Faculty of Allied Medical Sciences

Department of Respiratory Therapy

Study Plan for the bachelor's degree in Respiratory Therapy

2020 / 2021

Vision: Leadership in teaching and learning respiratory therapy, scientific research, and community service

Mission: Graduating specialists in respiratory therapy qualified with scientific capabilities and practical skills to meet the needs of the local and regional community with international standards.

Program Objectives:

1. Graduate specialists in the profession of respiratory therapy with high professional competence •
2. Developing the profession of respiratory therapy by developing curricula and encouraging scientific research.
3. Focusing on seeking to implant medical education supported by evidence based practice.
4. Cooperating with similar educational programs; In order to raise the level of medical education, and exchange experiences.
5. Providing educational opportunity for all workers in the field of respiratory therapy, through annual conferences and seminars specialized in various aspects of specialization.
6. Serving the local community by spreading health awareness related to maintaining a healthy respiratory system.
7. Building students' sense of developing oneself scientifically and professionally through self-learning

Program learning outcomes (PLOs):

1. Knowing the basic principles and applications of respiratory therapy.
2. Familiarity with respiratory diseases through assessment and development of treatment plan of appropriate measures for the patient's condition.
3. Produce sound Judgment about the functional problems of respiratory diseases, taking into account the preventive aspects, and based on evidence based practice.
4. The application of creative thinking as a method in solving problems of respiratory diseases.
5. Work in a team and act responsibly in personal and professional situations.
6. Apply ethical behaviors in making remedial judgments.
7. Apply general safety measures and effective communication methods when dealing with patients

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1. **Framework for respiratory therapy bachelor's degree (136 Cr. Hrs.)**

Classification	Credit Hours			Percentage
	Compulsory	Elective	Total	
University Requirements	**12**	**12**	**24**	**17.6%**
Faculty Requirements	**21**		**21**	**15.4%**
Program Requirements	**82**	**6**	**88**	**64.31%**
Free Electives	**3**		**3**	**2.1%**
Total	**118**	**18**	**136**	**100%**

The coding system approved at the university

Example: Introduction to anesthesia technique

1	2	0	4	1	2	2	1
College		Department		Course level		cognitive domain	Sequance

Knowledge Areas

Number	Knowledge Field	Hours
1	Basic and medical sciences	27
2	Fundamental of respiratory therapy	32
3	respiratory therapy procedures in Acute and chronic chest disease	25
4	Clinical training in respiratory therapy	20

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2. **University Requirements:** (24 Credit Hours)

2. 1. Compulsory University Requirements: (12Credit Hours)

Course No.	Course Title	Cr. Hr.	Prerequisite	Co-requisite
01101101	Military Sciences	3		
01101102	Civic Education	3		
01101111	Arabic Language	3	01100011	
01101112	English Education	3	01100012	
	Total	**12**		

2. 2. Elective: 12 Credit Hours from the following courses.

Course No.	Course Title	Cr. Hr.	Prerequisite	Co-requisite
01101103	Traffic Education	3		-
01101104	Innovation and Entrepreneurship	3		-
01101121	Life Skills	3		-
01101131	Islamic Education	3		-
01101132	Jerusalem and the Hashemite Custodianship	3		-
01101141	Sport and Health	3		-
01101142	Environment and Society	3		-
01101151	Computer Skills	3		01100051
01101152	Internet and Communication	3		-
01101161	Economic Systems and Concepts	3		-
01101171	Psychology and Society	3		-
01101213	Communication Skills in Arabic	3		01101111
01101214	Communication Skills in English	3		01101112
01101243	Safety and First Aid	3		-
01101281	Scientific Research Methods	3		-
01101282	Introduction to Astronomy	3		-
03011101	Law in our Life	3		-
03021201	Human Rights	3		-

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Second: College requirements 21 credit hours

Compulsory college requirements 21 credit hours:

Prerequisite	Practical	Theory	Credit hour	Course name	Course #
	–	3	3	pathology	12012115
	–	2	2	Psychology for clinician	12012216
	–	1	1	Ethics for medical profession	12011218
	–	3	3	General medical physics	11021205
	–	3	3	General biology	11011281
11011281 11011281	3	–	1	General biology practical	11011282
11011281 11011281	–	3	3	Human anatomy	12011211
12011211	3	–	1	Human anatomy practical	12011212
-		3	3	General chemistry	11011107
11011107	3		1	General chemistry practical	11011107
	3	**18**	**21**		**المجموع**

Elective College Requirements:

Prerequisite	Practical	Theory	Credit hour	Course name	Course #
	None				

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Third: Major requirements are 88 credit hours

Compulsory major requirements 82 credit hours:

Prerequisite	Practical	Theory	Credit hour	Course name	Course #
12011213	3	1	2	Nursing fundamentals	09012103
11011282 12011211	–	3	3	Human physiology	12011213
12012115	–	3	3	Respiratory system anatomy	12041211
	–	3	3	General pharmacology	12032111
12042111	3	2	3	Medical gases	12042122 12042122
12042211	3	2	3	Rehabilitation for respiratory patients	12043233
	–	3	3	Introduction for respiratory therapy	12041212
12011213	3	2	3	Respiratory system pathology 1	12042224
	3	2	3	Fundamentals of Respiratory Therapy and Artificial Respiration	12042231
12044231	3	2	3	Fundamentals of pulmonary functions testing methods	12043238
	9	–	3	Clinical practice 1	12043141
	–	3	3	Respiratory therapeutic procedures	12042232
12042123	3	2	3	Pharmacology for respiratory	12042234
	3	2	3	Intensive care of the heart and lungs	12043135
	–	2	2	Medical problems management	12042251
12043141	9	–	3	Clinical practice 2	12043242
12043141	9	–	3	Clinical practice 3	12043243
	9	–	3	Clinical practice 4	12043244
	–	3	3	Advanced pulmonary function screening methods	12044231

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	3	1	2	Blood gases	12043125
	6	1	3	Managing artificial respirators	12044139
12043141	3	2	3	Fundamentals of sleeping dyspnea	12043136
		2	2	Occupational health hazards	12044153
	3	2	3	Respiratory system pathology2	12043126
	3	3	4	Clinical Evaluation	12043127
12043122	-	2	2	Respiratory care for pediatrics	12043237
12043243	12	-	4	Clinical Training 1	12044151
12043243	12	-	4	Clinical training 2	12044252
			82	**المجموع**	

Fourth: Major elective requirements 6 credit hours that the student chooses from the following subjects:

Prerequisite	Practical	Theory	Credit hours	Course name	Course #
	-	3	3	Probability and statistics	11031141
		3	3	Research methods	12013161
11011282	-	3	3	Microbiology	12031262
	3	2	3	Clinical biochemistry	05024121

Forth: Free Courses: 3 credit

The student chooses from the subjects offered by the university

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Advisory plan for the respiratory therapy specialty

First year				
First semester				
Co-requisite	Prerequisite	Credit hours	Course name	Course #
–	01100012	3	English language	01101112
–	01100011	3	Arabic language	01101111
–	–	3	General Biology	11011281
11011281	–	1	General Biology Practical	11011282
–	–	3	General Chemistry	11011107
11011101	–	1	General Chemistry practical	11011108
–	–	3	University electives	
		17	Total	
Second semester				
Co-requisite	Prerequisite	Credit hours	Course name	Course #
–	11011281	3	Human anatomy	12011211
12011211	–	1	Human anatomy practical	12011212
	–	2	Nursing fundamentals	09012103
–	–	2	Psychology for clinician	12012216
–	–	3	General medical physics	11021205
–	–	3	Military sciences	01101101
–	–	3	Civil education	01101102
		17	Total	

