellular elements of blood in normal/abnormal states of diagnostic importance with laboratory experiences for enumeration by direct observation and electronic instruments. Two hours of lecture and four hours of laboratory per week. Prerequisites: HSMT 252.

HSMT 353  
**Clinical Microscopy and Quality Control**  
(4)  
Comprehensive exploration of principles and testing procedures used to diagnose and monitor diseases relevant to the renal system, including systemic diseases and dysfunctions. Two hours of lecture and four hours of laboratory per week. Prerequisite: Consent of Program Director.

HSMT 354  
**Immunohematology I**  
(3)  
First part of a two-part sequence focusing on the role of antigens and antibodies in transfusion therapy practices and relevant testing practices and procedures. Two hours of lecture and three hours of laboratory per week. Prerequisites: HSMT 252, HSMT 353 or concurrent enrollment.

HSMT 355  
**Medical Chemistry I**  
(3)  
Lecture and laboratory experiences to determine the body's chemistry using manual and automated methodologies for determination of disease processes. Two hours of lecture and three hours of laboratory per week. Prerequisites: HSMT 252, HSMT 353, HSMT 356 or concurrent enrollment, and CHEM 232 or equivalent.

HSMT 356  
**Hemostatic Processes**  
(4)  
Study of abnormalities leading to the formation of a defective thrombus, including enumeration of platelets and evaluation of hemostatic parameters. Two hours of lecture and four hours of laboratory per week. Prerequisites: HSMT 252, and HSMT 353 or consent of Program Director.
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSMT 357</td>
<td>Practicum I</td>
<td>3</td>
<td>Performance of serological and urinalysis techniques and methods in an affiliated clinical facility. Includes quality assurance practices and procedures and equipment maintenance. Fifteen hours of laboratory per week. Prerequisite: Consent of the Program Director.</td>
</tr>
<tr>
<td>HSMT 358</td>
<td>Clinical Immunology</td>
<td>2</td>
<td>Clinical rotation in an affiliated clinical facility with emphasis on technical skills and applications. Ten hours of laboratory per week. Prerequisite: Consent of the Program Director.</td>
</tr>
<tr>
<td>HSMT 359</td>
<td>Microbial Human Disorders I</td>
<td>3</td>
<td>Skills development and performance in the detection, isolation, and identification of microbes of medical importance to human pathologic conditions. One hour of lecture and four hours of laboratory per week. Prerequisites: BIOL 347, BIOL 454, HSMT 252, HSMT 353, and HSMT 356.</td>
</tr>
<tr>
<td>HSMT 362</td>
<td>Hematology II</td>
<td>3</td>
<td>Study of the cellular elements of blood (formation, function, and morphology) in diseases that lead to the definition, diagnosis, and validity of test results. One hour of lecture and four hours of laboratory per week. Prerequisites: HSMT 352 and HSMT 353.</td>
</tr>
<tr>
<td>HSMT 364</td>
<td>Immunohematology II</td>
<td>3</td>
<td>Continuation of HSMT 354 with emphasis on antibody assessments, crossmatching techniques, component therapy, transfusion-associated diseases, problem solving techniques, and quality assurance procedures. Two hours of lecture and four hours of laboratory per week. Prerequisites: HSMT 354.</td>
</tr>
<tr>
<td>HSMT 365</td>
<td>Medical Chemistry II</td>
<td>3</td>
<td>Evaluation of chemical parameters to establish the relationship between the disease state and chemical variations from normal. Two hours of lecture and four hours of laboratory per week. Prerequisites: HSMT 355.</td>
</tr>
<tr>
<td>HSMT 369</td>
<td>Microbial Human Disorders II</td>
<td>2</td>
<td>Recognition of parameters to detect, isolate, and identify the characteristics of medically important microbiologic, mycologic, and parasitic organisms of man. One hour of lecture and four hours of laboratory per week. Prerequisites: HSMT 359.</td>
</tr>
<tr>
<td>HSMT 466</td>
<td>Clinical Hematology</td>
<td>4</td>
<td>Clinical practicum in an affiliated clinical facility with emphasis on practical/technical skills and applications. Two hours of lecture and eighteen hours of laboratory per week. Prerequisites: Senior standing and consent of the Program Director.</td>
</tr>
<tr>
<td>HSMT 467</td>
<td>Blood Bank</td>
<td>4</td>
<td>Clinical practicum focusing on the performance of antibody assessments, compatibility phlebotomy, component preparation, donor processing of donated blood, and quality assurance. Two hours of lecture and eighteen hours of laboratory per week. Prerequisites: Senior standing and consent of the Program Director.</td>
</tr>
<tr>
<td>HSMT 468</td>
<td>Clinical Microbiology</td>
<td>4</td>
<td>Clinical rotation at an affiliated clinical site to emphasize practical/technical skills and applications. Two hours of lecture and eighteen hours of laboratory per week. Prerequisites: Senior standing and consent of the Program Director.</td>
</tr>
<tr>
<td>HSMT 469</td>
<td>Clinical Biochemistry</td>
<td>4</td>
