



قسم التخدير والرعاية المركزة  
وعلاج الألم



## Master of Science in ANESTHESIA

### ماجستير التخدير

#### Glossary:

#### Job description

#### **Senior supervisor:**

The main supervisor of the thesis and follows the progress of the candidate all through the program

#### **Program coordinator:**

Plan, coordinate and administer activities within assigned program areas; develop, coordinate and advise on policy related to specified programs.

Monitor and evaluate program effectiveness, investigate trends, and recommend and implement modifications to improve program effectiveness.

Represent assigned programs on behalf of the director to the University and the public; serve on various committees and attend professional meetings as appropriate.

Prepare reports and analyses setting forth progress, adverse trends and appropriate recommendations or conclusions.

#### **Course Coordinator**

The Course Coordinator serves as the liaison between the faculty members and candidates in the course.

Meet with faculty and departmental curriculum committees to formulate course objectives and develop course content related to service learning.

Develop appropriate evaluation tools to assess the achievement of course objectives related to service learning.

#### **Supervisor signature**

The supervisor signature or the authorized personnel delegated (مفوض).

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### I – Welcome Statement:

The Department of **Anesthesia, Intensive Care and Pain Management** welcomes you to the **Master of Science in Anesthesia**. As a department, we are committed to medical student education and continuously strive to improve your educational experience.

This handbook presents information guide and logbook activity of the Master of Science in Anesthesia administered by the **Anesthesia, Intensive Care and Pain Management** department, Faculty of Medicine, Ain Shams University.

### II - Mission Statement:

The mission of the Faculty of Medicine, Ain Shams University “*The preparation of a competent graduate, who is able to compete on both national and regional levels, capable of lifelong learning, training and tutoring, while adhering to the codes of practice of medical health services and ethics. The college as well, seeks continuous development of programs and courses. It also enhances expansion of applied scientific research and health programs for community services and environmental development. Moreover, through providing distinguished academic and research cadres of teaching staff, supporting the administrative system and sustainability of own resources, the college is able to achieve goals and objectives*”.

The mission of this degree is to **prepare a trained anesthesiologist, researcher and life long tutor, capable of following standards of medical care and ethics, with managerial and technical skills in anesthesia. Furthermore, he/she can promote outstanding programs of health care to serve the society, environmental development and targeted scientific research for continual improvement of health.**

### III – Senior Supervisor and Affiliated Departments and Hospitals



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## Senior Supervisor

Prof.

-----  
-----  
-----

E-mail:

## Affiliated Departments and Hospitals

Department of **Anesthesia, Intensive Care and Pain Management;**  
**Faculty of Medicine, Ain Shams University**

## IV – Program Specifications

### A- Basic Information

1. Program title: **Master of Science in Anesthesia**

2. Program type: **Single**  **Double**  **Multiple**

3. **Faculty:** Faculty of Medicine, Ain Shams University

4. **Department:** The Department of **Anesthesia, Intensive Care and Pain Management.**

5. **Assistant co-ordinator**

.....

6. **Co-ordinator**

.....



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**7. Last date of program approval: 2009**

### **B- Professional Information:**

#### **1. Program aims:**

By the end of the programme, the student should be a competent and safe anesthetist; He is able to:

- Conduct anesthesia for different common operations, safely and efficiently, to patients with different common medical problems.

- Avoid, suspect, anticipate and manage different complications that may occur peri-operatively.

- Resuscitate and manage critically ill patients safely and effectively.

- Manage peri-operative pain safely and efficiently, and to avoid and manage possible adverse effects of pain and drugs used for its relief

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

##### **a. Knowledge and understanding:**

By the end of the program the candidate will be able to:

a1- know different types of anesthesia with the advantage(s) and disadvantage(s) of every type.

a2- understand the mechanism(s) of action of different anesthetics and co-adjunct drugs

a3- know the complications of anesthesia, how to anticipate and how to avoid and manage

##### **b. Intellectual capabilities:**

By the end of the program the candidate will be able to:



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**b1- Analysis of data to prepare patients for operation, to choose proper type of anesthesia for proper patient and proper operation**

**b2 - Anticipate, identify and manage problems under GA (e.g. cardiac arrest)**

**b3 - interpret data with his capability so as to ask for help in the proper time or to transfee the patient to more experienced anaesthetist or more equipped centre to cope with the anticipated problems**

