

Respiratory Care

Department Information

- **Department Location:**
Sudro Hall
- **Department Phone:**
701-231-8713
- **Department Web Site:**
www.ndsu.edu/alliedsciences/
- **Credential Offered:**
B.S.
- **Official Program Curriculum:**
bulletin.ndsu.edu/undergraduate/program-curriculum/respiratory-care/

Respiratory Care is an allied health profession that specializes in the evaluation, treatment, and education of patients with cardiopulmonary (heart-lung) disorders. Respiratory therapists (RTs) work closely with patients, physicians, nurses and other healthcare team members in critical care, emergency rooms, nurseries and pediatrics, medical units and home care. RTs' diverse responsibilities include patient assessment, medical gas therapy, pulmonary hygiene, diagnostic testing, mechanical ventilatory and cardiovascular support, rehabilitation activities, and consulting with physicians to develop treatment plans.

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, initiating and managing mechanical ventilators, establishing and maintaining artificial airways, performing pulmonary hygiene procedures and cardiopulmonary rehabilitation activities. Education of the patient, family and public promotes knowledge of disease processes, 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. NDSU graduates have enjoyed excellent pass rates on these certifying exams. 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. Department of Labor Bureau of Labor Statistics (<https://www.bls.gov/ooh/healthcare/respiratory-therapists.htm>), employment of respiratory therapists is expected to grow much faster than the average for all occupations through the year 2026. This increased demand is attributed to growth in the middle-aged and elderly populations that will increase the incidence of respiratory conditions, advances in preventing and detecting disease, and improved medications and sophisticated treatments. Mean annual wages for respiratory therapists in 2017 was \$61,810 (www.bls.gov/oes/current/oes291126.htm).

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 courses and a 15-month professional-level internship at Sanford Medical Center Fargo. The NDSU/Sanford Respiratory Care program is accredited by the Commission on Accreditation for Respiratory Care (<https://coarc.com>).

Academic courses include college algebra, chemistry, physics, anatomy and physiology, microbiology, psychology and computer science, in addition to general education courses. Transfer students need to successfully complete a minimum of 20 resident credits at NDSU prior to starting the internship. The full-time internship consists of lecture, lab and clinical education, which prepares the student to enter the profession of respiratory care.

Near the end of the internship, students design a specialty proposal for a focused clinical experience (RC 494, Individual Study). Common specialty areas include: neonatal/pediatric general or intensive care, adult general or intensive care, cardiopulmonary diagnostics, pulmonary rehabilitation or home care, education, and management.

Internship Admission

Admission to the internship is selective. Qualified students apply during the spring of the academic year during which they will complete all courses on campus. Admission is based upon successful completion of all internship prerequisites (20 resident credits at NDSU), cumulative and core course grade point averages (a minimum of 2.50 is required; the maximum number of core course attempts is two), 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 (https://www.ndsu.edu/alliedsciences/respiratory_care). Internship applications are available from the NDSU Department of Allied Sciences. Deadline for receipt of completed applications is March 1. An admission committee selects the interns.

It is highly recommended that students interested in the RC major meet with the respiratory care advisor to discuss degree requirements, internship admission, and create an individualized plan of study at least one year in advance of applying for the internship. Information about the profession, curriculum, internship, technical standards, and advising contacts are available from the Department of Allied Sciences. (https://www.ndsu.edu/alliedsciences/respiratory_care)

Plan of Study

Please note this is a sample plan of study and not an official curriculum. Actual student schedules for each semester will vary depending on start year, education goals, applicable transfer credit, and course availability. Students are encouraged to work with their academic advisor on a regular basis to review degree progress and customize an individual plan of study.

First Year					
Fall	Credits	Spring	Credits		
CHEM 121 [†]	3	CHEM 122 [†]	3		
CHEM 121L [†]	1	CHEM 122L [†]	1		
CHP 190	2	MICR 202 [†]	2		
CSCI 114	3	MICR 202L [†]	1		
ENGL 110 [*]	4	COMM 110	3		
MATH 103 [†]	3	ENGL 120 [*]	3		
Wellness (W)	2	PSYC 111	3		
	18		16		
Second Year					
Fall	Credits	Spring	Credits		
BIOL 220 [†]	3	BIOC 260 [†]	4		
BIOL 220L [†]	1	BIOL 221 [†]	3		
CHEM 240 [†]	3	BIOL 221L [†]	1		
RC 200	1	CHP 125 [†]	1		
Social & Behavioral Sciences (B)/Global Perspectives (G)	3	Humanities & Fine Arts (A)	3		
STAT 330	3	PHYS 120 [†]	3		
Humanities & Fine Arts (A)/Cultural Diversity (D)	3	Special Elective (dept. approved)	3		
	17		18		
Third Year					
Fall	Credits	Spring	Credits	Summer	Credits
RC 496 ^{**}	15	RC 496 ^{**}	15	RC 496 ^{**}	13
	15		15		13
Fourth Year					
Fall	Credits				
RC 496 ^{**}	8				
RC 494 ^{**}	4				
Upper Division Writing (C; 300-400)	3				

Special Elective (dept. approved)	3
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Total Credits: 130

- * All students are required to successfully earn credit for Engl 110 and Engl 120. Enrollment is based on English Placement. Upon completion of Engl 120 with a "C" grade or higher, students will be awarded placement credit (4) for Engl 110.
- ** Credits earned while participating in the Sanford Medical Center Fargo RC internship. The internship is 15 months, including one summer session.
- † Indicates "core" course. A minimum "core" course GPA of 2.50 is required. "Core" courses must be completed with a grade of "C" within two attempts.