<td>Clinical rotation at an affiliated clinical site to emphasize practical/technical skills and applications. Two hours of lecture and eighteen hours of laboratory per week. Prerequisites: Senior standing and consent of the Program Director.</td>
</tr>
<tr>
<td>Course</td>
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<tr>
<td>HSRT 220</td>
<td>Respiratory Therapy Clinical Practicum</td>
<td>(2)</td>
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<tr>
<td></td>
<td>Introduction to basic procedures; equipment applications; therapeutic modalities for oxygen, humidity, aerosol therapy; methods in and indicators for respiratory therapeutics. Precedes clinical rotation. Six hours of laboratory per week. Corequisites: HSRT 230 and HSRT 231.</td>
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<tr>
<td>HSRT 222</td>
<td>Developmental Practicum in Clinical Applications</td>
<td>(2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skills enhancement of basic procedures and clinical development in patient respiratory care plan, CPR, mechanical ventilation, and patient assessment. Twelve hours of laboratory per week. Corequisite: HSRT 232.</td>
<td></td>
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</tr>
<tr>
<td>HSRT 230</td>
<td>Introduction to Respiratory Therapy</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Introduction to respiratory care basic sciences applications, terminology, ventilatory mechanics, blood-gas analysis, and acid-base balance. Three hours of lecture per week. Corequisites: HSRT 220 and HSRT 230.</td>
<td></td>
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<tr>
<td>HSRT 231</td>
<td>Cardiopulmonary Systems</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Anatomical and physiological study of the cardiovascular and pulmonary systems; contrast of the normal versus dysfunctional cardiopulmonary system; relationship to and effect upon renal physiology. Three hours of lecture per week. Corequisites: HSRT 220 and HSRT 230.</td>
<td></td>
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<tr>
<td>HSRT 232</td>
<td>Intermediate Clinical Applications</td>
<td>(4)</td>
<td></td>
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<tr>
<td></td>
<td>Theoretical applications in patient assessment, administration, and evaluation of oxygen and aerosol. Intermittent breathing exercises; basic CPR training; and development in mechanical ventilation administration. Four hours of lecture per week. Prerequisites: HSRT 220, HSRT 230, and HSRT 231. Corequisite: HSRT 222.</td>
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<tr>
<td>HSRT 307</td>
<td>Respiratory Care Applications I</td>
<td>(1)</td>
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<tr>
<td></td>
<td>Applications and analyses of clinical data for presentation by respiratory care practitioners. One hour of lecture per week. Prerequisite: Consent of the Program Director.</td>
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<tr>
<td>HSRT 308</td>
<td>Respiratory Care Applications II</td>
<td>(1)</td>
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<td></td>
<td>Continuation of HSRT 307 to include simulations and presentations. One hour of lecture per week. Prerequisite: Consent of the Program Director.</td>
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<td>HSRT 320</td>
<td>Applied Procedures and Equipment - Clinical Practicum III</td>
<td>(2)</td>
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<tr>
<td></td>
<td>Study of and clinical practice in applications of the operation, mechanical features, limitations of, and indications for various types of equipment used in respiratory care. Six hours of laboratory per week. Prerequisites: HSRT 222 and HSRT 232. Corequisites: HSRT 321, HSRT 330, and HSRT 331.</td>
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<td>HSRT 321</td>
<td>Respiratory Therapy Clinical Practicum IV</td>
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<td></td>
<td>Symptomatic presentations and pathophysiological manifestations; clinical experiences; case studies; and advanced respiratory patient care procedures at clinical sites. Six hours of laboratory per week. Corequisite: HSRT 331.</td>
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<tr>
<td>HSRT 322</td>
<td>Respiratory Therapy Clinical Practicum V</td>
<td>(2)</td>
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<td></td>
<td>Continuation of HSRT 321 with emphasis on advanced respiratory care practice and technology where invasive and specialized procedures are used. Six hours of laboratory per week. Corequisite: HSRT 332.</td>
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<tr>
<td>HSRT 323</td>
<td>Respiratory Therapy Clinical Practicum VI</td>
<td>(2)</td>
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</table>
HSRT 325  Pediatric Clinical Practicum  (2)
Procedures and treatment modalities utilized in the clinical management of neonatal and pediatric patients. Twelve hours of laboratory per week. Corequisite: HSRT 340.

