



Department of Respiratory Care

Course Specification of Respiratory Care Science II

Course No. (08 05 866)
2023/2024

LVIII. Course Description:

This course builds upon fundamental respiratory care knowledge and focuses on advanced airway management, emergency life support, airway pharmacology, lung expansion therapy, acid-base balance, and the analysis of gas exchange. Students will develop proficiency in critical care procedures and the interpretation of respiratory data.

IV Course Content:

A – Theoretical Aspect: (if any)

S	Units/ Topics List	No. of Weeks	Contact hours	CILOs
1	Outline the Introduction	1	2	-
2	Airway Management- Basics	1	2	a1
3	Airway Management-Advanced	1	2	a1
4	Emergency Cardiovascular Life Support- BLS	1	2	a2, b2
5	Emergency Cardiovascular Life Support - Advanced	1	2	a2
6	Neurological Assessment	1	2	b1, d1
7	Airway Pharmacology	1	2	a1, a2
8	Med-term exam	1	2	-
9	Airway Clearance Therapy	1	2	a3
10	Lung Expansion Therapy	1	2	a3
11	Lung Expansion Therapy	1	2	a3
12	Acid- Base Balance	1	2	a4
13	Analysis and monitoring of gas exchange	1	2	a4, b1
14	Analysis and monitoring of gas exchange	1	2	a4, b1
15	Review	1	2	a1-a4, b1-b2, d1
16	Final Exam	1	2	-
TOTAL		16	32	-
Number of Weeks /and Units Per Semester		16 weeks	2 Credits	-

B - Practical Aspect: (if any)				
S	Tasks/ Experiments	Number of weeks	contact hours	CILOs
1	Airway Management Basics Review • Practice basic airway maneuvers (head-tilt/chin-lift, jaw thrust). • Review use of oropharyngeal and nasopharyngeal airways.	1	2	c1
2	Basic Life Support (BLS) Certification/Renewal • Obtain or renew BLS certification through an approved course. • Practice CPR and AED use on manikins.	1	2	c2
3	Advanced Airway Management Part 1 • * Practice bag-valve-mask (BVM) ventilation. • * Introduction to endotracheal intubation with practice on manikins.	1	2	c1
4	Advanced Airway Management Part 2 • * Continue endotracheal intubation practice. • * Introduce supraglottic airway devices (if resources allow).	1	2	c1
5	Airway Pharmacology • * Discuss medications used in airway management and emergencies (bronchodilators, sedatives, etc.). • * Practice medication dosage calculations.	1	2	c1
6	Airway Clearance Therapy (ACT) Part 1 • * Practice chest physiotherapy (CPT) techniques. • * Demonstrate use of positive expiratory pressure (PEP) devices.	1	2	c3
7	Airway Clearance Therapy (ACT) Part 2 • * Practice oscillatory PEP devices and intrapulmonary percussive ventilation (IPV).	1	2	c3
8	Lung Expansion Therapy • Practice using incentive spirometry and deep breathing exercises.	1	2	c3
9	Acid-Base Balance: Case Studies • * Analyze case studies involving various acid-base imbalances. • * Practice interpreting arterial blood gas (ABG) results.	1	2	c3
10	Analysis of Gas Exchange Part 1 • * Perform and interpret arterial blood gas (ABG) sampling (simulated). • * Practice pulse oximetry and capnography.	1	2	c3
11	Analysis of Gas Exchange Part 2 • * Practice interpreting complex ABG results in various clinical scenarios.	1	2	c3
12	Advanced Cardiac Life Support (ACLS) Highlights • If resources allow, participate in key ACLS scenarios highlighting airway management and respiratory assessment.	1	2	c2
13	Mock Emergency Scenarios • Participate in simulations combining airway management, BLS/ACLS, and respiratory assessment.	1	2	c1-c3, d1
14	Comprehensive Skills Review • Practice stations with various airway, assessment, and intervention skills.	1	2	c1-c3
15	Final lab- Exam	1	2	-
TOTAL		15	30	-
Number of Weeks /and Units Per Semester		15 weeks	1 Credits	-

III. Teaching strategies of the course:

1. **Active Lecture:** It is the most frequently employed teaching method to convey knowledge and explain theories to students in large groups (50-200) or in sessions, which consist of more than one group gathered in one classroom.
2. **Lecture-Discussion:** a short lecture/ address followed by Formal or informal discourse on topics usually primed by leading and/or open-ended questions.
3. **Seminars, tutorials and Journal clubs:** these are mainly used with small groups of students (20- 30) students in which they find better chances for discussing and participating in the teaching process.
4. **Self-directed study and research:** In its broadest meaning, self-directed learning describes a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning ...
5. **Laboratory training:** students doing experiments in labs individually or in small groups
11. **Case study and Problem-based learning:** Case studies depict real-life situations in which problems need to be solved. Scenario-based teaching may be similar to case studies, or may be oriented toward developing communication or teamwork skills. Both case studies and scenarios are commonly used methods of problem-based learning. Typically, using these methods, teachers aim to develop student reasoning, problem-solving and decision-making skills
12. **Laboratory classes and Fieldwork:** Observations made or work carried on in a natural setting.
13. **Computer and web-based learning,**
14. **Use of communication and information technology,**

L. Schedule of Assessment Tasks for Students during the Semester Theoretical part

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Attendance and Activities	15 th week	5	5%	a, b
2	Student assignment	5 th and 12 th week	5	5%	a, b
3	Mid-term exam	7 th or 8 th week	10	10%	a, b
4	Final exam	16 th -17 th week	40	40 %	a, b, d
Total Theory Weight			60	60%	

Practical part

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Attendance and Attitude	14 th week	5	5%	c
2	Semester work	1 st and 14 th week	10	10%	c
3	Case report	13 th -14 th week	5	5%	c
4	Final exam (Practical)	15 th week	20	20%	c
Total Practical Weight			40	40%	