### **c. Professional and practical skills :**

**By the end of the program the candidate will be able to:**

**c1- resuscitate the patient**

**c2- do endotracheal intubation safely, and to maintain the airway patent with different available techniques**

**c3- do common regional and local anesthetic techniques properly and safely**

### **d. General and transferable skills:**

**By the end of the program the candidate will be able to:**

**d1 – participate in team working**

**d2 – solve Problems**

**d3 – know how to deal with patients, their relatives and doctors**

**d4- aquire an approach to medicolegal problems**

### **3. Academic standards: (Benchmarks)**

- England Royal College of Anesthesia

- College of Health Sciences - Barry Universit

- University of **Oxford** — **Medical Sciences Division**

### **4. Curriculum structure and contents:**

**4a- Program duration: 4 Semesters (2 years)**

**4b- Program structure:**



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درجة الماجستير في التخدير

Master of Science Degree in Anesthesia (AIP600)

المناهج

الساعات المعتمدة	الكود	المقررات الدراسية
		دورة أساسيات البحث العلمي
1.5	AIP6001	تثريج
1.5	AIP6002	فسيولوجي
3	AIP6003	أمراض باطنية
6		الرسالة
13	AIP6004	التخدير
2	AIP6005	الفيزياء
2	AIP6006	الأدوية
1	E6009 E6047 E6073 E6 35	يختار الطالب مادة واحدة من : الإحصاء الإكلينيكية -E6009 -الكمبيوتر E6047





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		إدارة المستشفيات -E6073 التشريعات الطبية E6035	
6			كراسة الأنشطة
36			مجموع



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## 5. Program courses:

### 5.1- First Part (First Semester):

#### a. Compulsory

Code No.	Course title	No. of units	No. of hours/week			Programme ILOs covered (By No.)
			Lect	Pract	tutorial	
AIP6001	Anatomy	1	1.5			
AIP6002	Physiology	1	1.5			
AIP6003	Internal Medicine	1	3			

### 5.2- Second Part (2<sup>nd</sup> – 4<sup>th</sup> Semesters):

#### a. Compulsory

Code No.	Course title	No. of units	No. of hours/week			Programme ILOs covered (By No.)
			Lect	Pract	Tutorial (field)	
AIP6004	Anesthesia	3				
AIP6005	Physics	1	1	1	2	
AIP6006	Pharmacology	1	2			

## 6. Program admission requirements:

المادة (6) : يشترط لقبول الطالب للحصول على درجة الماجستير:-

1 - أن يكون حاصلًا على درجة البكالوريوس في الطب والجراحة من إحدى جامعات جمهورية مصر العربية أو على درجة معادلة 2- أن يكون قد أمضى سنة التدريب (الامتياز) 3- موافقة جهة العمل 4- تسديد الرسوم ومصاريف التدريب واستهلاك الأجهزة واستيفاء المستندات المطلوبة في الملحق (1) 5- التفرغ للدراسة لمدة فصلين دراسيين قبل دخول امتحان الجزء الثاني 0

ملحق (1) : يقدم طالب الإلتحاق لدرجة الماجستير الأوراق التالية :-

1- طلب إلتحاق 0 2- شهادة البكالوريوس 0 3- شهادة الإمتياز 0 4- شهادة الميلاد أو مستخرج رسمي 0 5- الموقف من التجنيد 0 6- موافقة جهة العمل على التسجيل والتفرغ المطلوب 0 7- عدد 6 صور فوتوغرافية جديدة 0 8- بالنسبة للوافدين يقدم الطالب موافقة السفارة ويحدد جهة تحمل النفقات كما يقدم شهادة صحية 0

## 7. Regulation for progression and program completion

مادة (8): يتم التسجيل للماجستير مرة واحدة في السنة تبدأ من أول يوليو حتى آخر أغسطس على أن تبدأ الدراسة في شهر أكتوبر من كل عام 0 ويجوز قبول تسجيل النواب والمعيدون والوافدين في الفترة من أول نوفمبر حتى آخر ديسمبر على ألا يسمح لهم بدخول إمتحان الجزء



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الأول إلا بعد إنقضاء فترة الدراسة المطلوبة .