HSRT 330  Applied Procedures and Equipment  (3)
Study of airway management, resuscitation, continuous assisted ventilation. Specific mechanics and applications of equipment/techniques utilized in corresponding clinical sites. Three hours of lecture per week. Corequisites: HSRT 320, HSRT 321, and HSRT 331.

HSRT 331  Theoretical and Applied Respiratory Therapy  (3)
Study of the pathophysiology and clinical presentations manifested in pulmonary disease and dysfunction. Acid-base balance; radiological and pulmonary function testing; hemodynamics; and ECG presentations studied. Three hours of lecture per week. Corequisite: HSRT 321.

HSRT 332  Applied Procedures and Equipment  (3)
Study of advanced, invasive, and specialized procedures applicable to the function of the cardiopulmonary and renal systems. Continuation and augmentation of HSRT 330. Three hours of lecture per week. Corequisite: HSRT 322.

HSRT 333  Cardiopulmonary Diseases  (3)
Advanced study of pathology, diagnosis, treatment, and assessment of pulmonary, circulatory, and renal dysfunction. Emphasis on identification of and treatment regimen for specific cardiopulmonary dysfunction. Three hours of lecture per week. Corequisite: HSRT 323.

HSRT 334  Respiratory Care Pharmacotherapy  (3)
Clinical aspects and physiologic effects of drugs administered by the respiratory care practitioner. Clinical activities involved in the preparation, delivery, and therapeutic evaluation of administered drugs. Three hours of lecture per week. Prerequisite: HSRT 230 or HSRT 231.

HSRT 340  Neonatal and Pediatric Respiratory Care  (3)
Respiratory care of newborns, infants, and children; procedures in oxygen, aerosol, and ventilatory therapeutics; and review of anatomy/physiology, specific abnormalities, specialized procedures, and clinical presentations. Three hours of lecture per week. Corequisite: HSRT 325.

HSRT 420  Comprehensive Respiratory Care  (2)
Comprehensive study of the respiratory care practice at both the technician and therapist levels based on NBRC job analysis survey results. Two hours of lecture per week. Prerequisite: Consent of the Program Director.

HSRT 435  Electrocardiographic Technology  (3)
ECG techniques, procedures, patterns, and interpretations; systematic methods for reading electrocardiograms. Three hours of lecture and four hours of laboratory per week. Prerequisite: Consent of the Program Director.

HSRT 440  Respiratory Therapy Management I  (4)
Departmental management involving personnel, decision making, budgeting, evaluation of departmental effectiveness, and development of departmental policies. Three hours of lecture and four hours of laboratory per week. Prerequisite: Consent of the Program Director.

HSRT 441  Respiratory Therapy Management II  (4)
Continuation of HSRT 440. Three hours of lecture and four hours of laboratory per week. Prerequisites: HSRT 440 and consent of the Program Director.
HSRT 453  Cardiopulmonary Technology  (5)
Pulmonary function testing procedures and interpretation; study of equipment and standards used in pulmonary testing. Three hours of lecture and four hours of laboratory per week. Prerequisite: Consent of the Program Director.

