

كلية علوم التأهيل الطبي
قسم العلاج التنفسي
دليل بكالوريوس العلاج التنفسي





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A. Program Identification and General Information

Program's Main Location

College of Medical Rehabilitation Sciences, Taibah University, Medinah, Saudi Arabia.

Branches Offering the Program

N/A

Partnerships with other parties (if any) and the nature of each

N/A

Professions/jobs for which students are qualified

Respiratory Therapist

Teaching Assistant

Relevant occupational/ Professional sectors

Respiratory therapists play a crucial role in the healthcare system, specializing in assessing and managing patients with respiratory disorders. Their expertise is valuable in various occupational and professional sectors, including hospitals, long-term care facilities, home healthcare, outpatient clinics, pulmonary rehabilitation programs, sleep disorder clinics, educational institutions, and research and development.

Total credit hours

(131) credit hours.



B. Mission, Objectives, and Program Learning Outcomes

Program Mission

The program provides continuous high-quality education, clinical training, and research for the development of competent respiratory therapists contributing to sustainable societal and scientific development.

Program Goals

1. Develop well-trained and qualified respiratory therapists.
2. Contribute to the body of knowledge in respiratory therapy (national/international) through engagement of students and faculty members in research, and scholarly activities.
3. Contribute to community development through engagement of students and faculty members in variety of activities.

Program Learning Outcomes

Knowledge and Understanding

K1: Recognize basic sciences and foundational knowledge related to the field the of respiratory therapy.

K2: Identifying different diagnostic and therapeutic procedures used in the field of respiratory therapy.

K3: Outline the steps in the management of adult and pediatric patients in the field of respiratory therapy practice and research.

Skills

S1: Apply scientific theories, principles, and modalities of respiratory therapy to diagnose and treat patients with cardiopulmonary disorders.

S2: Analyze and interpret different data to evaluate patients with cardiopulmonary condition and response to therapy.

S3: Demonstrate proficient communication skills in both academic and healthcare settings.



S4: Obtain relevant healthcare information to plan and implement respiratory care.

S5: Demonstrate competency in carrying out complex procedures in the field of cardiopulmonary.

□ **Values, Autonomy, and Responsibility**

V1: Strictly observe professional standards in personal conduct and promotion of the quality of patient care.

V2: Demonstrate *effective working and good interaction with other members of the healthcare team.*



C. Curriculum

Respiratory Program Study Plan

1. Curriculum Structure

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Institution Requirements	Required	14	36	26.7%
	Elective	2	4	2.96%
College Requirements	Required	-	-	-
	Elective	-	-	-
Program Requirements	Required	32	91	67.4%
	Elective	-	-	-
Capstone Course/Project	N/A	-	-	-
Field Training/ Internship	Required	One-year internship		
Residency year	N/A	-	-	-
Others (Free Elective Course)	N/A	2	4	2.96%
Total		50	135	100%

2. Program Courses

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
Level 1	MATH 101	Introduction to mathematics	Required		3	College
	CHEM 101	Introduction to chemistry	Required		3	College
	GS 111	Arabic language skills 1	Required		2	Institution
	GS 101	Islamic studies: belief and worship	Required		2	Institution
	ENG 101	English language skills 1	Required		4	College
Level 2	PHYS 101	Introduction to Physics	Required	MATH 101	3	College
	BIOL 101	Introduction to Biology	Required		3	College
	GS 152	Computer skills	Required		2	Institution
	GS 151	Skills of university life	Required		2	Institution
	ENG 102	English language skills 2	Required	ENG 101	4	College
	ANAT 213	Human Anatomy	Required		3	Program



Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
Level 3	PHSL 213	Human Physiology	Required		3	Program
	CBCH 213	Biochemistry	Required		2	Program
	MMIC 213	Microbiology	Required		2	Program
	RT 223	Introduction to Respiratory Therapy	Required		2	Program
	RT 233	Medical Gases & Humidity	Required		2	Program
	GS 102	Islamic Studies: Features of the Prophet's Biography	Required		2	Institution
	FE 1	Free Elective Course 1	Elective		2	Institution
Level 4	ANAT 214	Respiratory & Cardiovascular Anatomy	Required	ANAT 213	2	Program
	PHSL 214	Respiratory & Cardiovascular Physiology	Required	PHSL 213	2	Program
	RT 244	Patient Assessment	Required		3	Program
	RT 264	Respiratory Care Therapeutics	Required		4	Program
	PHT 214	Pharmacology	Required		3	Program
	RT 254	Clinical Training I	Required		3	Program
	GS 112	Arabic Language Skills 2	Required	GS 111	2	Institution
Level 5	RT 375	Basics of Mechanical Ventilation	Required	PHSL 214	4	Program
	RT 365	Respiratory Diseases (1)	Required	RT 244, PHT 214	3	Program
	RT335	Blood Gases	Required	PHSL 214	3	Program
	RT 345	Radiological Imaging for Chest & Heart	Required	ANAT 214	2	Program
	RT 355	Clinical Training II	Required	RT 254	3	Program
	GSE 1	University Elective Course (1)	Elective		2	Institution
Level 6	RT 376	Advanced Mechanical Ventilation	Required	RT 375	4	Program
	RT 366	Respiratory Diseases (2)	Required	RT 365	3	Program
	RT 336	Basic Pulmonary Function Testing	Required	PHSL 214	3	Program
	RT 356	Clinical Training III	Required	RT 355	3	Program
	GS 103	Islamic Studies: Human rights in Islam	Required		2	Institution
	FE 2	Free Elective Course 2	Elective		2	Institution
Level	RT 487	Respiratory Care for Neonate & Pediatric	Required	RT 376	3	Program



Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
7	RT 477	Advanced Pulmonary Function Testing	Required	RT 336	3	Program
	RT 467	Pulmonary Rehabilitation	Required	RT 376	2	Program
	RT 447	Respiratory Home Care	Required	RT 366	2	Program
	BRM 497	Biostatistics and Research Methodology	Required		3	Program
	RT 457	Clinical Training IV	Required	RT 356	3	Program
	GS 104	Islamic Studies: Islamic values and ethics	Required		2	Institution
Level 8	RT 478	Polysomnography	Required	PHSL 214	4	Program
	RT 488	Cardiopulmonary Critical Care	Required	RT 376	4	Program
	RT 428	Ethics in Respiratory Care	Required		2	Program
	RT 498	Graduation Project	Required	BRM 497	3	Program
	RT 458	Clinical Training V	Required	RT 457	3	Program
	GSE 2	University Elective Course (2)	Elective		2	Institution



D. Courses Description

BIOCHEMISTRY (CBCH 213)

Credits: 2 Credits

This course prepares the students to acquire basic knowledge of different biochemical structure of carbohydrate, lipids, protein, nucleic acids and to integrate the concepts of Homeostasis, Hormones, Enzymes, vitamins, minerals and Organs functions (liver function, kidney function.... etc.).

MICROBIOLOGY (MMIC213)

Credits: 2 Credits

This course will introduce the RT students to basic microbiology concepts of the microbial world, with emphasis on structure, function, growth, sterilization, infection control, antimicrobial chemotherapy and common laboratory practices involved with the diagnosis of infectious disease of the respiratory system. Students will learn about normal flora and common pathogens of the respiratory tract.

Human Physiology (PHSL 213)

Credits: 3 Credits

This course provides the student with basic knowledge of the normal function of the human body systems (other than respiratory & cardiovascular) and what takes place when disease or illness disrupts the normal processes.



Human Anatomy (ANAT 213)

Credits: 3 Credits

This course is intended to cover gross morphology and the study of all human body parts and organs. Also, this course will be taught using a combined regional and systemic approach to examine the relationships and organization of the major structures within the abdomen, head/neck, and back/limbs regions of the human body. Organization of human anatomy is correlated with diagnostic imaging. Medical based scenarios will be used to develop problem solving and critical thinking skills.

Introduction To Respiratory Therapy (RT223)

Credits: 2 Credits

This course introduces students to the profession of respiratory therapy, history of the profession, job description, and structure of the profession. In addition, basic knowledge about respiratory equipment and basic life support (CPR) will also be provided.

Medical Gases and Humidity (RT 233)

Credits: 2 Credits

This course provides core knowledge of different therapeutic modalities and procedures such as oxygen and humidity therapy. The course also introduces students to principle of infection control.

Respiratory and Cardiovascular Anatomy (ANAT 214)

Credits: 2 Credits

This course provides core knowledge of the normal structure and function of the respiratory & cardiovascular systems. Clinical application of common anatomical principles will be discussed in this course.



Respiratory and Cardiovascular Physiology (PHSL 214)

Credits: 2 Credits

This course provides core knowledge of the normal function of the respiratory and cardiovascular systems. Clinical application of common physiological principles will be discussed in this course.

Pharmacology (PHT 214)

Credits: 3 Credits

The course is designed to provide basic concepts of pharmacology for respiratory care professionals. This course deals with the introduction of basic principles of pharmacology including pharmacokinetics and pharmacodynamics aspects. The course covers the pharmacology of main drugs acting on the autacoids, ANS, CVS, and some drugs affecting the CNS. The course specially intended to study classifications, actions, therapeutic uses, adverse effects, and client education concerning drugs acting on respiratory system with special address on aerosolized medications. In addition, drugs management of infections, inflammations, GIT disorders, thyroid dysfunctions and diabetes mellitus are included to prepare the student for advanced life support practices.

