



## 21 September University – for Medical and Applied Science



### Academic Curriculum For Bachelor Of Science in Respiratory Care (BsR)



### Respiratory Care Program Specification

The First ever BsRC program in Governmental University across Yemen.

2024م - 1446هـ

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## 20. Courses Specification

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## Academic Program Specification

University: 21 September University

Faculty : Applied Medical Sciences

### 1. Basic Information about the program

|                                                |                                                                                                                                                                                                                                                                                     |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Program Title                                  | Bachelor of Science in Respiratory Care ( BsRC )                                                                                                                                                                                                                                    |
| Awarding Institution                           | 21 September University of Medical & Applied Sciences                                                                                                                                                                                                                               |
| Faculty /institute responsible for the program | Faculty of Applied Medical Sciences                                                                                                                                                                                                                                                 |
| Department                                     | Department of Respiratory Care                                                                                                                                                                                                                                                      |
| Program type                                   | Single                                                                                                                                                                                                                                                                              |
| Language of study                              | English                                                                                                                                                                                                                                                                             |
| Year of study in the program                   | 2022- 2023                                                                                                                                                                                                                                                                          |
| Number of enrolled students:                   | 25-30 students per year                                                                                                                                                                                                                                                             |
| Mode of delivery                               | Regular, minimum attendance 75%                                                                                                                                                                                                                                                     |
| Teaching institution                           | On campus Faculty of Applied Medical Sciences                                                                                                                                                                                                                                       |
| System of study                                | Semester system (full-time)                                                                                                                                                                                                                                                         |
| Duration of study                              | The study of the program shall be of four years (8 semesters) duration as semester pattern of examination. Each academic year shall be two academic semesters and each semester is composed 16 weeks "including exams period". Followed by one year compulsory rotating internship. |
| Final award/s available                        | Bachelor Degree                                                                                                                                                                                                                                                                     |
| Award title                                    | Bachelor of Science in Respiratory Care                                                                                                                                                                                                                                             |
| Qualification for admission to the program     | Secondary scientific education                                                                                                                                                                                                                                                      |
| Grade for admission to the program             | As per the admission rules made by Ministry of higher education and scientific research-Yemen Republic                                                                                                                                                                              |
| Other requirements                             | Satisfactory outcome of an interview evaluating background and suitability for a Respiratory Care Specialist.                                                                                                                                                                       |

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|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Coordinator                                    | <b>Professor Nouradden Aljaber</b><br><b>Prof. Yahia Al-Huraibi</b><br><b>Mr. Saleem N. Hamilah , RCP , BS , FNIV.</b><br><b>Mr. Mansoor Abu Baker , BS, RCP, MHA , FNIV</b> |
| Data of program specification<br>(New program) | 2022                                                                                                                                                                         |
| Type                                           | Undergraduate                                                                                                                                                                |
| Duration                                       | 5 years                                                                                                                                                                      |
| Study Mode                                     | Full time                                                                                                                                                                    |
| Credit Hours                                   | 141                                                                                                                                                                          |
| Language                                       | English                                                                                                                                                                      |

|                             |                 |
|-----------------------------|-----------------|
| Intake                      | Spring and Fall |
| Campuses                    | Sana'a          |
| Local Accreditation         | MHESR,          |
| International Accreditation | IERS - ICRC     |

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## -Introduction:-

**Respiratory care (RC) specialty** is a healthcare discipline that focuses on the promotion of optimal cardiopulmonary function and health through the assessment, treatment, management, control, diagnostic evaluation, education, and care of patients with deficiencies and abnormalities of the cardiopulmonary system. **Respiratory therapists** (RTs) perform a wide range of tasks, such as assessment of patients, management of their airways, assistance in the management of oxygen supplementation and mechanical ventilation, administration of aerosol medications, maintenance of bronchial hygiene, chest physiotherapy, pulmonary rehabilitation, home RC, and several additional modalities.

The Bachelor of Science in Respiratory Care ( **BsRC** ) Program is design to equip Respiratory Care Specialists , who are advanced , with competencies in providing safe and effective respiratory care of high standard in a variety of settings. The graduates of this program will be able to practice as Respiratory care specialists (Respiratory Therapists).

The curriculum provides a sound scientific and humanistic foundation for respiratory care practice enabling the students to develop competencies necessary for the delivery of respiratory care related to prevention, maintenance, cure, rehabilitation and promotion of respiratory complained Patients . It also addresses the acute and chronic respiratory problems of clients throughout their life span , including care of the Neonate , child , Adult patients .

Apart from being sensitive and caring towards their clients, graduates of this program will be confident of their contributions to the respiratory care and will be able to articulate the RTs' role to other disciplines in health care.

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The program will also introduce respiratory care research and evidence-based respiratory care practice at an early stage of the program. Emphasis will be placed on developing critical and reflective thinking , problem solving and social skills of the undergraduates, and also skills to address professional, moral and ethical issues.

The Program is designed to further encourage the students to acquire knowledge and insights through self-directed learning and motivate innovative approaches.

#### Program's Vision:

It would strive for achievement of academic excellence by educating and training Respiratory care specialists who shall recognize critical care , respiratory care needs of critically ill patients and carry out professional obligations ethically and equitably and in keeping with national health policy.

#### Program's Mission

To prepare an informed, caring, compassionate and reflective Respiratory care specialists skilled in the delivery of respiratory care services in collaboration with other health care professionals and capable of becoming potential respiratory care giving leaders, educators, and advanced researchers in the field of respiratory care.

### **SCOPE OF PRACTICE FOR THE RESPIRATORY CARE SPECIALISTS (RESPIRATORY THERAPISTS):**

#### **BASIC FUNCTIONS:**

Perform all routine/basic Respiratory Care Modalities and Procedures as per established Clinical Practice

Guidelines or in consultation with treating physicians and/or a SENOIR Respiratory Care Specialist ( SENOIR Respiratory Therapist) for all patient groups as required. Respiratory Care Specialist works in all approved Job description; Make every possible effort to apply and promote evidence-based, ethical and safe Respiratory Care practice.

#### **PRINCIPAL DUTIES:**

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1. Develop appropriate Respiratory Care management plan in consultation with treating physician : perform patient assessment including noninvasive monitoring and other non-invasive physiologic measurements; apply the necessary Respiratory Care modality as per established Clinical Practice Guidelines or in consultation with treating physician; monitor patient responses and modify therapies based on clinical/physiologic assessments and consultation with physicians; document all patient care in patients" medical records clearly and concisely.
2. Apply, manage and monitor all forms of Non-Invasive ventilation in consultation with treating physician and/or a Respiratory Care Specialist.
3. Apply, manage and monitor oxygen therapy; Provide the associated cold/heated Aerosol or Humidity therapies when indicated.
4. Perform blood sampling for Blood Gases analysis via arterial puncture; initiates or modifies therapy appropriately as per established Clinical Practice Guidelines or in consultation with treating physician.
5. Administer Aerosolized Medications such as Bronchodilators, Corticosteroids, Antibiotics, Xylocaine, Pentamidine, Ribavirin, Morphine Sulfate in consultation with treating physician .
6. Perform all Routine Respiratory Care Modalities and Procedures including but not limited to aerosolized medication delivery, Chest Physiotherapy/ Bronchial Hygiene Therapy (Percussion, Vibration, Postural Drainage . etc.), Lung Expansion Therapies, Provide Oxygen Therapies as indicated. . . etc.
7. Perform Airway Management and airway clearance for non-intubated patients in emergency and nonemergency situations, provision of effective full mask manual ventilation.
8. Perform Basic Cardiopulmonary Resuscitation.
9. Disassemble, Decontaminate, Reassemble, and verify function of all noninvasive Respiratory Care equipment and supplies. Ensure maintenance and safe operation of equipment. Comply with hospital's Infection Control and Safety Protocols.
10. Provide continuing Respiratory Home-Care, Long-Term Care and Cardiopulmonary Rehabilitation.
11. Perform Diagnostic modalities and procedures such as Basic Pulmonary Function Testing and Sleep Disorders Screening as indicated by the treating physician.
12. Provide patient instruction on proper use of therapeutic modalities and techniques; conduct patient specialized education programs such as Smoking Cessation, Asthma Education, COPD education programs...etc.
13. Perform Basic and advance Education and In services to students and other health care providers on areas of expertise.
14. Carrying out approved clinical research projects related to Respiratory Care.
15. Perform other related function duties as assigned.

### PROGRAM GOALS AND OUTCOMES:

1. To prepare competent Respiratory Therapists in the cognitive, psychomotor and affective learning domains. The program will ensure an appropriate sequence of classroom, laboratory, and clinical activities consistent with training appropriate for the BSRC degree level Respiratory Therapist. And develop therapeutic goals for respiratory therapy appropriate for patient care.

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2. Perform patient care in a clinical setting in accordance with guidelines for patient care (GPCs).
3. Meet or exceed the minimum expectations of the NBRC certification examinations for a Registered Respiratory Therapist.
4. Demonstrate professional behavior in the field of respiratory care.

## APPROPRIATENESS OF GOALS AND LEARNING DOMAINS:

- A periodic review of outcomes and learning domains must be analyzed by the program administration to assess the educational program efficiency, monitor program productivity, assess the educational methods utilized, and recommend required alteration of current program through the program administration.
- An advisory committee consistent of the Faculty /institute program administration and representative of the communities of interest must meet at least annually to revise appropriateness of goals and learning domains, evaluate needs and expectations, and ensuring program responsiveness to change.