HSRT 454  Critical Care and Internship  (5)
Comprehensive study of advanced procedures, therapeutic modalities, decision making, and quality control for the practicing respiratory therapist. Two hours of lecture and six hours of laboratory per week. Prerequisites: Completion of all other professional HSRT courses and consent of the Program Director.
# CURRICULUM SUMMARY FOR
# BACHELOR OF SCIENCE DEGREE IN
# ENVIRONMENTAL HEALTH
# TOTAL CREDITS REQUIRED: 149

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<th>CORE CURRICULUM* (STANDARD)</th>
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<td>HSEH 233 (4)</td>
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<td>BIOL 131 (3)</td>
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<td>HSEH 235 (3)</td>
<td>BIOL 132 (3)</td>
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<td>BIOL 245 or 344 (4)</td>
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<td>HSEH 337 (4)</td>
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<td>CHEM 212 (1)</td>
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<td>CHEM 231 (3)</td>
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<td>HSEH 431 (3)</td>
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<td>HSEH 451 (3)</td>
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<td></td>
<td>HSEH 460 (6)</td>
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* Students should seek advisement prior to registering for any course intended to be used as credit toward the degree.
** (N) represents the number of course credits.
*** Select from the following courses: ART 131 or 132, THC 130 or 231, MUSI 131 or 239.
### DEGREE PLAN LEADING TO THE BACHELOR OF SCIENCE DEGREE IN ENVIRONMENTAL HEALTH

**BY LEVEL AND SEQUENCE**

#### Freshman

**First Semester**
- BIOL 121 (Biological Science I Laboratory), 2 cr
- BIOL 131 (Biological Science I, Lecture), 3 cr
- CHEM 111 (General Chemistry I Laboratory), 1 cr
- CHEM 131 (General Chemistry I, Lecture), 3 cr
- MATH 133 (College Algebra), 3 cr
- ENG 131 (Freshman English I), 3 cr
- VISUAL AND PERFORMING ARTS,* 3 cr

**Second Semester**
- BIOL 122 (Biological Science II Laboratory), 2 cr
- BIOL 132 (Biological Science II, Lecture), 3 cr
- CHEM 112 (General Chemistry II Laboratory), 1 cr
- CHEM 132 (General Chemistry II, Lecture), 3 cr
- ENG 132 (Freshman English II), 3 cr
- HSCR 150 (Concepts of Health), 3 cr
- MATH 134 (Plane Trigonometry), 3 cr

#### Sophomore

**First Semester**
- CHEM 211 (Organic Chemistry I Laboratory), 1 cr
- CHEM 231 (Organic Chemistry I, Lecture), 3 cr
- ENG 230-244 (English Literature), 3 cr
- HIST 231 (Social & Political History of the U.S.), 3 cr
- PHYS 215 (General Physics I Laboratory), 1 cr
- PHYS 237 (General Physics Life Science Students I, Lecture), 3 cr
- POLS 231 (American Political Systems I), 3 cr
- SOC 157 (Sociology), 3 cr

**Second Semester**
- CHEM 212 (Organic Chemistry II Laboratory), 1 cr
- CHEM 232 (Organic Chemistry II, Lecture), 3 cr
- CS 116 (Computer Introduction), 3 cr
- HSCR 260 (Biomedical Ethics), 3 cr
- PHYS 216 (General Physics II Laboratory), 1 cr
- PHYS 238 (General Physics Life Science Students II, Lecture), 3 cr
- POLS 232 (American Political Systems II), 3 cr
- SC 233 (Speech Communication), 3 cr

#### Junior

**First Semester**
- HSEH 232 (Introduction to Environmental Health), 3 cr
- HSEH 233 (Epidemiology and Biostatistics), 4 cr
- HSEH 234 (Health Physics), 3 cr
- HSEH 235 (Human Ecology), 3 cr
- HSEH 344 (Environmental Chemistry), 4 cr
- BIOL 245 (Human Anatomy and Physiology), 4 cr
Second Semester
HSEH 337 (Environmental Microbiology), 4 cr
HSEH 338 (Water Pollution and Control), 3 cr
HSCR 360 (Principles of Disease), 3 cr
HSEH 425 (Insect and Vector Control), 3 cr
HSEH 433 (Institutional Health and Safety), 3 cr
HSEH 434 (Sewage Treatment and Disposal), 3 cr

First Summer
HSEH 460 (Environmental Internship), 3 cr

Second Summer
HSEH 460 (Environmental Internship), 3 cr

Senior
First Semester
HSEH 334 (Public Health Organization and Administration), 3 cr
HSEH 339 (Air Pollution and Control), 3 cr
HSEH 442 (Occupational Safety and Health), 3 cr
HSEH 450 (Environmental Toxicology), 3 cr