Patient Assessment (RT 244)

Credits: 3 Credits

This course provides an introduction to examination skills and techniques used in diagnosis of pulmonary diseases. The course involves study of patient respiratory history, physical examination of the chest, radiological & medical laboratory assessment and documentation of the data in the medical chart.



Respiratory Care Therapeutics (RT 264)

Credits: 4 Credits

This course provides core knowledge of essential respiratory care procedures which are bronchial hygiene therapy, Lung expansion therapy, aerosol therapy, airway management, and manual/gas powered resuscitators.

Clinical Training I (RT 254)

Credits: 3 Credits

This course is designed for the students in which they will be exposed to the hospital environment and experience contact with other health care professionals and ancillary personnel. During this course, they will be participating in various respiratory care procedures involving from initial patient assessment up to the application of the required therapy. Students will be tasked to perform certain procedures inherent to function as respiratory therapists. They will apply the theoretical concepts of respiratory care.

Basics of Mechanical Ventilation (RT 375)

Credits: 4 Credits

This course is designed to provide students with introductory concepts of mechanical ventilation, such as classification, modes of mechanical ventilation, settings, indication and complications. Basic understanding of the most used ventilators and their clinical application is also covered.

Blood Gases (RT 335)

Credits: 3 Credits

This course introduces students to the concept of acid-base and blood gas interpretation. It also teaches fundamental principles of blood gases physiology, sampling techniques, sample analysis, and interpretation of results.



Respiratory Diseases (1) (RT 365)

Credits: 3 Credits

This course was designed to provide students with an overview of some respiratory diseases including diseases of the airways, infectious diseases of the lung, and neoplastic lung diseases. Students will become a quested with the pathogenesis, pathophysiology, clinical pictures, investigations procedure and line of treatment for these diseases.

Radiological Imaging for Chest and Heart (RT 345)

Credits: 2 Credits

During this course the student will understand the principle of imaging modalities and technologies of different imaging used for diagnosis of cardiovascular and respiratory systems abnormalities. This course focuses on imaging modalities including X-ray, computed tomography, MRI, PET, diagnostic ionizing radiation and ultrasound. and modalities for patients with cardiopulmonary disorders in the critical setting.

Clinical Training II (RT 355)

Credits: 3 Credits

The course is designed to facilitate clinical exposure to the various wards or units of the clinical affiliate. During this course, students will be tasked to observe, assist, and perform various respiratory care procedures.

Advanced Mechanical Ventilation (RT 376)

Credits: 4 Credits

This course is a continuation to the course: Basic Mechanical Ventilation, with emphasis on advanced modes used in mechanical ventilation.



Respiratory Diseases (II) (RT 366)

Credits: 3 Credits

Continuation of respiratory diseases I covering interstitial lung disease and respiratory failure.

Basic Pulmonary Function Testing (RT 336)

Credits: 3 Credits

Overview of pulmonary function testing and interpretation.

Clinical Training III (RT 356)

Credits: 3 Credits

Clinical Practice III provides advanced critical care exposure.

Respiratory Care for Neonate & Pediatric (RT 487)

Credits: 3 Credits

Covers neonatal and pediatric respiratory care.

Advanced Pulmonary Function Testing (RT 477)

Credits: 3 Credits

Advanced lung testing techniques.

Pulmonary Rehabilitation (RT 467)

Credits: 2 Credits

Rehabilitation program and management.



Respiratory Home Care (RT 447)

Credits: 2 Credits

Home care program and management.

Clinical Training IV (RT 457)

Credits: 3 Credits

Advanced neonatal and pediatric clinical training.

Biostatistics & Research Methodology (BRM 497)

Credits: 3 Credits

Research concepts, statistics, and data analysis.

Polysomnography (RT 478)

Credits: 4 Credits

Sleep studies and disorders.

Cardiopulmonary Critical Care (RT 488)

Credits: 4 Credits

Critical care monitoring and management.

Clinical Training V (RT 458)

Credits: 3 Credits

Final clinical training.



Graduation Project (RT498)

Credits: 3 Credits
Research project.

Ethics in Respiratory Care (RT 428)

Credits: 2 Credits
Ethical and legal issues.



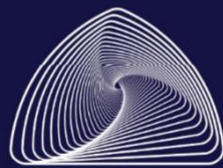
F. Graduate Attributes

- Utilize comprehensive knowledge and clinical competencies to administer exemplary respiratory care services to patients (**Clinical Competence**).
- Uphold professionalism and ensure safety in the role of a healthcare provider (**Professionalism**).
- Facilitate effective communication, collaboration, and leadership to ensure the delivery of safe and superior patient care (**Teamwork and Leadership**).
- Exhibit critical thinking capabilities in formulating and refining respiratory care plans based on clinical assessments (Critical Thinking and Problem-Solving).
- Engage in continuous development within the respiratory field (**continuous professional development**).
- Shows initiative and proactivity (**Proactivity**).



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