**مادة (9):** توزع الدراسة في كل عام جامعي على فصلين دراسيين مدة كل منهما خمسة عشر اسبوعاً . يبدأ الاول في أول أكتوبر ويبدأ الثاني في منتصف فبراير . مع تنظيم فصل دراسي صيفي مكثف لمدة ستة اسابيع . و يتم التسجيل للفصل الدراسي قبل اسبوعين من بدايته على الأقل بعد إستيفاء الشروط حسب المقررات المسجلة. ولا ينبغي أن يزيد العبء الدراسي في الفصل الواحد عن 6 ساعات معتمدة. ويجوز للطالب تعديل المقررات خلال اسبوعين من بداية الفصل الدراسي (بالحذف او الاضافة). كما يجوز له الانسحاب خلال ستة اسابيع من احد المقررات دون احتسابه رسباً فيه.

**المادة (11) :** مدة الدراسة للحصول على درجة الدبلوم أو الماجستير هي أربعة وعشرون شهراً (أربعة فصول دراسية) على جزئين يجتاز فيها الطالب برنامجاً تدريجياً متكاملأ طبقاً للساعات المعتمدة الموضحة بالباب الرابع ويستوفى خلالها المطلوب منة في كتيب متابعة الأنشطة ولا يسمح له بدخول الإمتحان قبل إستيفاء ثلاثة أرباع المطلوب منة في كل جزء من البرنامج 0

**المادة (12) :** مدة الدراسة في الدبلوم والماجستير الجزء الأول فصل دراسي واحد يجتاز بعدها الطالب إمتحاناً ولا يشترط النجاح فيه بالكامل للإنتقال للدراسة في الجزء الثاني. والجزء الثاني يتطلب تفرغ الطالب للتدريب لمدة فصلين دراسيين بأحد المستشفيات أو المراكز المعتمدة من الكلية.

**مادة (13) :** يقوم الدارس لدرجة الماجستير بتسجيل موضوع الرسالة على شكل بحث نظري أو عملي بعد إستيفاء فصل دراسي واحد على الأقل ويجوز أن يناقش رسالته بعد ستة شهور من التسجيل على الأقل على أن يكون قد نجح في مقررات الجزء الأول بالكامل وقبل دخول إمتحان الجزء الثاني ولا يخصص لها درجات 0

**مادة (14) :** يقوم دارس الماجستير بإستيفاء متطلبات الجامعة قبل تسجيل الرسالة ومتطلبات الكلية قبل دخول إمتحان الجزء الثاني. ومتطلبات الجامعة هي الحصول على شهادة التوفيل في اللغة الإنجليزية بمجموع (450 درجة على الأقل) ومتطلبات الكلية هي حضور دورات معتمدة من لجنة الدراسات العليا بالكلية في مجال مناهج البحث العلمي والإحصاء الطبي أو بإجتياز إختبارات خاصة تحددها اللجنة.

**مادة (15):** يجوز للحاصلين على درجة الدبلوم إستكمال درجة الماجستير بتسجيل رسالة الماجستير خلال أربع سنوات من الحصول على درجة الدبلوم ويحصل على الدرجة بعد إستيفاء متطلبات الجامعة والكلية ومناقشة الرسالة بنجاح.

**مادة (16):** الساعات المعتمدة لدراسة الدبلوم والماجستير ثلاثون ساعة معتمدة على الأقل يخصص منها ست ساعات لكتيب متابعة الأنشطة وتشمل ست ساعات على الأقل للجزء الأول وثمانية عشرة ساعة على الأقل للجزء الثاني ويضاف إليها ست ساعات للرسالة في الماجستير. **مادة (22):** مدة القيد لدرجة الماجستير أربع سنوات.

**مادة (24):** مجموع درجات الامتحان النهائي للماجستير 1200 درجة منها 300 درجة للجزء الأول. ويضاف إليها المعدل الفصلي التراكمي بما يوازي 300 درجة للماجستير.

**مادة (25):** يعقد إمتحان الدور الأول في أكتوبر ونوفمبر من كل عام ويعقد إمتحان الدور الثاني في أبريل ومايو من كل عام.

**مادة (26):** يكون النجاح في كل مادة من الدبلوم العالي والماجستير بعد الحصول على 60% من الدرجة الكلية لكل لجان المادة مجتمعة ويكون النجاح في مواد الدكتوراه بعد الحصول على 60% من درجة التحريفي والعملي والاكلينيكي والشفوي كل على حدة.