Second Semester
HSEH 431 (Solid Waste Management), 3 cr
HSEH 432 (Hazardous Waste Management), 3 cr
HSEH 435 (Environmental Health Problems), 3 cr
HSEH 451 (Environmental Impact Assessment), 3 cr

*Visual and Performing Arts: THC 130, 231; MUSI 131, 239; ART 131, 132
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<th>Core Curriculum* (Standard)</th>
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<td>HSHA 313 (3)</td>
<td>HSCR 360 (3)</td>
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<td>CHEM 111, 131 (4 or 5)</td>
<td>HSHA 314 (3)</td>
<td>HSCR 361 (3)</td>
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<td>BIOL 121, 131 (5)</td>
<td>HSHA 361 (3)</td>
<td>MATH 134 (3)</td>
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<td>HSHA 363 (3)</td>
<td>PA 271 (3)</td>
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<td>BIOL 122, 132 (5)</td>
<td>HSHA 411 (6)**</td>
<td>PA 301 (3)</td>
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<td>ENG 2xx (3)</td>
<td>HSHA 412 (3)</td>
<td>PA 302 (3)</td>
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<td>ART 131 or ART 132 (3)</td>
<td>HSHA 413 (3)</td>
<td>PA 311 (3)</td>
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<td>HIST 231 (3)</td>
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<td>PSY 131 (3)</td>
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<td>CS 116 (3)</td>
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<td>Free Electives (6)</td>
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* Students should seek advisement prior to registering for any course intended to be used as credit toward the degree.

** (N) represents the number of course credits.

^^ HSHA 411 must be taken twice where each enrollment counts for 3 credits.
DEGREE PLAN LEADING TO THE
BACHELOR OF SCIENCE DEGREE IN
HEALTH ADMINISTRATION
BY LEVEL AND SEQUENCE

**Freshman**

**First Semester**
CHEM 111 (General Chemistry Lab I) or BIOL 121 (Biological Science Lab I), 2 cr
CHEM 131 (General Chemistry I) or BIOL 131 (Biological Science I), 3 cr
ENG 131 (Freshman English), 3 cr
HSCR 150 (Concepts of Health), 3 cr
MATH 133 College Algebra, 3 cr
PE 101-125 (Physical Education), 1 cr
PSY 131 (Psychology) or SOC 141 (Sociology), 3 cr

**Second Semester**
CHEM 112 (General Chemistry Lab II) or BIOL 122 (Biological Science Lab II), 2 cr
CHEM 132 (General Chemistry II) or BIOL 132 (Biological Science II), 3 cr
CS 116 (Computer Introduction), 3 cr
ENG 132 (Freshman English), 3 cr
HIST 231 (Social & Political History of U.S.), 3 cr
MATH 134 (Trigonometry College Math II), 3 cr
PE 101-125 (Physical Education), 1 cr

**Sophomore**

**First Semester**
ART 131 or 132* (Drawing and Composition), 3 cr
HIST 232 (Social & Political History of U.S. II), 3 cr
HSHA 211 (Health Information Systems), 3 cr
ENG 230-244 (English Literature), 3 cr
POLS 231 (American Political Systems I), 3 cr

**Second Semester**
HSCR 260 (Biomedical Ethics), 3 cr
HSCR 300 (Health Sciences Seminar), 1 cr
HSHA 262 (Public Policy and Health Care), 3 cr
PA 271 (Intro to Public Administration), 3 cr
SC 233 or SC 135 (Speech Communications), 3 cr
POLS 232 (American Political Systems II), 3 cr

**Junior**

**First Semester**
HSCR 360 (Principles of Disease), 3 cr
HSHA 312 (Health Administration in School Systems), 3 cr
HSHA 313 (Health Care of the Poor), 3 cr
HSHA 361 (Long Term Care), 3 cr
PA 301 (Research Methods in Public Administration), 3 cr
PA 311 (Introduction to Public Sector Planning), 3 cr

**Second Semester**
HSCR 361 (Research for Health Professionals), 3 cr
HSHA 314 (Finance and Economics of Health Care), 3 cr
HSHA 363 (Ambulatory Health Care), 3 cr
PA 302 (Quantitative Methods in Public Adm.)
PA 312 (Public Budgeting), 3 cr
PA 313 (Organization Behavior and Management), 3 cr
Senior