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Second year				
				First semester
Co-requisite	Prerequisite	Credit hours	Course name	Course #
-	11011281	3	Human physiology	12011213
-	11011281	3	Pathology	12012115
-	-	3	Introduction to respiratory therapy	12041212
-	-	3	General Pharmacology	12032111
		2	Medical gases	12042122
-	11011281	3	Respiratory system anatomy	12041211
		17	**Total**	
				Second semester
Co-requisite	**Prerequisite**	**Credit hours**	**Course name**	**Course #**
	12042111	3	Pharmacology for respiratory	12042234
	12011213	3	Respiratory system pathology1	12042224
-	-	2	Medical problems management	12042251
12042211	-	3	Fundamentals of Respiratory Therapy and Artificial Respiration	12042231
	12012115	3	Respiratory therapeutic procedures	12042232
		3	University electives	
		17	**Total**	

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Third year				
First semester				
Co-requisite	Prerequisite	Credit hours	Course name	Course #
–	12042211	3	Respiratory system pathology2	12043126
–	12042123	3	Medical gases	12043125
–	12042121	3	Clinical evaluation	12043127
–	12042232	3	Clinical practice 1	12043141
	12012115	3	Fundamentals of sleeping dyspnea	12043136
–	–	3	Intensive care of the heart and lungs	12043135
		18	Total	
Second semester				
Co-requisite	Prerequisite	Credit hours	Course name	Course #
–	–	3	Respiratory care for pediatrics	12043237
–	12043141	3	Rehabilitation for respiratory patients	12043233
–	12043141	3	Clinical practice2	12043242
–	12043141	3	Clinical practice3	12043243
–	–	3	Fundamentals of pulmonary functions testing methods	12043238

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		3	Managing artificial respirators	12044139
		18	**Total**	

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First semester				
Co-requisite	**Prerequisite**	**Credit hours**	**اسم المادة**	**Course #**
–	12043141	3	Clinical practice	12044144
–	–	2	Occupational health hazards	12044153
–	12043244	4	Clinical training 1	12044161
		3	Optional major	
		3	Optional major	
		1	Medical ethics	12044152
		16	**Total**	
Second semester				
Co-requisite	**Prerequisite**	**Credit hours**	**Course name**	**Course #**
–	12044161	4	Clinical training2	12044262
	12033122	2	Advanced pulmonary function screening methods	12044231
		3	Free course	
		3	Major elective requirementt	
		3	University electives	
		16	**المجموع**	

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Course Description for BSc Respiratory Therapy

Pathology 12012115:

The physiological changes that occur due to external and internal environmental stresses, and the disease processes and response that produce signs and symptoms. The content is based on common health problems, including the special health needs of children and the elderly. The student will explore a variety of concepts in pathology, which will be used in decision-making and procedures related to its making.

Clinical Psychology 12012216:

Mental and psychological illnesses, with a focus on the impact of injuries and disabilities on the condition, disease, and hospitalization on the psychosocial state of patients and the role of health personnel in preparing patients before operations psychologically.

General Medical Physics 11021205:

A practical introduction to the main physical principles applied in anesthesiology, including physical laws of matter such as gases, liquids, vapor and air, and their applications in work. Knowledge of all types of pressure and related laws and transferring the substance from one state to another, and how to preserve liquids and gases in all their forms, whether they are cylinders or a main compressor.

General Life Sciences 11011281:

Cell structure, cell chemistry, cellular respiration, photosynthesis, cell communication, cell division, principles of molecular genetics, genetic code, genetic material replication and reproduction, building proteins, inheritance of bacteria and viruses, hormonal regulation in

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plants and animals, principles of biological classification and the fundamentals of ecosystems for organisms.

General Life Sciences Practical 11011282:

Cell structures, chemical components of a living cell and cellular activities (methods of reproduction, enzymatic activities, physical properties, respiration and photosynthesis). The course also includes the study of plant and animal tissues, the diversity of organisms, and genetics.