***The Five-year Respiratory Care program offers a Bachelor of Science degree in Respiratory Care. Graduates are qualified to practice as a competent respiratory therapist in all of the following areas:***

- Intensive care units.
- Pediatric and Neonatal respiratory care.
- Pulmonary function laboratories.
- Emergency departments
- Pulmonary rehabilitation/ home care. • Sleep laboratories
- Asthma/COPD education.
- Academics- The students can pursue higher education in Master of Science, Doctorate studies and Post-doctoral fellowships. They are highly in demand as Faculties in various Universities, across the globe.
- Research/ Respiratory Scientists
- Clinical application specialists, in various medical equipment companies

### 1. Vision, Mission & Aims of the University:

#### □ University Vision:

جامعة معاصرة بمسؤولية وطنية وذات هوية إيمانية.  
A Contemporary University with National Responsibility and Faith Identity

#### ▪ University Mission:

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Leading the transformation in the management and delivery of health care with all partners by setting a standard of excellence in education and medical and applied research in a way that meets the needs of Yemeni society, its specificity and regional influence.

### 3.3-University Core values:

- 1- Leadership and influence
- 2- Excellence
- 3- Creativity
- 4- Teamwork

### ▪ Aims of the University:

### 3.5-Strategic goals:

1. Ensuring the application of quality standards and setting standards of excellence in medical and applied sciences, scientific research and community service.
2. The centrality of the student in the educational process, the partnership with them for life, the consolidation of the principles of national responsibility and faith identity, their care and the development of their capabilities after graduation and during work.
3. Attracting, employing and retaining scholars, cadres and highly specialized talents to gain minds and reverse the trend of “brain drain” in a way that promotes and ensures the creation of thinkers, businessmen and good citizens.
4. Continuous development of the distinguished academic infrastructure and the establishment of modern research and service centers with high efficiency and capable of making a real impact locally and regionally.
5. Enhancing the university’s position as a preferred partner for local, regional and international partnership through implementing innovative models of education, exchanging research and knowledge, and providing real and effective outcomes for developing professional practices to benefit from them locally and regionally.

1. ضمان تطبيق معايير الجودة ووضع معايير التميز في العلوم الطبية والتطبيقية والبحث العلمي وخدمة المجتمع.

2. محورية الطالب في العملية التعليمية والشاركة معهم مدى الحياة وترسيخ مبادئ المسؤولية الوطنية والهوية الإيمانيّة ورعايتهم وتطوير إمكاناتهم بعد التخرج وأثناء العمل.

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|                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3. اجتذاب وتوظيف واستبقاء العلماء والكوادر والمواهب عالية التخصص لكسب العقول وعكس اتجاه "هجرة الأدمغة" بما يعزز ويضمن إيجاد مفكرين ورجال أعمال ومواطنين صالحين.                                                       |
| 4. التطوير المستمر للبنية التحتية الأكاديمية المتميزة وإنشاء المراكز البحثية والخدمية الحديثة ذات الكفاءة العالية والقادرة على إحداث تأثير حقيقي محلي وإقليمي .                                                       |
| 5. تعزيز مكانة الجامعة كشريك مفضل للشراكة المحلية والإقليمية والدولية من خلال تنفيذ نماذج مبتكرة للتعليم وتبادل البحوث والمعارف وتقديم نواتج حقيقية ومؤثرة لتطوير الممارسات المهنية للاستفادة منها محلياً وإقليمياً . |

### 3. Faculty of Medical Sciences Vision, Mission and Objectives

#### Vision:

A contemporary college in the field of applied medical sciences and scientific research with national responsibility and faith identity

كلية معاصرة في مجال العلوم الطبية التطبيقية والبحث العلمي بمسئولية وطنية وهوية إيمانية

#### Mission

Participate in leading the transformation for the better in providing high-quality diagnostic and health care services according to the latest techniques and contemporary technology through excellence in research and applied medical education to meet the needs of Yemeni society with its specificity and regional influence.

المشاركة في قيادة التحول نحو الأفضل في تقديم خدمات التشخيص والرعاية الصحية عالية الجودة وفق أحدث التقنيات والتكنولوجيا المعاصرة من خلال التميز في البحوث والتعليم الطبي التطبيقي لتلبية احتياجات المجتمع اليمني بخصائصه والتأثير الإقليمي.

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### Faculty Values:

#### 1. Respect and Appreciation

#### 2. Commitment and Professionalism

#### 3. Loyalty

#### 4. Transparency and Accountability

#### 5. Social Responsibility

#### 6. National Identity

#### 1. الاحترام والتقدير

#### 2. الالتزام والمهنية

#### 3. الإخلاص

#### 4. الشفافية والمساءلة

#### 5. المسؤولية المجتمعية

#### 6. الهوية الوطنية

**Faculty Objectives** 1. Preparing a graduate who is able to interact positively with the problems of society.

2. Providing the student with modern skills and providing him with a culture of self-reliance in renewal, development and innovation.

3. Attracting and retaining distinguished faculty members.

4. Providing a stimulating environment for teaching and learning.

5. . Ensuring a high-quality educational and training level through which the graduate gains basic academic knowledge and scientific and clinical applications in line with the needs of the labor market.

6. Creating postgraduate programs, enhancing scientific research and working to develop the capabilities of faculty members to be familiar with everything that is new in the educational process.

7. إعداد خريج قادر على التفاعل بإيجابيه مع مشكلات المجتمع .

8. تزويد الطالب بمهارات حديثة وتزويده بثقافة الاعتماد على النفس في التجديد والتطوير والابتكار .

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9. استقطاب أعضاء هيئة تدريس متميزين والمحافظة عليهم.

10. توفير بيئة محفزة للتعليم والتعلم.

11. ضمان مستوى تعليمي وتدريبى بجودة عالية يكسب الخريج من خلاله المعرفة الأكاديمية الأساسية والتطبيقات العلمية والإكلينيكية بما يتناسب مع احتياجات سوق العمل .

12. استحداث برامج دراسات عليا وتعزيز البحث العلمي والعمل على تنمية قدرات أعضاء هيئة التدريس للإلمام بكل ما هو حديث فى العملية التعليمية .

#### 4. Vision, Mission and Objectives of Scientific Department Responsible for the Program

##### **Scientific Department vision**

Excellence and pioneering in quality of educational and scientific research in Respiratory Care to contributing in serving the community

##### **Scientific Department mission:**

Providing excellent educational and research service in field of respiratory care and further advancement programs such master degrees to match with academic accreditation requirements in order to produce graduates with professionally and scientifically high efficiency to be able to compete in the labor market, and contributing in developing and serving the community.

##### **Scientific Department Objectives:**

1. Provide the local and regional society with cadres specialized in the applied respiratory care and qualified scientifically and ethically respiratory therapists.
2. Provide an educational environment enhancing learning, innovation and excellence for its students and academic staff
3. Offer academic programs in respiratory care with high level to match the quality and academic accreditation standards.
4. Excellence in the RC faculty staff of the department and continuous development for their knowledge and skills
5. Show awareness and excellence in the RC researches and oriented to serve the community.

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6. Provide special training in the RC clinical and lab fields.

7. Enhance the quality system and its activities in the department.

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## 5. Reference Points of the programme

The design of the Bachelor Degrees in Respiratory Care program has been developed with reference to a number of key guidelines, policies and strategies.

### A- International Reference Points :

1. Council for Accreditation of quality Assurance Standards, Yemen Republic Standards for Specialist Education and Practice (NMC, 2001)
2. Bachelor Degree in Respiratory Therapy. Missouri University. Department of Kinesiology. India.
3. Bachelor of Science in Respiratory Care. Batterjee medical college. Saudi Arabia.
4. Bachelor Degree of Respiratory Care . King Saud ben Abdul-Aziz university for health sciences. Saudi Arabia.
5. Bachelor of Science in Respiratory Care . Imam Abdurrahman bin Faisal University. Saudi Arabia.
6. Bachelor of Science in Respiratory Care, Al-Maarefa University. Saudi Arabia.
7. Bachelor of Science in Respiratory Care, University of Dammam. Saudi Arabia.
8. Bachelor of Science in Respiratory Care, Prince sultan military college for health sciences. Saudi Arabia.
9. Bachelor of Science in Respiratory Therapy. University of Southern Indiana. College of nursing and health professionals. India.
10. Bachelor of Science in Respiratory Care, Khwarizmi International college- Abu Dhabi. Emirate.
11. Bachelor of Science in Respiratory Care, Nebraska Methodist College Allied Health 12. Bachelor of Science in Respiratory Care , Baltimore city Community college-Maryland
13. The Bachelor of Science in Respiratory Care . Oregon Tech.USA.
14. Bachelor of Science in Respiratory Therapy. Tamil Nadu Dr. M.G.R. Medical University, Chennai. India.
15. Bachelor of Science in Respiratory Therapy. University of the District of Columbia. Community College. Columbia.
16. The Bachelor of Science in Respiratory Care . University of Akron
17. Bachelor of Science in Respiratory Care. Jagadguru Sri Shivarathreeshwara University. India.
18. Bachelor of Science in Respiratory Care. Texas State University. College of Health Professions. USA

### B- Local Reference Points :

12. 1- Bachelor of Science in Respiratory Care, University of Al-Razi University, Sana'a , Yemen .

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### Methods used for the development of this program have included:

1. Discussion and feedback from academic staff: - As part of the quality assurance framework via module evaluations
2. Internal strategic and program specific curriculum development groups.

### C- Program Vision, Mission and Objectives

#### Program Vision

Excellence and pioneering in quality of educational and scientific research in Respiratory Care to contributing in serving the community

#### Program Mission

Providing excellent educational and research service in field of Respiratory Care to match with academic accreditation requirements in order to produce with professionally and scientifically high efficiency to be able to compete in the labor market, and contributing in developing and serving the community.