**مادة (29):** في حالة إستفاد مدة القيد يمكن لطالب الدراسات العليا إعادة التسجيل مرة أخرى ولا يعتد بالنجاح في الجزء الأول أو الرسالة ويجب إعادتهما.



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- للارتقاء بالمستوى الاكلينيكي للطبيب الجامعي تقرر تنظيميا داخليا بتواجد طالب الماجستير لمدة ثلاث سنوات على رأس العمل، مارا على الأقسام الأساسية المختلفة بالمستشفى شرطا مضافا لدخوله امتحان ماجستير التخيير.

### Assessment Schedule and Weighing of Assessments

Item	Mark			Points	GPA score	حالة الطالب Student
	During semester	End of semester	Total			
First semester (If present)	100	300	400			
Second semester	100		100			
Third semester	100		100			
Fourth semester Final exam	Written	900	900			
	Oral					
	Practical /Clinical					
Total	300	1200	1500			

ملحوظة: تعادل درجات الطالب طبقا للنقاط على الوجه التالي:

A	نقاط	4	:	90 % فأكثر	1 -
A <sup>-</sup>	نقاط	3.67	:	من 85% حتى أقل من 90 %	2 -
B <sup>+</sup>	نقاط	3.33	:	من 80% حتى أقل من 85 %	3 -
B	نقاط	3.00	:	من 75% حتى أقل من 80 %	4 -
B <sup>-</sup>	نقاط	2.67	:	من 70% حتى أقل من 75 %	5 -
C <sup>+</sup>	نقاط	2.33	:	من 65% حتى أقل من 70 %	6 -
C	نقاط	2.00	:	من 62% حتى أقل من 65 %	7 -
C <sup>-</sup>	نقاط	1.67	:	من 60% حتى أقل من 62 %	8 -
F	نقاط	صفر	:	أقل من 60 %	9 -

مجموع درجات الامتحان النهائي للماجستير 1200 درجة منها 300 درجة للجزء الأول. ويضاف إليها المعدل الفصلي التراكمي بما يوازي 300 درجة للماجستير .

ويتم حساب المعدل الفصلي (GPA) على أساس مجموع حاصل ضرب نقاط كل مقرر مضروباً في عدد ساعاته المعتمدة مقسوماً على الساعات المعتمدة للمقررات التي درسها الطالب في الفصل الدراسي. كما يتم حساب المعدل التراكمي للطالب (CGPA) على أساس مجموع حاصل ضرب النقاط التي حصل عليها الطالب في كل مقرر مضروباً في عدد ساعاته المعتمدة مقسوماً على مجموع الساعات المعتمدة الكلية. في حالة الرسوب في مادة أو مجموعة من المقررات في الماجستير يتم الإعادة في المادة أو المجموعة فقط. ويتم حساب التقدير الفعلي الذي يحصل عليه في أول إعادة فقط أما إذا تكرر رسوبه فيحسب له عند النجاح تقدير 60% فقط (أي 1.67 نقاط أي C<sup>-</sup>).

لا يجوز للطالب اختيار مواد الجزء الثاني قبل الانتهاء من مواد الجزء الأول، و لا ينطبق ذلك على المواد الاختيارية حيث يجوز للطالب أخذها في أي فصل دراسي.



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Template of course specification (for each course in the template)

University: Ain Shams

Faculty: Medicine

Course specifications

**i) Anatomy Course Specifications:**

**Course Specifications**

Program in which the course is given: M.Sc.in Anesthesia

Department offering the program: Department of Anesthesiology, Intensive Care and Pain management

Department offering the course: Anatomy & Embryology Department

Academic year/ level: First part (1<sup>st</sup> Semester)

Date of specification approval: 2009

**A- Basic Information**

Title: **Anatomy course for the Master Degree in Anesthesiology**

Code: AIP6001

Credit hours: 1.5 hours

**B- Professional Information**

**1. Overall aim of the course**

This course aims to help the master candidates refresh their knowledge in gross anatomy of the **airway**, the **heart**, the **nerves**, the **vertebral canal** in addition to other **regions of special interest**. Emphasis is given principally to points of clinical relevance to approaches used in anesthesia and critical-care management.

**2. Intended learning outcomes of the course**

**a. Knowledge and understanding**

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

**A1. Describe** the detailed anatomy of cranial nerves, spinal nerves, plexuses and autonomic nerves (deep nuclei, connections, superficial attachment, intracranial and extracranial course, branches, distribution, testing and effect of injury).

