



Quality Assurance Unit



Tanta University  
Faculty of Medicine

**Department of Anesthesiology, Surgical intensive  
care**

**Course Specifications**

**Pharmacology for Anesthesiology,  
Surgical intensive care  
Doctorate degree**

**2014**

Course Specifications of Pharmacology for Anesthesiology, Surgical intensive care for

Doctorate degree

University: Tanta

Faculty: Medicine

Department: Anesthesiology,  
Surgical intensive care

### **A- Administrative Information**

- 1. Course title: Pharmacology for Anesthesiology, Surgical intensive care for Doctorate degree**
- 2. Department offering the course: Anesthesiology, Surgical intensive care and Pain management**
- 3. Department responsible for the course: Anesthesiology, Surgical intensive care and Pain management**
- 4. Course code: ANES 9001**
- 5. Level: first part.**
- 6. No. of Credit / taught hours:**  
**-credit hours:**
  - **Theoretical: 2 hours/week X 15 weeks =30 hours (2 credit hour)**
  - **Practical : 2 hours/week X 15 weeks =30 hours (1 credit hour)**
- 7. Authorization date of course specification:.**

### **B- Professional Information**

#### **1 – Overall Course aims**

The aim of this course is to provide anesthesiologists with deep understanding of the pharmacology of drugs frequently used in their field, including mechanisms of action, adverse effects, dosing, drug interactions, and use in specific patient populations.

#### **2 – Intended learning outcomes (ILOs):**

##### **A- knowledge and understanding:**

By the end of the course, student should be able to:

- A.1) Define the basic pharmacokinetic principles affecting drug actions
- A.2) List the basic pharmacodynamic principles regulating drug actions
- A.3) State the different pharmacotherapies in endocrinal emergencies.
- A.4) Outline the basic mechanisms of the pharmacotherapies of cardiac dysrhythmias, hypertension, heart failure, ischemic heart disease and dyslipidemias
- A.5) Recognize the pharmacotherapies of shock, diabetes mellitus, bronchial asthma and epilepsy.

**B-intellectual skills**

By the end of the course, student should be able to:

- B.1) Sketch the appropriate dosing of drugs according to the different characteristics of patients.
- B.2) identify the different drug adverse reactions and toxicities.
- B.3) Compare the different types and uses of diuretics, corticosteroids, antiemetics and antibacterials.
- B.4) Evaluate the different pharmacotherapies of acid-base balance disorders
- B.5) Recognize the efficacy and effectiveness of the different analgesic drugs

**C-Professional & practical skills**

By the end of the course, student should be able to:

- c1) Appraise the different clinical pharmacology principles that should be applied in selecting and prescribing drugs
- c2) Design a plan for the management of different adverse drug reactions and toxicities

**D-General transferable (attitude and communication) skills**

By the end of the course, student should be able to:

- D.1) Communicate and deal with patients with the proper ethical manners.
- D.2) Apply and work in a team with his colleagues (the team leader and the assistants), nursing staff and doctors of other specialties in the operating room
- D.3) work as a team leader in the setting of O.R., CPR, and trauma care
- D.4) Supervise a team composed of a number of specialists or residents running more than one O.R. at the same time with maximum safety

**3-Course contents**

Topics	lecture	Clinical/ lab
• Pharmacology Related to anesthesia and ICU	30	30

Topics	No of hours	
	Lectures	Clinical/ lab
1. Introduction to Pharmacokinetics	2	2
C.V.S		
2. Drug therapy of heart failure	3	3
3. Drug therapy of ischemic heart diseases	3	3
4. Drug therapy of dysrhythmias	2	2
5. Drug therapy of hypertension	4	4

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6. Drug therapy of shock	2	2
C.N.S		
7. Drug therapy of epilepsy	2	2
8. General and Local Anesthesia	9	9
9. Analgesic drugs	4	4
Antimicrobial		
10. Antibacterial agents	3	3
G.I.T		
11. Antiemetic drugs	2	2
Acid - Base		
12. Electrolytes and acid base balance	3	3
Endocrine		
13. Drug therapy of diabetes mellitus	3	3
14. Corticosteroids	3	3
15. Endocrinal emergencies	3	3
Renal		
16. Diuretics	2	2
Blood		
17. Drug therapy of hemostatic disorders	2	2
Respiration		
18. Drug therapy of bronchial asthma	3	3
A.N.S		
19. Muscle relaxants and their antagonist	5	5
<b>Total hours (Actual hours)</b>	<b>30</b>	<b>30</b>

#### **4-Teaching and learning methods**

Lectures, seminars, journal clubs, case presentation, assignments, conference participation observation and hands on practice in operating theaters and surgical ICU.

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**5-Student Assessment**

5.1 MCQ end semester exam

5.2 written examination to assess (a1,2,3,4,5-b1,2,3,4,5)

5.3 oral examination. One sitting (3 staff members included in this sitting) To assess (a1,2,3-b1,2,3-c1,2-d1,2,3,4)

**6- Weighing of assessments**

End semester exam	C+ required for attendance of final exam
Final term written examination	60% (45 degree)
Oral examination	40% ( 30 degree)
Total	100% ( 75 degree)

**7- List of references**

**Course notes**

Lecture notes from Anesthesiology, Surgical intensive care and Pain management

**Text book**

**Essential Books (Text Books)**

- Anesthesia by Miller RD 6th edition, Elsevier Churcill Livingstone, New York, 2010.
- Lee's Synopsis of Anesthesia by: Davies NJH, Cashman JN, 13th edition, Elsevier, UK 2005.
- The ICU Paul L. Marino, 2<sup>nd</sup> edition, Lippincott Williams & Wilkins, Philadelphia 2012.

**Recommended Books**

- Stoelting's Anesthesia and Co-existing disease, 6th edition, By: Hines RL, Marschall KE, 2008, Elsevier Churcill Livingstone 2012.
- Anesthesiology: Problem-oriented patient management 7th edition, By: Yao FSN, Artusio JF, Lippincott Williams & Wilkins, Philadelphia 2012.

**Web Sites**

- British Journal of Anaesthesia
- ASA Refresher Course Lectures
- Anesthesiology
- Anesthesia Analgesia
- Egyptian journal of anesthesia
- Journal of Anesthesiology.
- American Society of Anesthesiologists.
- European Journal of Anesthesiology.

**8-Other resources/ facilities required for teaching and learning to achieve the above ILOs**

The department has regular daily lists in different operative theaters.

The department has Surgical ICU unit for postoperative care.

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Free Internet access for international data bases is available for all doctorate students through the faculty postgraduate library

The essential text books for this course are available either in department or faculty library

**9-we certify that all of the information required to deliver this course is contained in the above specifications and will be implemented**

We verify that the above Course and the analysis of students and external evaluator opinions are accurate.

Course coordinator and head of department  
name.....signature.....Date.....

Head of quality assurance unit:  
name.....signature.....Date.....