#### Program Objectives

#### On completion of Bachelor of science in Respiratory Care program the graduates will be able to:

1. Utilize the latest trends and technology in RC to promoting patients lung health.
2. Recall, apply, and analyze information required of advanced-level respiratory therapists.
3. Manual dexterity and technical proficiency necessary to perform as competent advanced-level respiratory therapists.
4. Caring and positive attitude necessary for continued employment as advanced-level respiratory therapists.
5. Engage in critical thinking, reflection, and problem solving through evidence-based practice in multiple health care settings.
6. Empower himself or herself and others through an integration of leadership, management, and teaching/learning skills in the health care environment.
7. Participate effectively as members of the health team in health care delivery system.
8. Professional, ethical, spiritual, and compassionate service within the health care setting.

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9. Conduct need based research studies in Respiratory Care and utilize the research findings to improve the quality of care.

|                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><u>D- Intended learning outcomes (ILOs) of the program</u></b>                                                                                                                       |
| <b><u>Basic Intended learning outcomes (ILOs)</u></b>                                                                                                                                   |
| <b><u>ILOs of Knowledge and Understanding</u></b>                                                                                                                                       |
| <b><u>On successful completion of their program undergraduate students will be able to:</u></b>                                                                                         |
| A1. Determine the appropriateness of the prescribed respiratory care plan and recommend modifications when indicated by data                                                            |
| A2. Seek educational opportunities to improve and maintain their professional competence and document their participation accurately.                                                   |
| A3. Acquire knowledge on anatomical structure, physiological functions and perceptual aspects of the human body system .                                                                |
| A4. Acquire knowledge on the clinical aspects of respiratory care and implement the knowledge of anatomy, physiology and basic respiratory care technology concepts in clinical Setting |
| A5. Understand the general and respiratory pharmacology and the legislation relating to the supply and use of respiratory drugs .                                                       |
| <b><u>ILOs of Intellectual Skills</u></b>                                                                                                                                               |
| <b><u>On successful completion of the program undergraduate students will be able to:</u></b>                                                                                           |
| B1. Analyze, and evaluate critically, diagnostic and therapeutic interventions                                                                                                          |
| B2. Demonstrate critical skills for the evaluation of new concepts, procedures, techniques and products relevant to Respiratory Care practice.                                          |
| B3. Demonstrate an investigative approach to academic subjects and clinical practice which integrates theory and practice to identify and solve problems.                               |
| B4. Assess a wide range of clinical situations with cases studies of mechanical ventilation and management.                                                                             |
| <b><u>ILOs of Professional skills and practices</u></b>                                                                                                                                 |
| <b><u>On successful completion of the program undergraduate students will be able to:</u></b>                                                                                           |
| C1. Apply the principles of evidence-based practice                                                                                                                                     |
| C2. Apply basic research skills to specific respiratory problems in both group and individual settings.                                                                                 |
| C3. Initiate and conduct pulmonary rehabilitation and home care                                                                                                                         |

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|                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| C4. Use self-reflective learning strategies to continually improve the optometrically related service within health care services appropriate to the specific needs of the patient/client to ensure professional contribution to the needs of the society. |
| C5. Manipulate equipment by order or protocol, ensure infection control and perform quality control procedures.                                                                                                                                            |
| C6. Initiation and modification of therapeutic Procedures                                                                                                                                                                                                  |
| C7. Conduct appropriate health education and communication strategies in different settings using behavioral change models.                                                                                                                                |
| <b>ILOs of General and Transferable</b>                                                                                                                                                                                                                    |
| On successful completion of the program undergraduate students will be able to:                                                                                                                                                                            |
| D1. Communicate clearly and effectively with hospital/institutional staff personnel                                                                                                                                                                        |
| D2. Appreciate the utilization of data in respiratory care, social research and information technology.                                                                                                                                                    |
| D3. Awareness of the legal, ethical and commercial restraints and constraints within which Respiratory Care operates                                                                                                                                       |
| D4. Demonstrate excellent verbal and written communication skills.                                                                                                                                                                                         |

## E- Subsidiary Intended Learning Outcomes of the Program

### A. Knowledge and Understanding

On successful completion of the program undergraduate students will be able to:

- A1. Describe the structure, composition and functions of the organ systems of human body.
- A2. Understand the pathogenesis of disease and the implications for respiratory health and function and be knowledgeable in laboratory testing used in the assessment of respiratory function.
- A3. Comprehend the diagnostic and therapeutic procedures, record and interpret results of chest radiographs, laboratory data, blood gas, cardiopulmonary function studies, polysomnography, and ventilator mechanics.
- A4. Comprehend the basic and advanced respiratory care modalities to carry out the respiratory care plan.
- A5. Discuss the concepts and principles of health administration, biostatistics, research and language.
- A6. Delineate the mechanisms and interactions of pharmacological agents along with their safe and effective use in the diagnosis and treatment of respiratory conditions.
- A7. Understand the basic therapeutic and advanced respiratory care procedures.

### B. Intellectual Skills

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On successful completion of the program undergraduate students will be able to:

B1. Synthesize knowledge derived from the basic science, medical, humanities and Respiratory Care courses for the development of decision making in practice.

B2. Evaluate, write and utilize scientific research and evidence underpinning the study of individual and community health.

B3. Record and interpret results of chest radiographs, laboratory data, blood gas, cardiopulmonary function studies, polysomnography, and ventilator mechanics.

B4. Establish safe working practices for self and others relative to equipment and machinery, handling of product, disposal of materials and relevant legislation.

### C. Professional skills and practices

On successful completion of the program undergraduate students will be able to:

C1. Perform a range of assessment techniques to assess health status of patients.

C2. Apply of mechanical ventilation and therapeutics.

C3. Conduct cardiopulmonary diagnosis and monitoring.

C4. Apply of cardiopulmonary pharmacology and pathophysiology

C5. Manage of respiratory care plans for adult, neonatal and pediatric patients.

C6. Perform basic therapeutic and advanced respiratory care procedures competently.

### D. General and Transferable outcomes

On successful completion of the program undergraduate students will be able to:

D1. An understanding of the role of respiratory therapist as a healthcare profession, and the expectations and responsibilities of healthcare professionals

D2. Function effectively in the health care setting as a member of the healthcare team.

D3. Communicate effectively in oral, written and visual forms

D4. Use information technology.

D5. knowledge of the respiratory care code of ethics and ethical and professional conduct.

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### 9. Curriculum Map:

| Code / No | Subsidiary ILOs                  |    |    |    |    |    |                     |    |    |    |                                 |    |    |    |    |    |                               |    |    |    |    |
|-----------|----------------------------------|----|----|----|----|----|---------------------|----|----|----|---------------------------------|----|----|----|----|----|-------------------------------|----|----|----|----|
|           | Knowledge & understanding skills |    |    |    |    |    | Intellectual skills |    |    |    | Practical & professional skills |    |    |    |    |    | General & Transferable skills |    |    |    |    |
|           | A1                               | A2 | A3 | A4 | A5 | A6 | B1                  | B2 | B3 | B4 | C1                              | C2 | C3 | C4 | C5 | C6 | D1                            | D2 | D3 | D4 | D5 |
| UARB100   |                                  |    |    |    | X  |    | X                   |    |    | X  |                                 |    |    |    |    |    |                               |    |    |    |    |
| UENG101   |                                  |    |    |    | X  |    | X                   |    |    | X  |                                 |    |    |    |    |    |                               |    | X  |    |    |
| UENG102   | X                                |    |    |    | X  |    | X                   |    |    |    |                                 |    |    |    |    |    |                               |    |    |    | X  |
| UCOM103   | X                                |    |    |    |    |    | X                   |    |    |    |                                 |    |    |    |    | X  |                               |    |    | X  |    |
| UISL104   |                                  | X  | X  |    |    |    | X                   |    |    |    | X                               |    |    |    |    |    |                               |    |    |    |    |
| UNAT105   | X                                |    |    |    |    |    | X                   |    |    |    | X                               |    |    |    |    |    |                               |    |    |    |    |
| UINT106   | X                                |    |    |    |    |    | X                   |    |    |    | X                               |    |    |    |    |    |                               |    |    |    |    |
| AMSC100   |                                  |    |    |    | X  |    | X                   |    |    | X  |                                 |    |    |    |    |    |                               |    |    |    |    |
| AMSC101   |                                  | X  |    |    |    |    | X                   |    |    |    | X                               |    |    |    |    |    |                               |    |    |    |    |
| AMSC102   |                                  | X  | X  |    |    |    | X                   |    | X  |    |                                 |    |    |    |    |    |                               |    |    |    |    |
| AMSC103   | X                                |    |    | X  |    |    | X                   | X  |    |    |                                 | X  |    |    |    |    |                               |    |    |    |    |
| AMSC104   | X                                |    |    |    | X  |    | X                   |    |    |    | X                               |    | X  |    |    |    | X                             | X  | X  |    |    |
| AMSC105   | X                                | X  | X  |    |    |    | X                   |    |    |    |                                 |    |    |    |    |    |                               |    |    |    |    |
| AMSC106   | X                                |    | X  |    |    |    |                     |    |    |    |                                 |    |    |    | X  |    | X                             | X  |    |    |    |
| AMSC107   | X                                |    | X  | X  |    |    | X                   | X  |    |    |                                 |    |    |    | X  |    |                               |    |    |    |    |
| AMSC108   |                                  | X  |    |    |    |    | X                   |    |    |    | X                               |    |    |    |    |    |                               |    |    | X  |    |
| AMSC109   | X                                | X  | X  |    |    |    | X                   | X  |    |    |                                 |    |    |    |    |    |                               |    |    |    |    |
| AMSC110   | X                                |    | X  |    |    |    | X                   |    |    |    | X                               |    |    |    |    |    |                               |    | X  |    |    |
| AMSC111   | X                                |    |    | X  | X  |    | X                   |    | X  |    |                                 |    |    |    |    |    |                               |    |    |    |    |
| AMSC112   |                                  |    | X  |    |    |    |                     | X  |    |    | X                               | X  |    | X  | X  |    |                               |    | X  |    |    |
| AMSC113   |                                  |    | X  |    |    |    |                     | X  |    |    | X                               |    |    |    |    |    |                               |    |    |    |    |
| AMSC114   | X                                |    | X  |    |    |    |                     |    | X  |    |                                 |    |    | X  | X  |    |                               |    |    |    |    |
| AMSC115   | X                                |    | X  | X  |    |    | X                   |    | X  |    |                                 |    |    |    |    |    |                               |    |    |    |    |
| AMSC116   | X                                |    |    |    |    |    | X                   |    |    |    |                                 |    |    |    |    |    | X                             |    | X  |    | X  |
| AMSC117   |                                  |    | X  |    |    |    |                     | X  |    |    |                                 |    |    |    | X  |    |                               |    |    |    |    |
| AMSC300   | X                                |    |    | X  | X  |    | X                   |    |    |    |                                 |    |    |    |    |    |                               |    |    |    |    |
| AMSC400   |                                  |    |    |    | X  |    | X                   |    | X  |    |                                 |    |    |    |    |    |                               |    |    |    |    |
| AMSC401   |                                  |    |    |    | X  |    | X                   |    |    |    |                                 |    |    |    |    |    | X                             | X  |    |    | X  |
| RESC201   |                                  |    | X  |    |    | X  |                     |    |    |    | X                               | X  |    | X  | X  |    |                               |    | X  |    |    |