Anatomy of a human being 12011211:

General anatomy of the human body includes the anatomy of the skin, the musculoskeletal system, the nervous system, the endocrine system, the cardiac circulatory system, the lymphatic system, the respiratory system, and the urinary system.

General Chemistry 11011107:

Significant numbers measurement, chemical reactions, chemical calculations, gas states, thermochemistry, electronic and periodic composition, chemical bonds, molecular shapes, states of matter and the attraction force between molecules, physical properties of solutions, principles of equilibrium

General Practical Chemistry 11011108:

Basic laboratory techniques, determination of the physical and chemical properties of a substance, and how to determine the experimental formulation between compounds.

Fundamentals of Nursing 09012103:

The information and skills necessary to assess an individual's health during life stages, and to apply health assessment on the basis of the approved functional health pattern that affects the individual's health status and distinguishes any change from the normal health status; the basics of nursing care for surgery patients, the role of responsible health personnel and the conditions related to patient care before the operation (that is, in the evening of the day before

the operation) and on the morning of the day of the operation, and until the patient returns back to his room, and sterilization techniques.

Respiratory Anatomy and Physiology 12041211:

The functions and structures of the respiratory system in details, topics related to the practical aspects that have direct applications to the patient, including the lungs and chest, bones and muscles of the respiratory system, trachea, lung mechanics, respiratory centers in the brain, the process of gas exchange and associated conditions.

Medical gases 12042122:

Treatment with oxygen and other medical gases, steam and humidification, as well as the use of medical gases, their tools and devices, the various sterilization methods for these devices. The student will conduct practical training on these procedures in the laboratory.

General Pharmacology 12032111:

General principles of pharmacology, including pharmacokinetics and pharmacodynamics of drugs in general, especially drugs related to anesthesia, the intensive care unit, the pharmacokinetics of the drug in special patient groups such as patients with obesity, pregnant women, preterm infants, newborns and children.

Respiratory Pharmacology 120342234:

The basic and necessary information about medicines, their classifications, their different names, whether scientific or commercial, their action, their absorption and excretion from the body, how they are administered with a focus on medicines for respiratory treatment in terms of composition, negative effect, different doses and poisoning.

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Introduction to Respiratory Therapy 12041212:

The basic information in respiratory treatment begins globally and locally, and the beginning of the modern history of the science of respiratory therapy as we know it today, and then knowledge of respiratory treatment tools and devices such as devices, vaporizers and others, and how to examine and deal with them scientifically, as is also required for monitoring devices

Anatomy of the Respiratory System 12041211:

The functions and structures of the respiratory system in details, the practical aspects that have direct applications to the patient, including the lungs and chest, bones and muscles of the respiratory system, trachea, lung mechanics, respiratory centers in the brain, the process of gas exchange and associated conditions.

Respiratory Therapy and Artificial Respiration Basics 12042231:

Basic knowledge of the critical steps in the treatment of various problems in the respiratory tract in its chronic and acute conditions, the conditions that need immediate concern and the basis for acting in these circumstances, the causes of respiratory failure, types of artificial respiration, how to perform artificial respiration in emergency and chronic respiratory conditions, and frameworks Care of patients undergoing chronic artificial respiration (for example, in cases where the patient suffers from damage to the nerves of the respiratory muscles, or inhalation of chemicals, or intracranial pressure, or a problem in maintaining an open airway, etc.).

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Clinical Training 1 12043141:

Student will be exposed to early clinical training, where the student is sent to accredited medical centers for a period of 8 hours (full shift) for a period of 15 weeks and under the direct supervision of specialized trainers. Practical and clinical skills related to examining the patient and taking the pathology, oxygen administration, humidifiers and steam.

Cardio-Lung Intensive Care 12043135:

Introduction to dealing with critical cases that require intensive care for heart and lung conditions, examining the electrical activity of the heart and pathological problems and how to deal with them through the necessary drugs and procedures.