First Semester
HSHA 412 (Legal, Ethical, and Biomedical Aspects of Health Care), 3 cr
HSHA 413 (Seminar in Community Health), 3 cr
HSHA 414 (Seminar in Issues in Health Care), 3 cr
HSHA 451 (Health Care of the Aged), 3 cr
PA 321 (Personnel Administration), 3 cr
Free Elective, 3 cr

Second Semester
HSHA 411 (Health Administration Internship), (6) (2 sections)
Free Elective, 3 cr

*Visual and Performing Arts: THC 130, 231; MUSI 131, 239; ART 131, 132
# CURRICULUM SUMMARY FOR
# BACHELOR OF SCIENCE DEGREE IN
# HEALTH INFORMATION MANAGEMENT
# TOTAL CREDITS REQUIRED: 137

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<th>CORE CURRICULUM*</th>
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*Students should seek advisement prior to registering for any course intended to be used as credit toward the degree.

**(N)** represents the number of course credits.

¹May together be substituted with CHEM 131 and 111 or with PHYS 235 and 215.

²May together be substituted with CHEM 132 and 112 or with PHYS 236 and 216.
### Degree Plan Leading to the Bachelor of Science Degree in Health Information Management

#### By Level and Sequence

**Freshman**

**First Semester**
- BIOL 121 (Biological Science Laboratory I), 2 cr
- BIOL 131 (Biological Science I, Lecture), 3 cr
- HSCR 150 (Concepts of Health), 3 cr
- ENG 131 (Freshman English), 3 cr
- HIST 231 (Social and Political History of U.S. to 1877), 3 cr
- MATH 133 (College Algebra), 3 cr
- Visual and Performing Arts*, 3 cr

**Second Semester**
- BIOL 122 (Biological Science Laboratory II), 2 cr
- BIOL 132 (Biological Science II, Lecture), 3 cr
- CS 116 (Computer Introduction), 3 cr
- ENG 132 (Freshman English), 3 cr
- HIST 232 (Social and Political History of U.S. since 1877), 3 cr
- MATH 134 (Trigonometry) or MATH 135 (Math for Business), 3 cr
- PSY 131 (General Psychology), 3 cr

**Sophomore**

**First Semester**
- BIOL 135 (Human Anatomy and Physiology I), 4 cr
- HSCR 260 (Biomedical Ethics), 3 cr
- ENG 230-244 (English Literature), 3 cr
- SC 233 (Communication Skills for Health Professionals), 3 cr
- POLS 231 (American Political Systems I), 3 cr

**Second Semester**
- BIOL 136 (Human Anatomy and Physiology II), 4 cr
- BIOL 246 (Microbiology for Health Related Professions), 4 cr
- HSCR 300 (Health Sciences Seminar), 1 cr
- MGSC 239 (Business Statistics I), 3 cr
- POLS 232 (American Political Systems II), 3 cr

**Junior**

**First Semester**
- HSCR 360 (Principles of Disease), 3 cr
- HSMR 362 (Medical Terminology/Word Processing), 3 cr
- HSMR 363 (Basic Foundations I), 3 cr
- HSMR 363L (Basic Foundations Laboratory), 2 cr
- HSMR 365 (Directed Practice), 2 cr
- HSMR 366 (Legal Aspects), 2 cr

**Second Semester**
- HSCR 361 (Research for Health Professionals), 3 cr
- HSMR 373 (Basic Foundations II), 2 cr
- HSMR 364 (Management of Health Data I), 3 cr
- HSMR 364L (Management of Health Data Laboratory), 2 cr
- MGMT 300 (Business Organization and Management), 3 cr
- MGMT 301 (Personnel and Manpower Development), 3 cr
- Elective, 3 cr
Senior

**First Semester**
- HSMR 374 (Management of Health Data II), 2 cr
- HSMR 401 (In-Service Training for Health Information Managers), 1 cr
- HSMR 473 (Quality Assurance Management), 3 cr
- HSMR 474 (Computerized Health Information Systems), 3 cr
- HSMR 475 (Directed Practice II), 3 cr
- Elective, 3 cr