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|---------|---|---|---|---|---|---|---|---|---|---|---|---|--|---|---|--|---|--|---|---|
| RESC202 | X | X | X |   |   |   | X |   |   |   |   |   |  |   |   |  |   |  | X |   |
| RESC203 |   |   |   |   |   | X | X |   |   |   |   |   |  |   |   |  | X |  | X |   |
| RESC204 | X |   | X |   |   |   | X | X |   |   | X |   |  |   | X |  |   |  |   |   |
| RESC205 | X |   |   |   | X |   | X |   |   |   |   |   |  |   |   |  |   |  |   |   |
| RESC206 |   |   |   |   | X |   | X |   | X |   |   | X |  |   |   |  | X |  | X | X |
| RESC207 | X |   |   | X |   |   | X |   |   |   |   |   |  |   |   |  |   |  | X |   |
| RESC208 | X |   |   |   |   |   | X |   | X |   |   |   |  | X |   |  | X |  |   | X |
| RESC209 | X |   |   |   |   |   | X |   |   | X |   |   |  |   |   |  |   |  | X |   |

|         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RESC210 |   |   | X |   |   | X |   |   | X |   | X | X |   | X | X |   |   |   | X |   |
| RESC211 | X |   |   | X |   |   | X |   | X |   |   |   |   |   |   | X |   |   |   |   |
| RESC301 | X |   | X |   | X |   | X | X |   |   |   |   | X | X |   |   |   |   |   |   |
| RESC302 | X |   | X | X | X |   | X | X | X |   | X | X | X |   |   |   |   |   |   | X |
| RESC303 |   |   |   |   | X |   | X |   |   | X |   |   |   |   |   |   |   |   |   | X |
| RESC304 |   |   | X | X | X |   | X | X | X |   | X | X | X |   |   |   |   |   |   |   |
| RESC305 | X |   | X |   |   | X |   | X | X |   | X | X |   | X | X |   | X |   |   | X |
| RESC306 | X |   |   |   |   |   | X |   | X |   |   |   |   |   |   |   |   |   |   |   |
| RESC307 | X | X | X | X |   |   |   | X | X |   |   |   |   |   |   |   |   |   |   |   |
| RESC308 | X | X | X |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   | X |   |
| RESC309 |   |   |   |   |   | X | X |   |   |   |   |   |   |   |   |   | X |   | X |   |
| RESC402 | X |   | X |   |   |   | X | X |   |   | X |   |   |   | X |   |   |   |   |   |
| RESC403 | X |   |   |   | X |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |
| RESC404 |   |   |   |   | X |   | X |   | X |   |   | X |   |   |   | X |   | X |   | X |
| RESC405 | X |   |   | X |   |   | X |   |   |   |   |   |   |   |   |   |   |   | X |   |
| RESC407 | X | X | X |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   | X |   |
| RESC408 |   |   |   |   |   | X | X |   |   |   |   |   |   |   |   |   | X |   | X |   |
| RESC409 | X |   | X |   |   |   | X | X |   |   | X |   |   |   | X |   |   |   |   |   |
| RESC410 | X |   |   |   | X |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |
| RSC501  |   |   |   |   |   |   |   |   |   |   |   | X | X | X | X | X | X | X | X | X |
| RSC502  |   |   |   |   |   |   |   |   |   |   |   | X | X | X | X | X | X | X | X | X |

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### 11. Assessment Strategies

To evaluate the student's knowledge attaining and skill acquirement, the following assessment methods will be applied:

(i) For courses involving no practical part

| Item                              | Marks Distribution | Schedule                                  |
|-----------------------------------|--------------------|-------------------------------------------|
| Attendance                        | 5                  | 1 <sup>st</sup> -15 <sup>th</sup> week    |
| Quiz                              | 5                  | 4 <sup>th</sup> - 12 <sup>th</sup>        |
| Assignment                        | 10                 | 5 <sup>th</sup> and 12 <sup>th</sup> week |
| Mid-term exam                     | 20                 | 7 <sup>th</sup> or 8 <sup>th</sup> week   |
| Final-exam                        | 60                 | 16 <sup>th</sup> week                     |
| <b>Total Weight of the Course</b> | <b>100</b>         |                                           |

(ii) For courses involving a theoretical and practical parts

| Theoretical part              |                    |                                         |
|-------------------------------|--------------------|-----------------------------------------|
| Item                          | Marks Distribution | Schedule                                |
| Attendance                    | 2                  | 1 <sup>st</sup> -15 <sup>th</sup> week  |
| Quiz                          | 3                  | 4 <sup>th</sup> - 12 <sup>th</sup>      |
| Student assignment            | 5                  | 5 <sup>th</sup> - 12 <sup>th</sup> week |
| Mid-term exam                 | 10                 | 7 <sup>th</sup> or 8 <sup>th</sup> week |
| Final-exam                    | 40                 | 16 <sup>th</sup> week                   |
| <b>Total Theory Weight</b>    | <b>60</b>          |                                         |
| Practical part                |                    |                                         |
| Item                          | Marks Distribution | Schedule                                |
| Attendance and Attitude       | 5                  | 1 <sup>st</sup> -12 <sup>th</sup> week  |
| Semester work/Reporting       | 10                 | 1 <sup>st</sup> -12 <sup>th</sup> week  |
| Final exam (theory or oral )  | 5                  | 11-12 <sup>th</sup> week                |
| Final exam (practical)        | 20                 | 13-14 <sup>th</sup> week                |
| <b>Total Practical Weight</b> | <b>40</b>          |                                         |

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|                                   |            |
|-----------------------------------|------------|
| <b>Total Weight of the Course</b> | <b>100</b> |
|-----------------------------------|------------|

(iii) For courses involving a theoretical and clinical part

| <b>Theoretical part</b>    |                           |                                         |
|----------------------------|---------------------------|-----------------------------------------|
| <b>Item</b>                | <b>Marks Distribution</b> | <b>Schedule</b>                         |
| Attendance                 | 2                         | 1 <sup>st</sup> -15 <sup>th</sup> week  |
| Quiz                       | 3                         | 4 <sup>th</sup> - 12 <sup>th</sup>      |
| Assignment                 | 5                         | 5 <sup>th</sup> - 12 <sup>th</sup> week |
| Mid-term exam              | 10                        | 7 <sup>th</sup> or 8 <sup>th</sup> week |
| Final-exam                 | 40                        | 16 <sup>th</sup> -17 <sup>th</sup> week |
| <b>Total Theory Weight</b> | <b>60</b>                 |                                         |

| <b>Clinical part</b>               |                           |                                        |
|------------------------------------|---------------------------|----------------------------------------|
| <b>Items</b>                       | <b>Marks Distribution</b> | <b>Schedule</b>                        |
| Attendance and attitude            | 5                         | 1 <sup>st</sup> -11 <sup>th</sup> week |
| Clinical Evaluation/ Semester Work | 20                        | 1 <sup>st</sup> -11 <sup>th</sup> week |
| Final Exam (Written, Oral )        | 5                         | 12 <sup>th</sup> week                  |
| Final Exam (Clinical )             | 10                        | 13-14 <sup>th</sup> week               |
| <b>Total Clinical Weight</b>       | <b>40</b>                 |                                        |
| <b>Total Weight of the Course</b>  | <b>100</b>                |                                        |

(iv). Graduation research project assessment

Each project will be assessed by a committee of three members as follows

| <b>Items</b>                                                  | <b>Marks Distribution</b> |
|---------------------------------------------------------------|---------------------------|
| Research project supervisor                                   | 70                        |
| Internal examiner: a member of the department teaching stuff. | 15                        |

