

Sub.	Course Description – توصيف مقرر دراسي	الموضوع	 كلية المعرفة ALMAAREFA COLLEGE
Date		التاريخ	

Course Code & No	RSTH 231		رقم المقرر ورمزه
Course Name	Respiratory Care Pharmacology		اسم المقرر
Credit Hours	3		عدد الساعات المعتمدة
Pre-requisite	None		المتطلب السابق

General Description	توصيف عام
<p>This course covers the drugs used in the treatment of cardiopulmonary diseases. Emphasis is placed on the uses, actions, indications, administration, and hazards of pharmacological agents.</p>	

Course Objectives	أهداف المقرر
<p>Knowledge</p> <ul style="list-style-type: none"> Define key terms related to pharmacological principles . Relate the pharmacology of the autonomic nervous system to the "specific chapters" and drug classifications that are relevant State four classifications of autonomic nervous system drugs on the basis of how and where they work . Define key terms relevant to drug dosage calculations. Define key terms related to aerosol therapy . State the advantages and disadvantages of the inhalation route of administration. List advantages and limitations for using a metered dose inhaler (MDI), small volume nebulizer (SVN), and dry powder inhaler (DPI.) State the advantages and limitations of using metered dose inhalers (MDI), and small volume nebulizers (SVN), in intubated and mechanically ventilated patients. Define key terms relative to bronchodilator pharmacotherapy. List the hazards of oxygen, helium, carbon dioxide, and nitric oxide therapy List and describe the function of oxygen delivery devices . Identify the indications for oxygen, helium, carbon dioxide, and nitric oxide therapy. State the indications, contraindications, adverse reactions, onset of action and dosage range for each bronchodilator. <p>Cognitive Skills</p> <ul style="list-style-type: none"> Utilize drug-reference sources of information. Explain differences in pharmacokinetics, pharmacodynamics, and adverse effects of drugs in pediatric, geriatric, pregnant, and breast-feeding patients. Describe the processes of drug absorption, distribution, metabolism, and elimination. Discuss advantages and disadvantages of different routes of administration. Discuss factors that may alter a patient's response to a drug. Describe the divisions of the central and peripheral nervous systems. Discuss responsibilities in drug administration. Discuss principles of drug poisonings, adverse drug reactions, and interactions . Define key terms relative to pharmacology of the autonomic nervous system. 	

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<ul style="list-style-type: none"> • Describe the factors that affect aerosol deposition . • Describe the main goals of aerosol therapy • Describe the anatomy, neurotransmitters, and receptors of the autonomic nervous system. • Describe the proper technique for using an MDI, SVN, and DPI. • Describe the neurological control of bronchial smooth muscle, including the sympathetic and parasympathetic nerves, their chemical mediators, and how bronchodilation is achieved. • Describe factors affecting aerosol deposition in mechanically ventilated patients • Differentiate bronchospasm and bronchoconstriction. • Explain the pathophysiology of chronic obstructive pulmonary disease (COPD). • Describe appropriate techniques for monitoring the patient's response to bronchodilator therapy. • Describe three pharmacologic methods for bronchodilation (sympathomimetic, anticholinergic and xanthine) and the mode of action of each. • Distinguish among the various forms of COPD . • Describe the monitoring and assessment of oxygen, helium, carbon dioxide, and nitric oxide therapy. • Develop a monitoring and educational plan for asthma, chronic bronchitis, and emphysema. • Develop a pharmacologic regimen for asthma, chronic bronchitis, and emphysema. • Describe the effects of oxygen, helium, carbon dioxide, and nitric oxide therapy. <p>Interpersonal Skills</p> <ul style="list-style-type: none"> • Demonstrate Team work skills • Show Leadership skills • Develop skills to accommodate and absorb criticism • Create different strategies to Avoid conflict <p>Demonstrate patients' rights and safety</p> <p>Communication, Information Technology, Numerical</p> <ul style="list-style-type: none"> • NA <p>Psychomotor</p> <ul style="list-style-type: none"> • NA
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Course Outlines	مفردات المقرر
<ol style="list-style-type: none"> 1. Introduction to Respiratory Care Pharmacology 2. Principles of Drug Action 3. Calculating Drug Doses 4. The Central and Peripheral Nervous Systems 5. Adrenergic (Sympathomimetic) Bronchodilators 6. Anticholinergic (Parasympatholytic) Bronchodilators Xanthines. 7. Mucus-Controlling Drug Therapy 8. Corticosteroids in Respiratory Care 9. Nonsteroidal Antiasthma Agents 10. Cold and Cough Agents 11. Skeletal Muscle Relaxants (Neuromuscular Blocking Agents) 12. Drugs Affecting the Central Nervous System 13. Vasopressors, Inotropes, and Antiarrhythmic Agents 14. Drugs Affecting Circulation and Diuretic Agents 	

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References	المراجع
1-Required Text Gardenhire, Douglas S., Rau's Respiratory Care Pharmacology. 8th Ed., Elsevier, 2011. 2-Essential References Gardenhire, Douglas S., Workbook for Rau's Respiratory Care Pharmacology. 8th Ed., Elsevier, 2011. 3-Recommended Books and Reference Material (Journals, Reports, etc) (Attach List) 4-Electronic Materials, Web Sites etc Jahangir Moini, Cardiopulmonary Pharmacology for Respiratory Care with Companion Web Site, Jones and Bartlett, 2010 5- Other learning material such as computer-based programs/CD, professional standards/regulations	