**Second Semester**
- HSMR 402 (Comprehensive Health Information Management), 1 cr
- HSMR 476 (Preceptorship), 4 cr
- HSMR 477 (Management of Health Information Systems), 4 cr
- HSMR 478 (Problems in Medical Records/Health Information Management), 2 cr
- HSMR 479 (Health Information Personnel Management), 3 cr
- Elective, 3 cr

*Visual and Performing Arts: THC 130, 231; MUSI 131, 239; ART 131, 132*
## CURRICULUM SUMMARY FOR
BACHELOR OF SCIENCE DEGREE IN
CLINICAL LABORATORY SCIENCES

TOTAL CREDITS REQUIRED: 136

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* Students should seek advisement prior to registering for any course intended to be used as credit toward the degree.
** (N) represents the number of course credits.
*** Upon approval of the Program Director, student may take any fine arts or equivalent to satisfy this requirement.
^^ CHEM 445 may be taken in lieu of CHEM 212 and CHEM 232.
### DEGREE PLAN LEADING TO THE BACHELOR OF SCIENCE DEGREE IN CLINICAL LABORATORY SCIENCES
**BY LEVEL AND SEQUENCE**

#### Freshman
**First Semester**
- BIOL 131 (Biological Science I, Lecture), 3 cr
- CHEM 111 (General Chemistry I Laboratory), 1 cr
- CHEM 131 (General Chemistry I, Lecture), 3 cr
- ENG 131 (Freshman English), 3 cr
- HSCR 150 (Concepts of Health), 3 cr
- MATH 133 (College Algebra), 3 cr
- SC 135 or 136 (Speech Communication), 3 cr

**Second Semester**
- BIOL 132 (Biological Science II, Lecture), 3 cr
- CHEM 112 (General Chemistry II Laboratory), 1 cr
- CHEM 132 (General Chemistry II, Lecture), 3 cr
- CS 116 (Computer Science), 3 cr
- ENG 132 (Freshman English), 3 cr
- PSY 131 (Psychology Lecture), 3 cr

#### Sophomore
**First Semester**
- BIOL 245 (Human Anatomy and Physiology), 3 cr
- BIOL 454 (Immunology), 3 cr
- CHEM 211 (Organic Chemistry I Laboratory), 1 cr
- CHEM 231 (Organic Chemistry I, Lecture), 3 cr
- HIST 231 (Social and Political History of U.S. I), 3 cr
- VISUAL AND PERFORMING ARTS* 3 cr
- POLS 231 (American Political Systems I), 3 cr

**Second Semester**
- BIOL 347 (Microbiology), 4 cr
- CHEM 212 (Organic Chemistry II Laboratory), 1 cr
- CHEM 232 (Organic Chemistry II, Lecture), 3 cr
- HIST 231 (Social and Political History of U.S. I), 3 cr
- POLS 232 (American Political Systems II), 3 cr
- ENG 230-244 (English Literature), 3 cr

**Summer Session**
- HSCR 260 (Biomedical Ethics), 3 cr
- HSCR 360 (Principles of Disease), 3 cr

#### Junior
**First Semester**
- HSMT 304 (Clinical Laboratory Science Applications I), 1 cr
- HSMT 352 (Hematology I), 4 cr
- HSMT 353 (Clinical Microscopy and Quality Control), 4 cr
- HSMT 354 (Immunohematology I), 3 cr
- HSMT 355 (Medical Chemistry I), 3 cr
- HSMT 359 (Microbial Human Disorders I), 3 cr
Second Semester
HSMT 252 (Serology Practice and Procedures), 3 cr
HSMT 305 (Clinical Laboratory Science Applications II), 1 cr
HSMT 362 (Hematology II), 3 cr
HSMT 364 (Immunohematology II), 3 cr
HSMT 365 (Medical Chemistry II), 3 cr
HSMT 369 (Microbial Human Disorders II), 2 cr

Summer Session
HSMT 356 (Hemostatic Processes), 4 cr

Senior
First Semester
HSMT 306-MGMT (Health Sciences Seminar), 1 cr
HSMT 357 (Practicum I), 3 cr
HSMT 467 (Blood Bank), 4 cr
HSMT 469 (Clinical Biochemistry), 4 cr