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|                                                                                                                             |            |
|-----------------------------------------------------------------------------------------------------------------------------|------------|
| external examiner : a qualified external examiner (either from other departments of the college or from another university) | 15         |
| <b>Total</b>                                                                                                                | <b>100</b> |

| Assessment of the research project by the project supervisor |                    |
|--------------------------------------------------------------|--------------------|
| Items                                                        | Marks Distribution |
| Attendance and attitude                                      | 20                 |
| Coursework and collaboration                                 | 50                 |
| <b>Total</b>                                                 | <b>70</b>          |
| Assessment of the project by the other discussion member     |                    |
| Items                                                        | Marks Distribution |
| Introduction and objectives                                  | 4                  |
| Literature review                                            | 5                  |
| Research methodology                                         | 6                  |
| Results                                                      | 5                  |
| Discussion , conclusion and recommendations                  | 4                  |
| References                                                   | 2                  |
| Presentation                                                 | 4                  |
| <b>Total</b>                                                 | <b>30*</b>         |

| Questions format in writing exams |                                                                                                                                                                                                                                                                        |                    |     |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----|
| Question pattern                  | Details                                                                                                                                                                                                                                                                | Marks Distribution | %   |
| Essay                             | <ul style="list-style-type: none"> <li>Types of this pattern include: short note, enumerate, mention, explain, compare, define, complete, draw, what questions, etc.</li> <li>At least 4 types of this pattern of questions should be included in the exam.</li> </ul> | 50                 | 50% |

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|                                  |                                                                                                              |       |     |
|----------------------------------|--------------------------------------------------------------------------------------------------------------|-------|-----|
| Multiple choice questions (MCQ)* | <ul style="list-style-type: none"> <li>• 15 -30 article</li> <li>• 4-5 of choices of each article</li> </ul> | 30-40 | 30% |
| Others Types include*            | <ul style="list-style-type: none"> <li>• True and False</li> <li>• Match questions.</li> </ul>               | 10-20 | 20% |

\*The whole students of the projects will be assessed as one unit

\*Zero degree will be given for any student does not attending the research presentation

\*1 or 2 degree to each MCQ, true /false and match questions.

## 12.Program Structure:

| No | Requirements             |            | No. of Courses | Credit Hours | Rational Weight % |
|----|--------------------------|------------|----------------|--------------|-------------------|
| 1. | University Requirements  | Compulsory | 7              | 14           | ---%0.10          |
|    |                          | Elective   | --             | --           |                   |
| 2. | Faculty Requirements     | Compulsory | 21             | -49-         | ---%0.35          |
|    |                          | Elective   | --             | --           |                   |
| 3. | Department Requirements  | Compulsory |                | --           | ---%              |
|    |                          | Elective   | --             | --           |                   |
| 4. | Program Requirements     | Compulsory | 26             | 75--         | ---0.53%          |
|    |                          | Elective   | --             | --           |                   |
| 5. | Field Training (if any)  | Compulsory | --             | --           | ---%              |
| 6. | Research Project Courses | Compulsory | 1              | 3            | ---%0.02          |
|    | Total:                   |            | 55             | 141          | 100%              |

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### List of courses According to Type of Requirements

#### 13. University Requirements

| No.   | Level-Sem. | Course Code | Course Name             | اسم المقرر               | Cr. Hrs. | L  | T | P | Prerequisites, Co-requisites |
|-------|------------|-------------|-------------------------|--------------------------|----------|----|---|---|------------------------------|
| 1.    | 1/1        | 06.11.701   | Arabic 101              | لغة عربية 101            | 2        | 2  |   |   |                              |
| 2.    | 1/2        | 06.11.802   | Arabic 102              | لغة عربية 102            | 2        | 2  |   |   |                              |
| 3.    | 1/1        | 06.11.803   | English 101             | لغة انجليزية 101         | 2        | 2  |   |   |                              |
| 4.    | 1/2        | 06.11.804   | English 102             | لغة انجليزية 102         | 2        | 2  |   |   |                              |
| 5.    | 1/1        | 06.11.805   | Islamic Culture         | ثقافة اسلامية            | 2        | 2  |   |   |                              |
| 6     | 1/2        | 06.11.806   | National Culture        | ثقافة وطنية              | 2        | 2  |   |   |                              |
| 7     | 1/2        | 06.11.807   | Arabic Israeli Conflict | الصراع العربي الإسرائيلي | 2        | 2  |   |   |                              |
| Total |            |             |                         |                          | 14       | 14 | 0 |   |                              |

□ T : Theory , L : Laboratory , C : Clinical , C.H : Credit Hours

#### 3. Faculty Requirements

##### Compulsory Courses

| No. | Level-Sem. | Course Code | Course Name               | اسم المقرر            | Cr. Hrs. | L | T | P | Prerequisites, Co-requisites |
|-----|------------|-------------|---------------------------|-----------------------|----------|---|---|---|------------------------------|
| 1   | 1/1        | 01 01 8011  | Anatomy and histology(1)  | تشريح والانسجه 1      | 3        | 2 | 2 |   |                              |
| 2   | 1/1        | 04 01 813   | Fundamental of Nursing(1) | اساسيات تمريض 1       | 3        | 2 | 2 |   |                              |
| 3   | 1/1        | 05 01814    | Medical ethics            | اخلاقيات المهن الطبية | 2        | 2 |   |   |                              |
| 4   | 1/1        | 04 01815    | Medical terminology       | مصطلحات طبية          | 2        | 2 |   |   |                              |
| 5   | 1/1        | 03 01 812   | Biochemistry              | كيمياء حيوية          | 2        | 2 |   |   |                              |
| 6   | 1/2        | 01 01 818   | Anatomy and histology2    | تشريح و انسجة 2       | 3        | 2 | 2 |   |                              |

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|--------------|-----|--------------|-------------------------------------------------|---------------------------------|-----------|-----------|-----------|-----------|--|
| 7            | 1/2 | 01 01<br>819 | physiology                                      | علم وظائف<br>الأعضاء            | 3         | 2         |           |           |  |
| 8            | 1/2 | 05 01<br>817 | communications skills                           | مهارات اتصال                    | 2         | 2         |           |           |  |
| 9            | 1/2 | 07 01<br>816 | Computer Skills                                 | مهارات حاسوب                    | 3         | 2         | 2         |           |  |
| 10           | 1/2 | 04 01<br>820 | Fundamental of Nursing 2                        | اساسيات تمريض 2                 | 3         | 2         | 2         |           |  |
| 11           | 2/1 | 04 01<br>821 | Fundamental of Infection<br>Control             | أساسيات التحكم<br>بالعدوى       | 2         | 2         |           |           |  |
| 12           | 2/1 | 02 01<br>822 | Basic Pharmacology                              | اساسيات علم<br>الادوية          | 2         | 2         |           |           |  |
| 13           | 2/1 | 03 01<br>823 | Microbiology and<br>Parasitology                | أحياء دقيقة<br>وطفيليات         | 3         | 2         | 2         |           |  |
| 14           | 2/2 | 01 01<br>825 | Pathology                                       | علم الأمراض                     | 2         | 2         |           |           |  |
| 15           | 2/2 | 02 01<br>827 | Applied Pharmacology                            | ادوية تطبيقية                   | 2         | 2         |           |           |  |
| 16           | 2/2 | 05 01<br>826 | Psychology                                      | علم النفس                       | 2         | 2         |           |           |  |
| 17           | 3/1 | 01 02<br>860 | Cardiac Diseases                                | أمراض القلب                     | 2         | 2         |           |           |  |
| 18           | 3/1 | 01 02<br>861 | Chest Radiology                                 | علم الاشعة للصدر                | 2         | 2         |           |           |  |
| 19           | 3/1 | 05 02<br>833 | Biostatistics                                   | الإحصاء الحيوي                  | 2         | 2         |           |           |  |
| 20           | 4/1 | 05 01<br>846 | Health Administration<br>and Quality Management | الإدارة الصحية<br>وإدارة الجودة | 2         | 2         |           |           |  |
| 21           | 3/2 | 08 01<br>842 | Scientific Research<br>methodology              | طرق البحث العلمي                | 2         | 2         |           |           |  |
| <b>Total</b> |     |              |                                                 |                                 | <b>21</b> | <b>49</b> | <b>42</b> | <b>12</b> |  |