Medical problems and their management 12042251:

Identify risks in ICU and the artificial respiration department, to be familiar with the procedures that can be taken to reduce or avoid these risks of infections and infection control. Ward management and time management, human resource, scheduling, and personal management

Clinical Training 2 12043242:

Focusing on the operating room, respiratory department, artificial respirators, dealing with the patient from the moment of arrival to his departure, training on special skills, in addition to giving the student the opportunity to train in the intensive care department.

Clinical Training 3 12043243:

The student is trained in the intensive care unit to deal with cases of artificial respiration.

Clinical Training 4 12043244:

The student will be trained in specialized medical centers for a full shift period (8 hours); this includes training the student in the Neonatal and Neonatal Intensive Care Unit. In addition, the

student will be trained to deal with pulmonary rehabilitation patients and the pulmonary function laboratory.

Occupational Health Hazards 12042251:

Knowledge of dealing with infectious cases, and dealing with chemical spills and radiation

Field Training 1 12044191:

Basic training includes the importance of sterilization, how to handle special tools, receiving patients and supervising anesthesia, how to record the medical history, prepare the patient, and how to deal with him during the operation. Emphasis is placed on practice especially when administering medications, clinical monitoring, tools for controlling forms of anesthesia, filling in medical information, name of joint surgeries and diagnosing them in emergencies.

Field Training 2 12044292:

Training to oversee tracheostomy and scheduling information, to enable the student to subsequently perform venous catheterization, training students on how to resuscitate the patient, on ideal post-operative supervision, and how to transfer the patient to the intensive care unit. Providing students with knowledge of the tools used and enabling them to work with them.

Management of artificial respirators 12044153:

The student is introduced to artificial respiration devices and how to deal with a patient whose condition requires to be placed on a ventilator, follow up, conduct the necessary tests, and then wean the patient and secure a sober breathing passage.

Clinical evaluation 12043127:

Introduction to the basic skills to deal with the patient in how to take the pathology, make a clinical examination, and evaluate the necessary tests such as chest radiographs, laboratory results, blood gas testing, as well as the main pathological indicators observed during the clinical examination.

Respiratory therapeutic procedures 12042232:

A continuation of what the student has learned in medical gases and the basic topics that the student learns in this course. It includes learning about the methods of physical therapy for the chest with its multiple methods, and exposure to multiple methods to maintain a steady airway.

Respiratory diseases 2 12043126:

Respiratory and various heart diseases will be followed up, and the student will be exposed to more disease cases that he will deal with, such as cardiovascular disease, nervous system diseases affecting breathing, and cases related to the direct and indirect effect on the respiratory system. Students are also trained to diagnose various chest diseases by examining diagnostic x-rays.

Fundamentals of pulmonary function examination methods 12043238:

The diagnostic aspect of lung diseases by measuring respiratory functions through the student's learning to conduct, diagnose and analyze tests related to lung function.

Respiratory care for children and newborns 12043237:

introduction to how to deal with newborns and children, artificial respirators for this category, as well as procedures for physical therapy for the chest, blood gases, disease conditions related to them, and other treatment procedures for these patients.

Advanced pulmonary function examination methods 12044231:

A continuation of what the student learned in the first course of pulmonary function tests, as it deals with advanced and more detailed topics in specialized examination procedures to identify diseases related to the respiratory system, the use of gases in measuring lung volumes and bronchial resistance.

Rehabilitation of respiratory patients 12043233:

The basic concepts in rehabilitating patients with pulmonary diseases so that they can manage their daily lives in a habitual manner. This is done through patient evaluation and treatment methods that are provided by the rehabilitation team to the patient, dealing with some topics such as: setting the treatment plan, the role of the family, the use of oxygen, patient nutrition and medication Eaten at home

Basics of sleep diseases 12043136:

Introduction to the basics of neurophysiology related to breathing, such as: the science of sleep disorders, brain and muscle planning, how to perform these tests, and the use of special devices for that.

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