Second Semester
HSCR 300 (Health Sciences Seminar), 1 cr
HSMT 358 (Clinical Immunology), 2 cr
HSMT 466 (Clinical Hematology), 4 cr
HSMT 468 (Clinical Microbiology), 4 cr
HSMT 306-RESEARCH (Comprehensive Clinical Laboratory Science), 1 cr
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** (N) represents the number of course credits.
DEGREE PLAN LEADING TO THE
BACHELOR OF SCIENCE DEGREE IN
RESPIRATORY THERAPY
BY LEVEL AND SEQUENCE

Freshman
First Semester
BIOL 131 (Biological Science I, Lecture), 3 cr
CHEM 111 (General Chemistry I Laboratory), 1 cr
CHEM 131 (General Chemistry I, Lecture), 3 cr
ENG 131 (Freshman English I), 3 cr
MATH 133 (College Algebra), 3 cr
Visual and performing arts* 3 cr

Second Semester
BIOL 132 (Biological Science II, Lecture), 3 cr
CHEM 112 (General Chemistry II Laboratory), 1 cr
CHEM 132 (General Chemistry II, Lecture), 3 cr
ENG 132 (Freshman English II) MATH 134 (Trigonometry College Math II), 3 cr
PHAR 212 (Medical Terminology), 1 cr
HSCR 260 (Biomedical Ethics), 3 cr

Sophomore
First Semester
BIOL 245 (Human Anatomy and Physiology), 4 cr
ENG 230-244 (English Literature), 3 cr
HIST 231 (Social & Political History of the U.S.), 3 cr
PHYS 237 (General Physics Life Science I, Lecture), 3 cr
POLS 231 (American Political Systems I), 3 cr

Second Semester
HSRT 220 (Respiratory Therapy Clinical Practicum), 2 cr
HSRT 230 (Introduction to Respiratory Therapy), 3 cr
HSRT 231 (Cardiopulmonary Systems), 3 cr
HIST 232 (Social & Political History of U.S. II), 3 cr
POLS 232 (American Political Systems II), 3 cr
PHYS 238 (General Physics Life Science II, Lecture), 3 cr

Summer
First Term
HSRT 222 (Developmental Practicum in Clinical Applications), 2 cr
HSRT 232 (Intermediate Clinical Applications), 3 cr
PSY 131 (General Psychology), 3 cr

Second Term
HSCR 150 (Concepts of Health), 3 cr
CS 116 (Computer Introduction), 3 cr

Junior
First Semester
HSRT 320 (Applied Procedures and Equipment-Clinical Practicum III), 2 cr
HSRT 321 (Respiratory Therapy Clinical Practicum IV), 2 cr
HSRT 325 (Pediatric Clinical Practicum), 2 cr
HSRT 330 (Applied Procedures and Equipment), 3 cr
HSRT 331 (Theoretical and Applied Respiratory Therapy), 3 cr
HSRT 334 (Respiratory Care Pharmacotherapy), 3 cr
HSRT 340 (Neonatal and Pediatric Respiratory Care), 3 cr
Second Semester
BIOL 246 (Microbiology for Health Care Professionals), 4 cr
HSCR 300 (Seminar in Health Sciences), 1 cr
HSCR 360 (Principles of Disease), 3 cr
HSRT 322 (Respiratory Therapy Clinical Practicum V), 2 cr
HSRT 323 (Respiratory Therapy Clinical Practicum VI), 2 cr
HSRT 332 (Applied Procedures and Equipment), 3 cr
HSRT 333 (Cardiopulmonary Diseases), 3 cr

Summer First Term
HSRT 307 (Respiratory Care Applications I), 1 cr
HSRT 454 (Critical Care and Internship), 5 cr

Senior
First Semester
BIOL 460 (Biostatistics), 3 cr
HSRT 308 (Respiratory Care Applications II), 1 cr
HSRT 420 (Comprehensive Respiratory Care), 2 cr
HSRT 440 (Respiratory Therapy Management I), 4 cr
SC 233 (Speech Communications for Health Professionals), 3 cr

Second Semester
HSRT 435 (Electrocardiographic Technology), 3 cr
HSRT 441 (Respiratory Therapy Management II), 4 cr
HSRT 453 (Cardiopulmonary Technology), 5 cr

*Visual and Performing Arts: THC 130, 231; MUSI 131, 239; ART 131, 132