□ T : Theory , L : Laboratory , C : Clinical , C.H : Credit Hours

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### 3-Program Major

#### Compulsory Courses

| No. | Level-Sem. | Course Code | Course Name                       | اسم المقرر                                 | Cr. Hrs. | L | T  | P  | Prerequisites, Co-requisites |
|-----|------------|-------------|-----------------------------------|--------------------------------------------|----------|---|----|----|------------------------------|
| 1   | 1/2        | 08 05 561   | Introduction to health sciences   | مقدمه في الرعاية التنفسية                  | 2        | 2 | 0  |    |                              |
| 2   | 2/1        | 08 05 562   | Respiratory physics & Mathematics | فيزياء الجهاز التنفسي والرياضيات           | 2        | 2 | 0  |    |                              |
| 3   | 2/1        | 08 05 562   | Respiratory Care Science I        | علم الرعاية التنفسية I                     | 3        | 2 | 2  |    |                              |
| 4   | 2/2        | 08 05 563   | RC. Patient Assessment            | تقييم المريض للرعاية التنفسية              | 3        | 2 | 2  |    |                              |
| 5   | 2/2        | 08 05 564   | Cardiopulmonary anatomy           | تشريح الجهاز القلبي الرئوي                 | 2        | 2 | 0  |    |                              |
| 6   | 2/2        | 08 05 565   | Cardio- Pulmonary Physiology      | علم وظائف الجهاز القلبي الرئوي             | 2        | 2 |    |    |                              |
| 7   | 3/1        | 08 05 866   | Respiratory Care Science II       | علم الرعاية التنفسية 2                     | 3        | 2 | 2  |    |                              |
| 8   | 3/2        | 08 05 867   | Respiratory Care Practicum I      | ممارسة الرعاية التنفسية 1 ( تدريب ميداني ) | 4        | 0 |    | 12 |                              |
| 9   | 3/2        | 08 05 868   | Pulmonary Function Tests          | فحوصات وظائف الرئتين                       | 2        | 2 | 0  |    |                              |
| 10  | 3/2        | 08 05 869   | Respiratory Care Equipment        | أدوات الرعاية التنفسية                     | 2        | 2 | 0  |    |                              |
| 11  | 4/1        | 08 05 870   | Respiratory Pathophysiology       | فسيولوجية امراض الجهاز التنفسي             | 2        | 2 | 12 |    |                              |
| 12  | 4/1        | 08 05 871   | Respiratory Care Science III      | علم الرعاية التنفسية 3                     | 3        | 2 | 2  |    |                              |
| 13  | 4/2        | 08 05 872   | Respiratory Care Practicum II     | ممارسة الرعاية التنفسية 2 ( تدريب ميداني ) | 4        | 0 |    | 12 |                              |
| 14  | 4/2        | 08 05 873   | Acid Base & Blood gases           | القلوية والحموضة الدموية وغازات الدم       | 2        | 2 | 0  |    |                              |
| 15  | 4/2        | 08 05 874   | Basic Mechanical Ventilation      | جهاز التهوية الاصطناعي الأساسي             | 3        | 2 | 0  |    |                              |
| 16  |            | 08 05 875   | Respiratory Care Science IV       | علم الرعاية التنفسية 4                     | 3        | 2 | 0  |    |                              |

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|--------------|--|-----------|-----------------------------------------|--------------------------------------------|-----------|-----------|---|-----------|--|
| 17           |  | 08 05 876 | Respiratory Care Practicum III          | ممارسة الرعاية التنفسية ( تدريب ميداني ) 3 | 4         | 0         | 0 | 12        |  |
| 18           |  | 08 05 877 | Respiratory Diseases I                  | أمراض الجهاز التنفسي 1                     | 2         | 2         | 0 |           |  |
| 19           |  | 08 05 878 | Neonatal-Pediatric Respiratory Care     | الرعاية التنفسية للأطفال وحديثي الولادة    | 3         | 2         | 0 |           |  |
| 20           |  | 08 05 879 | Respiratory Care Practicum IV           | ممارسة الرعاية التنفسية 4 ( تدريب ميداني ) | 6         | 0         | 0 | 18        |  |
| 21           |  | 08 05 880 | Respiratory Diseases II                 | أمراض الجهاز التنفسي 2                     | 2         | 2         | 0 |           |  |
| 22           |  | 08 05 881 | Basic and Diagnostic of Sleep Disorders | أساسيات وتشخيص اضطرابات النوم              | 2         | 2         | 0 |           |  |
| 23           |  | 08 05 882 | Cardio-Pulmonary Rehabilitation         | التأهيل القلبي الرئوي                      | 2         | 2         | 0 | 0         |  |
| 24           |  | 08 05 883 | Graduate Research Project               | مشروع بحث التخرج                           | 3         | 0         | 0 | 9         |  |
| 25           |  | 08 05 884 | Respiratory Care Practicum 5            | ممارسة الرعاية التنفسية 5 ( تدريب ميداني ) | 6         | 0         | 0 | 18        |  |
| 26           |  | 08 05 885 | Cardiopulmonary Critical Care           | الرعاية الحرجة للجهاز القلبي الرئوي        | 3         | 2         |   | 6         |  |
| 27           |  | 08 05 886 | Advance Mechanical Ventilation          | جهاز التنفس الاصطناعي المتقدم              | 3         | 2         | 0 | 2         |  |
| <b>Total</b> |  |           |                                         |                                            | <b>78</b> | <b>42</b> |   | <b>89</b> |  |

□ T : Theory , L : Laboratory , C : Clinical , C.H : Credit Hours

### Internship

| SN | Code   | Course              | CH        |
|----|--------|---------------------|-----------|
| 40 | RSC501 | 6 Months Internship | NA        |
| 41 | RSC502 | 6 Months Internship | NA        |
|    |        | <b>Total</b>        | <b>NA</b> |

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### C. Code System only for specialized courses

| Requirement | Code | Symbol Meaning |
|-------------|------|----------------|
| University  | 06   |                |
| Faculty     | 08   |                |
| Specialty   |      |                |

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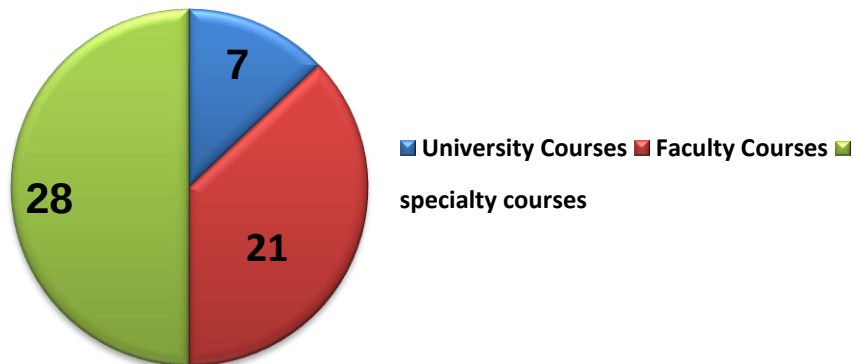
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## Distribution of Courses according to type of course :



| Types of study:                                                                 | Semester system-Regular                                                |                      |         |
|---------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------|---------|
| No. of credits hour for the program                                             | 143                                                                    |                      |         |
| No. of contact hours for the internship                                         | <b>48 per week</b><br><b>(192 hours per month total of 2304 hours)</b> |                      |         |
| <b>No. of credits hours and their percent out of total No. of program hours</b> |                                                                        |                      |         |
| Requirements                                                                    | No. of courses                                                         | No. of credits hours | %       |
| University requirements                                                         | 7                                                                      | 15                   | 10.72%  |
| Faculty requirements                                                            | 21                                                                     | 47                   | 32.14%  |
| Dep./ Specialty requirements                                                    | 28                                                                     | 81                   | 57.14%  |
| <b>Total</b>                                                                    | 56                                                                     | 143                  | 100.00% |
| <b>12 Months internship</b>                                                     | -                                                                      | NA                   | -       |

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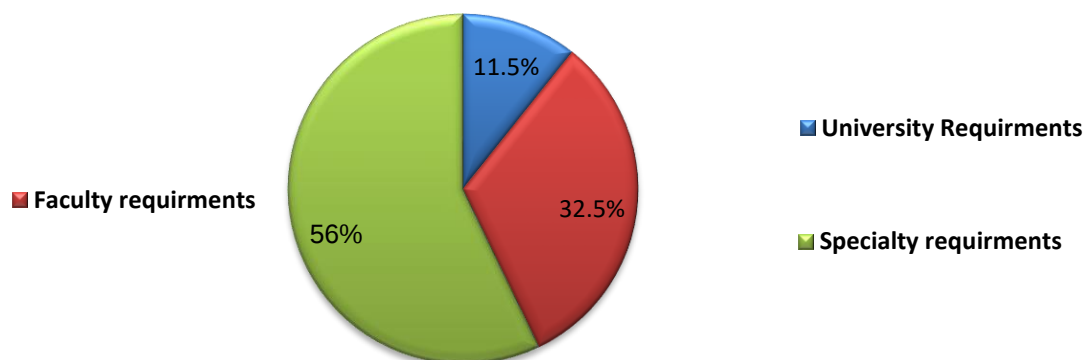
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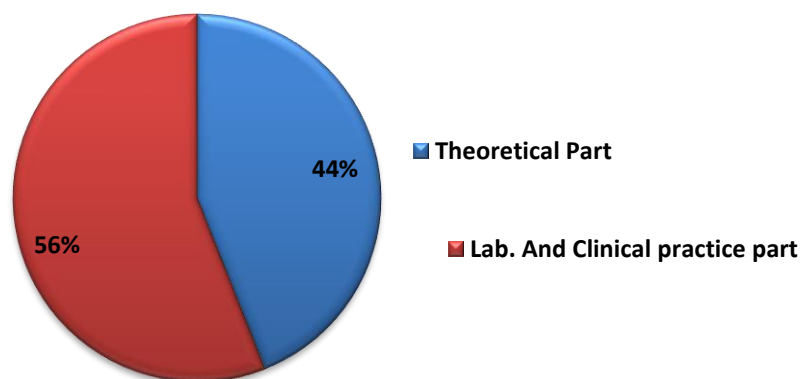
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## Distribution of Credit hours according to type of requirement :



## Clinical practice and lab. to Theoretical part ratio



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## 14. Study plan :

