

RESPIRATORY CARE

Respiratory therapists (RTs) are health care specialists that evaluate, treat and educate patients with cardiopulmonary (heart-lung) disorders. They work closely with physicians, nurses and other allied health members in critical care units, emergency rooms, nurseries and pediatrics, medical units and home care. RTs may be responsible for patient assessment, medical gas therapy, pulmonary hygiene, diagnostic testing, mechanical ventilatory and cardiovascular support, and rehabilitation activities.

Background Information

The practice of respiratory care encompasses activities in diagnostic evaluation, therapy, and education of the patient, family and public. Diagnostic activities include obtaining and analyzing sputum and blood specimens, performing breathing studies to determine if lung function is impaired, performing sleep disorder studies and interpreting the data obtained from these. Therapy includes administering medical gases and respiratory medications to alleviate breathing problems, applying and monitoring mechanical ventilatory and cardiovascular support, maintaining artificial airways, performing bronchopulmonary hygiene procedures and cardiopulmonary rehabilitation. Education of the patient, family and public promotes knowledge of disease processes, medical therapy and wellness. These essential functions of the RT are practiced under qualified medical direction.

Career Opportunities

Graduates of the respiratory care program are eligible to complete a series of national examinations administered by the National Board of Respiratory Care that lead to the Registered Respiratory Therapist (RRT) credential. Most states require a license to practice respiratory care and use these examinations or verification of credentials for state licensing. To remain licensed, RTs may also be required to obtain continuing education credit. Graduates readily find employment in hospital, clinic and home care settings throughout the country. Additional career opportunities exist in management, education, sleep medicine, research, sales and public health. According to the U.S. Bureau of Labor Statistics, employment of respiratory therapists is expected to grow faster than the average for all occupations through the year 2022. This increase is attributed to a substantial growth in numbers of the middle-aged and elderly population that will heighten the incidence of cardiopulmonary disease. The mean annual earnings for RTs is \$58,490 (www.bls.gov; Occupational Outlook Handbook, National Occupational Employment and Wage Estimates, May 2014).

The NDSU/Sanford Respiratory Care Program

A Bachelor of Science degree with a major in respiratory care from North Dakota State University includes two to three years of academic course work and a 15-month internship at Sanford Medical Center. The NDSU/Sanford Respiratory Care program is accredited by the Committee on Accreditation for Respiratory Care.

Academic course work includes college algebra, chemistry, physics, anatomy and physiology, microbiology, psychology and computer science. Transfer students need to successfully complete a minimum of 20 resident credits at NDSU prior to starting an

internship. The full-time internship consists of lecture, lab and clinical education, which prepare the student to enter the profession of respiratory care.

Near the end of the internship year, students design a specialty proposal for an Individual Study (RC 494). Guidelines for this proposal are provided by Sanford Respiratory Care program faculty during the internship. Proposals are presented to a consortial committee for approval. Common specialty areas include: neonatal/pediatric general or intensive care, adult general or intensive care, emergency medical services, cardiopulmonary diagnostics, pulmonary rehabilitation or home care, education, and management.

Internship Selective Admission

Admission to the internship is selective and based upon successful completion of all internship prerequisites (20 resident credits at NDSU), cumulative and core course grade point averages, related experience, references, an interview, and compliance with criminal background and student conduct requirements. In addition, students admitted to the NDSU/Sanford Respiratory Care Program must possess the ability to complete the entire curriculum which requires that the student meet designated technical standards, or request accommodations to execute these skills. Technical standards include cognitive, physical, motor and tactile abilities, visual acuity, and speaking, hearing and interactive requirements. A detailed list of technical standards are found in the Department of Allied Sciences handbook at:

http://www.ndsu.edu/alliedsciences/respiratory_care/

Applications are available from the respiratory care department; deadline is March 1. An admission committee makes the selections.

Sample Curriculum

General Education Requirements	Credits
First Year Experience	
UNIV 189 - Skills for Academic Success.....	1
Communication	
COMM 110 - Fundamentals of Public Speaking	3
ENGL 110, 120 - College Composition I, II.....	3, 3
English Upper Level Writing Course.....	3
Quantitative Reasoning	
STAT 330 - Introductory Statistics.....	3
Science & Technology	
BIOL 220, 220L - Human Anatomy and	
Physiology I and Lab	4
CSCI 114 - Microcomputer Packages <i>or</i>	
CSCI 116 - Business Use of Computers	3 <i>or</i> 4
PHYS 120 - Fundamentals of Physics	3
Humanities & Fine Arts.....	6
Social & Behavioral Sciences	
PSYC 111 - Introduction to Psychology	3
Social and Behavioral Sciences Elective	3
Wellness	2
Cultural Diversity	-
Global Perspective.....	-
Total	40

Major Requirements	Credits
BIOL 221, 221L - Human Anatomy and	
Physiology II and Lab.....	4
CHEM 121, 121L - General Chemistry I and Lab.....	4
CHEM 122, 122L - General Chemistry II and Lab	4
CHEM 240 - Survey of Organic Chemistry	3
CHEM 260 - Elements of Biochemistry <i>or</i>	
BIOC 460 - Foundations of Biochemistry and Molecular	
Biology I.....	3 <i>or</i> 4
HNES 210 - First Aid and CPR.....	2
MATH 103 - College Algebra <i>or</i>	
MATH 105 - Trigonometry	3
MICR 202, 202L - Introductory Microbiology and Lab <i>or</i>	
MICR 350, 350L - General Microbiology and Lab	3 <i>or</i> 5
PHRM 125 - Medical Terminology for	
Health Professionals	1
RC 111 - Introduction to Respiratory Care.....	1
RC 496 - Field Experience	51
RC 494 - Individual Study.....	4
Special Electives.....	12
Total	96
CURRICULUM TOTAL.....	129-132

This sample curriculum is not intended to serve as a curriculum guide for current students, but rather an example of course offerings for prospective students. For the curriculum requirements in effect at the time of entrance into a program, consult with an academic advisor or with the Office of Registration and Records.

For Further Information

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