### Level 1

| Term 1 |             |             |                          |                       |          |    |   |   |                              |
|--------|-------------|-------------|--------------------------|-----------------------|----------|----|---|---|------------------------------|
| No .   | Level -Sem. | Course Code | Course Name              | اسم المقرر            | Cr. Hrs. | L  | T | P | Prerequisites, Co-requisites |
| 1      |             | 06 11 801   | arabic language 101      | لغة عربية 101         | 2        | 2  |   |   |                              |
| 2      |             | 06 11 803   | English Language101      | لغة انجليزية 101      | 2        | 2  |   |   |                              |
| 3      |             | 06 11 805   | Islamic Culture          | ثقافة إسلامية         | 2        | 2  |   |   |                              |
| 4      |             | 01 01 811   | anatomy and histology I  | تشريح وانسجة 1        | 3        | 2  | 2 |   |                              |
| 5      |             | 03 01 812   | Biochemistry             | كيمياء حيوية          | 2        | 2  |   |   |                              |
| 6      |             | 04 01 813   | Fundamental of Nursing I | اساسيات تمريض 1       | 3        | 2  | 2 |   |                              |
| 7      |             | 05 01 814   | Medical ethics           | اخلاقيات المهن الطبية | 2        | 2  |   |   |                              |
| 8      |             | 04 01 815   | Medical Terminology      | مصطلحات طبية          | 2        | 2  |   |   |                              |
| Total  |             |             |                          |                       | 18       | 16 | 4 |   |                              |

| Term 2 |            |             |                      |                  |          |   |   |   |                              |
|--------|------------|-------------|----------------------|------------------|----------|---|---|---|------------------------------|
| No.    | Level-Sem. | Course Code | Course Name          | اسم المقرر       | Cr. Hrs. | L | T | P | Prerequisites, Co-requisites |
| 1      |            | 07 01 816   | Computer Skills      | مهارات حاسوب     | 3        | 2 | 2 |   |                              |
| 2      |            | 06 11 804   | English Language 102 | لغة انجليزية 102 | 2        | 2 | - |   |                              |

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|--------------|--|-----------|---------------------------------|---------------------------|-----------|-----------|----------|--|--|
| 3            |  | 01 01 817 | Anatomy and histology 2         | تشريح وانسجه 2            | 3         | 2         | 2        |  |  |
| 4            |  | 06 11 806 | National Culture                | ثقافة وطنية               | 2         | 2         | -        |  |  |
| 5            |  | 05 01 817 | Communication Skills            | مهارات اتصال              | 2         | 2         |          |  |  |
| 6            |  | 01 01 818 | physiology                      | علم وظائف الاعضاء         | 2         | 2         | -        |  |  |
| 7            |  | 06 11 801 | Arabic Language 102             | لغة عربية 102             | 2         | 2         | -        |  |  |
| 8            |  | 06 11 807 | arabic israeli conflict         | صراع عربي إسرائيلي        | 2         | 2         |          |  |  |
| 9            |  | 04 01 820 | Fundamental of Nursing 2        | اساسيات تمريض 2           | 3         | 2         | 2        |  |  |
| 10           |  | 08 05 561 | Introduction to health sciences | مقدمه في الرعاية التنفسية | 2         | 2         | -        |  |  |
| <b>Total</b> |  |           |                                 |                           | <b>23</b> | <b>18</b> | <b>6</b> |  |  |

## Level 2

| Term 1       |            |             |                                   |                                  |           |           |          |   |                              |
|--------------|------------|-------------|-----------------------------------|----------------------------------|-----------|-----------|----------|---|------------------------------|
| No.          | Level-Sem. | Course Code | Course Name                       | اسم المقرر                       | Cr. Hrs.  | L         | T        | P | Prerequisites, Co-requisites |
| 1            |            | 08 01 821   | Fundamental of Infection Control  | أساسيات التحكم بالعدوى           | 2         | 2         |          |   |                              |
| 2            |            | 03 01 823   | Microbiology and Parasitology     | أحياء دقيقة وطفيليات             | 3         | 2         | 2        |   |                              |
| 3            |            | 02 01 822   | Basic Pharmacology                | اساسيات علم الادوية              | 2         | 2         | -        |   |                              |
| 4            |            | 08 05 561   | Respiratory physics & Mathematics | فيزياء الجهاز التنفسي والرياضيات | 2         | 2         |          |   |                              |
| 5            |            | 08 05 562   | Respiratory Care Science I        | علم الرعاية التنفسية I           | 3         | 2         | 2        |   |                              |
| 6            |            | 08 05 563   | RC. Patient Assessment            | تقييم المريض للرعاية التنفسية    | 3         | 2         | 2        |   |                              |
| 7            |            | 08 05 564   | Cardiopulmonary anatomy           | تشريح الجهاز القلبي الرئوي       | 2         | 2         |          |   |                              |
| 8            |            | 08 05 565   | Cardio- Pulmonary Physiology      | علم وظائف الجهاز القلبي الرئوي   | 2         | 2         | -        |   |                              |
| <b>Total</b> |            |             |                                   |                                  | <b>19</b> | <b>16</b> | <b>6</b> |   |                              |

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| Term 2 |            |             |                              |                                            |          |    |   |    |                              |
|--------|------------|-------------|------------------------------|--------------------------------------------|----------|----|---|----|------------------------------|
| No.    | Level-Sem. | Course Code | Course Name                  | اسم المقرر                                 | Cr. Hrs. | L  | T | P  | Prerequisites, Co-requisites |
| 1      |            | 01 01 825   | Pathology                    | علم الأمراض                                | 2        | 2  | - | -  |                              |
| 2      |            | 501826      | Psychology                   | علم النفس                                  | 2        | 2  |   | -  |                              |
| 3      |            | 02 01 827   | Applied Pharmacology         | ادوية تطبيقية                              | 2        | 2  |   | -  |                              |
| 4      |            | 08 05 866   | Respiratory Care Science II  | علم الرعاية التنفسية 2                     | 3        | 2  | 2 | -  |                              |
| 5      |            | 08 05 867   | Respiratory Care Practicum I | ممارسة الرعاية التنفسية 1 ( تدريب ميداني ) | 4        |    | - | 12 |                              |
| 6      |            | 08 05 868   | Pulmonary Function Tests     | فحوصات وظائف الرئتين                       | 2        | 2  |   | -  |                              |
| 7      |            | 08 05 869   | Respiratory Care Equipment   | أدوات الرعاية التنفسية                     | 2        | 2  |   | -  |                              |
| 8      |            | 08 05 870   | Respiratory Pathophysiology  | فسيولوجية امراض الجهاز التنفسي             | 2        | 2  | - | -  |                              |
| Total  |            |             |                              |                                            | 19       | 14 | 2 | 12 |                              |

### Level 3

| Term 1 |            |             |                               |                                            |          |    |   |    |                              |
|--------|------------|-------------|-------------------------------|--------------------------------------------|----------|----|---|----|------------------------------|
| No.    | Level-Sem. | Course Code | Course Name                   | اسم المقرر                                 | Cr. Hrs. | L  | T | P  | Prerequisites, Co-requisites |
| 1      |            | 08 05 871   | Respiratory Care Science III  | علم الرعاية التنفسية 3                     | 3        | 2  | 2 |    |                              |
| 2      |            | 08 05 872   | Respiratory Care Practicum II | ممارسة الرعاية التنفسية 2 ( تدريب ميداني ) | 4        |    |   | 12 |                              |
| 3      |            | 01 02 860   | Cardiac Diseases              | امراض القلب                                | 2        | 2  | - | -  |                              |
| 4      |            | 01 02 861   | Chest Radiology               | علم الأشعة للصدر                           | 2        | 2  | - | -  |                              |
| 5      |            | 08 05 873   | Acid Base & Blood gases       | القلوية والحموضة الدموية وغازات الدم       | 2        | 2  |   |    |                              |
| 6      |            | 05 02 833   | Biostatistics                 | الإحصاء الحيوي                             | 2        | 2  |   |    |                              |
| Total  |            |             |                               |                                            | 15       | 10 |   | 12 |                              |

| Term 2 |            |             |                              |                                |          |   |   |   |                              |
|--------|------------|-------------|------------------------------|--------------------------------|----------|---|---|---|------------------------------|
| No.    | Level-Sem. | Course Code | Course Name                  | اسم المقرر                     | Cr. Hrs. | L | T | P | Prerequisites, Co-requisites |
| 1      |            | 08 05 874   | Basic Mechanical Ventilation | جهاز التهوية الاصطناعي الأساسي | 3        | 2 | 2 |   |                              |
| 2      |            | 08 05 875   | Respiratory Care Science IV  | علم الرعاية التنفسية 4         | 3        | 2 | 2 | - |                              |

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|-------|--|-----------|---------------------------------|-----------------------------------------------|----|---|---|----|--|
| 3     |  | 08 05 876 | Respiratory Care Practicum III  | ممارسة الرعاية التنفسية 3<br>( تدريب ميداني ) | 4  |   | - | 12 |  |
| 4     |  | 08 05 877 | Respiratory Diseases I          | أمراض الجهاز التنفسي 1                        | 2  | 2 |   |    |  |
| 5     |  | 08 01 842 | Scientific Research methodology | طرق البحث العلمي                              | 2  | 2 |   |    |  |
| Total |  |           |                                 |                                               | 14 | 8 |   | 12 |  |

#### Level 4

| Term 1 |            |             |                                            |                                            |          |   |   |    |                              |
|--------|------------|-------------|--------------------------------------------|--------------------------------------------|----------|---|---|----|------------------------------|
| No.    | Level-Sem. | Course Code | Course Name                                | اسم المقرر                                 | Cr. Hrs. | L | T | P  | Prerequisites, Co-requisites |
| 1      |            | 08 05 878   | Neonatal-Pediatric Respiratory Care        | الرعاية التنفسية للأطفال وحديثي الولادة    | 3        | 2 | 2 | -  |                              |
| 2      |            | 08 05 879   | Respiratory Care Practicum IV              | ممارسة الرعاية التنفسية 4 ( تدريب ميداني ) | 6        |   | - | 18 |                              |
| 3      |            | 08 05 880   | Respiratory Diseases II                    | أمراض الجهاز التنفسي 2                     | 2        | 2 |   |    |                              |
| 4      |            | 08 05 881   | Basic and Diagnostic of Sleep Disorders    | أساسيات وتشخيص اضطرابات النوم              | 2        | 2 |   |    |                              |
| 5      |            | 05 01 846   | Health Administration and Quality Mangment | إدارة الصحة وإدارة الجودة                  | 2        | 2 | - | -  |                              |
| Total  |            |             |                                            |                                            | 15       | 6 | 2 | 18 |                              |

| Term 2 |            |             |                                 |                                            |          |   |   |    |                              |
|--------|------------|-------------|---------------------------------|--------------------------------------------|----------|---|---|----|------------------------------|
| No.    | Level-Sem. | Course Code | Course Name                     | اسم المقرر                                 | Cr. Hrs. | L | T | P  | Prerequisites, Co-requisites |
| 1      |            | 08 05 882   | Cardio-Pulmonary Rehabilitation | التأهيل القلبي الرئوي                      | 2        | 2 | - |    |                              |
| 2      |            | 08 05 883   | Graduate Research Project       | مشروع بحث التخرج                           | 3        |   | - | 9  |                              |
| 3      |            | 08 05 884   | Respiratory Care Practicum      | ممارسة الرعاية التنفسية 5 ( تدريب ميداني ) | 6        |   |   | 18 |                              |
| 4      |            | 08 05 885   | Cardiopulmonary Critical Care 5 | الرعاية الحرجة للجهاز القلبي الرئوي 5      | 3        | 2 | 2 |    |                              |
| 5      |            | 08 05 886   | Advance Mechanical Ventilation  | جهاز التنفس الاصطناعي المتقدم              | 3        | 2 | 2 |    |                              |
| Total  |            |             |                                 |                                            | 17       | 6 | 4 | 27 |                              |

#### 15. Eligibility for Admission

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Admissions to the program shall be made as per the admission rules made by Ministry of higher education and scientific research-Yemen Republic and

1. General Secondary Certificate of the science section, or an equivalent certificate with 75 grade as per the admission rules made by Ministry of higher education and scientific research-Yemen Republic.
2. Satisfactory outcome of enrollment exam and an interview evaluating background and suitability for a Respiratory Care Specialist.

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## 16. Regulations for Progression and Program Completion

### Attendance required for admission to examination

- No candidate shall be permitted to appear in any one of the parts of B.Sc. in Respiratory Care degree course examinations unless he/she has attended the course in the subject for the prescribed period in an affiliated institution recognized by this University.
- A candidate is required to put in a minimum of **75%** of attendance in both theory and practical separately in each subject before admission to the examinations.
- If the candidate is lacking attendance in any one of the subject(s), he/she will be detained for the subject(s) in whom the candidate lacks attendance but will be permitted to appear for the rest of the subjects in which the candidate is having minimum required percentage of attendance.

### Progression and Program Completion

- The duration of study for Bachelor's Degree of Respiratory Care is four academic years. The student should attend the study as full- timer during the four study years.
- For the students to be transferred from one academic year to the next, he is required to have successfully passed in all subjects in the final or in the complementary exams in October of the same year.
- However, the student may still be transferred if he/she has failed in not more than three subjects one of them elective. In such cases, students " carrying" subjects from one year to the next should re-sit for their "failed" subjects in their proper respective semesters.
- Final year students should pass in all subjects, student who have failed in October exam also, he/she has to re-sit for his exams in those subjects in their proper respective semesters thereafter as many times as necessary until he succeeds.

## 17. Graduation requirements :

- **The number of hours required to complete the program: 141 credits hours**

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- The minimum degree for pass in the each course :
  - For courses involving only theoretical part , the minimum pass degree is 60% out of the total degree
  - For courses that involve practical/clinical parts, the student will not pass the course unless he/she passes both theoretical and practical course parties:
- The student will pass the course if he/she gains at least 60 % of the total the estimation weight of the course.
- The minimum pass degree in the final theoretical exam is 35% of the estimation weight of the exam.
- The minimum pass degree in the final practical exam is 40% of the estimation weight of the exam.

| 18. grading classification      |           |
|---------------------------------|-----------|
| From 90% to 100% of total marks | Excellent |
| From 80% to less than 90%       | Very Good |
| From 70% to less than 80%       | Good      |
| From 65% to less than 70%       | Pass      |
| Less than 65%                   | Poor/Fail |

| Grading scale classification |    |            |           |                |
|------------------------------|----|------------|-----------|----------------|
| Grade system                 |    | Std points | AP points | classification |
| 97-100                       | A+ | 4.0        | 5         | Excellent      |
| 93-96                        | A  | 4.0        | 5         | Excellent      |
| 90-92                        | A- | 3.7        | 5         | Excellent      |
| 87-89                        | B+ | 3.3        | 4         | V.good         |
| 83-86                        | B  | 3.0        | 4         | V.good         |
| 80-82                        | B- | 2.7        | 4         | V.good         |

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|       |    |     |   |        |
|-------|----|-----|---|--------|
| 77-79 | C+ | 2.3 | 3 | Good   |
| 73-76 | C  | 2.0 | 3 | Good   |
| 70-72 | C- | 1.7 | 3 | Good   |
| 67-69 | D+ | 1.3 | 1 | pass   |
| 60-66 | D  | 1.0 | 1 | pass   |
| 0-59  | F  | 0   | 0 | Failed |

### 19. Learning resources required to deliver the programme

#### Learning resources:

1. Teachers, technical and administrative staff
2. Teaching rooms
3. Whiteboards/ flip charts/Data show
4. Lectures notes
5. Practices in lab.
6. Clinical training
7. Books/journals
8. IT support

#### Laboratories

1. Chemistry lab
2. Physics Lab.
3. Microbiology Lab.
4. Paramedical Sciences Lab.
5. Biochemistry Lab.
6. Nursing and Midwifery Lab.
7. Computer Lab.

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## 20. Equipment and materials

### RC Laboratory معمل الرعاية التنفسية

#### CLASSROOMS AND LABORATORIES:

- A minimum of two classrooms with 1.5 square meters for each student .
- Laboratory must be 25 square meters with 2.5 square meters for each student .
- Clinical Skill lab must be available with:
  - 1- Oxygen and Air supply
  - 2- Oxygen and Air flow meters
  - 3- Oxygen Devices
  - 4- Suctioning catheters
  - 5- Suctioning devices
  - 6- Small Volume Nebulizers
  - 7- Variety of dry powder and meter dose inhalers
  - 8- Variety of Peak flowmeter
  - 9- Portable spirometry 10- Intubation Kit 11- Intubation Manikin .
  - 12- Arterial Stick Manikin
  - 13- Breath Sound Manikin simulator .
  - 14- CPR Manikin .
  - 15- Ventilator or access to ventilators in lab when required by a course (commonly used by healthcare institutions).
  - 16- CPAP "continuous positive airway pressure" Machine .
  - 17- IPPB
  - 18- Ventilator tester and test lungs with compliance and resistance.
  - 19- Oropharyngeal airway : Guedel and Berman different sizes.
  - 20- Tracheostomy tube different sizes.
  - 21- Laryngoscope set ( Miller & Macintosh) .
  - 22- ETT holder (adult) .
  - 23- Suction catheter different sizes and Suction catheter - closed system . 24- Pressure manometer and cuff inflator 25- Resuscitators different brands.
  - 26- Pneumatic powered resuscitator
  - 27- Airway management trainer for intubation , and for tracheostomy care.

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- 28- Suction machine
- 29- Suction tubes with different sizes.
- 30- Oxygen concentrator.
- 31- Oxygen monitor.
- 32- Oxygen delivery device : Venturi mask ,Tracheostomy mask ,Oxygen simple mask , Oxygen face mask , Oxygen trans-tracheal catheter , Non-Rebreathing Mask , Nasal cannula ,O2 hood, T-Piece.
- 33- Air/ oxygen blender.
- 34- Oxygen cylinder E-type with Cylinder cart
- 35- Oxygen regulators
- 36- Flowmeters
- 37- Aerosol mask
- 38- Small volume nebulizer
- 39- Large volume nebulizer
- 40- Bubble humidifier (reusable)
- 41- Respiratory heated humidifier
- 42- Stethoscope adult
- 43- thermometer
- 44- Examination pen light
- 45- Dual x-ray viewer
- 46- Multi-parameter simulator
- 47- channel blood pressure simulations
- 48- Temperature simulations
- 49- Respiration simulations
- 50- Blood gas analyzer Ph, pco<sub>2</sub>, po<sub>2</sub>, pbaro analysis
- 51- Arterial puncture arm simulator (infant)
- 52- Vital signs monitor on stand
- 53- Cardio-respiratory monitor
- 54- Capnography / Oximeter
- 55- HFCWC (Vest) , Flutter, PEEP, Incentive Spirometers, and muscle trainer
- 56- Electrical scale with height meter
- 57- CPR trainer
- 58- Endotracheal tubes, LMA, Combitube
- 59- Blood pressure arm.
- 60- Pulse oximeter and capnography

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## 22. Evaluation Methodologies of Program ILO's

| Target group(Evaluator)   | Assessment tools    | Sample size |
|---------------------------|---------------------|-------------|
| Final year students       | Questionnaire 1     | 100%        |
| Graduate students         | Questionnaire 2     | 40%         |
| Stakeholders ( Employers) | Questionnaire3      | 20%         |
| Academic staff            | Questionnaire 4     | 100%        |
| External Evaluator        | Feedback & Comments | 100%        |

# Courses descriptions :

## Syllabus for Bachelor of Science in Respiratory Care

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