**A2. Describe** the detailed anatomy of relevant structures (respiratory airways, the heart, the vertebral canal, thoracic inlet, diaphragm, intercostals spaces, abdominal wall, cubital fossa and great veins of the neck).

**A3. List**, for example, the contents of the vertebral canal, the branches of the mandibular nerve ... etc.

**A4. Pair**, for example, a structure with its nerve supply.

**A5. Predict** the possible deformity that may result from injury to a given nerve.

**b. Intellectual skills:**

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

B1. **analyze** and **synthesize** anatomical data,

B2. **think critically** and to **solve problems** related to interventions such as nerve blocks ... etc. (e.g., anatomical structures that may be encountered in various approaches used in anesthesia).

**c. Professional and practical skills:**



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By the end of the course, the candidate should be able to;

**C1. Identify** any relevant structure (e.g. nerve) in a diagram , photograph of a dissected region, a plastic model ,a dissected specimen or museum jar.

**C2. Identify** any relevant structure in a normal X-ray, CT image, MRI or body cross section.

**d- General and Transferable Skills**

**d1. Attitudes:**

- i. Professionalism
- ii. Academic integrity including honesty during exams.

**D2. Transferable skills:**

- iii. Communication skills
- iv. Literature search on the internet.

**3. Course content:**

Lectures	Hours
1. Introduction	1.5
2. The respiratory pathway (nose, pharynx, larynx, trachea & bronchi ...)	1.5
3. The heart	1.5
4. The vertebral canal & its contents	1.5
5. The spinal cord & spinal nerves	1.5
6. The cervical plexus & brachial plexus	1.5
7. The thoracic nerves, lumbar plexus & sacral plexus	1.5
8. The autonomic nervous system	1.5
9. The cranial nerves & the anatomy of pain	1.5
10. The thoracic inlet, intercostals spaces & diaphragm	4.5
11. The cubital fossa	1.5
12. The abdominal wall	1.5
13. The great veins of the neck	1.5
	1.5
Total	22.5

**4. Teaching and Learning methods**

- 4.1. Lectures
- 4.2. Informal tutorials/ discussions.

**5. Assessment methods:**

- 5.1. Written exam: MCQ, long & short essay questions 45 Marks
  - 5.2. Oral & practical exam 30 Marks
- |                            |          |
|----------------------------|----------|
| Total                      | 75 Marks |
| During semester assessment | 25 marks |

**6. List of references**



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- 6.1.1. **Last's Anatomy**, Regional and Applied by Chummy Sinnatamby; 10<sup>th</sup> edition, 1999, Churchill Livingstone
- 6.1.2. **Gray's Anatomy**, The Anatomical Basis of Clinical Practice by Susan Standing; 39<sup>th</sup> edition, 2005, Elsevier Inc.
- 6.1.3. **Gray's Anatomy For Students** by Drake, Vogl & Mitchell; 1<sup>st</sup> edition, 2004, , Churchill Livingstone.

**Course Coordinator:** Prof. Sawsan abdel hamid

**Head of Department:** Prof. Kariman El Gohary





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## ii) **Physiology Course Specifications:**

Appendix D1: Templates for Course Specifications

Ain Shams University

Faculty of Medicine

### Course Specifications

Programme(s) on which the course is given: Master of Science degree in Anesthesia

Major or Minor element of programme: Major.

Department offering the programme: Department of Anesthesia, Intensive Care and Pain Management

Department offering the course: Physiology

Academic year / Level: 1<sup>st</sup> semester

Date of specification approval: 2009

#### A- Basic Information:

Title: Medical Physiology Code: AIP6002

Credit Hours: 1.5 hour

Lecture: 23 hours

#### B- Professional Information:

##### 1- Overall Aims of Course:

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

- The student will be able to know the function of different body systems under normal condition.
- The student will be able to understand the mechanisms of related diseases or altered functions.

##### 2 – Intended Learning Outcomes of Course (ILOs):

###### a- Knowledge and Understanding:

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

- a1- Define terms related to respiratory, circulatory, blood, nervous, endocrine, renal , special senses and general body metabolism.
- a1- Recognize and understand the function of different body systems and understand mechanisms involved in its regulation.
- a2- Identify how these functions are altered in different diseases.
- a3- Identify pathophysiological conditions and describe their nature.

###### b- Intellectual Skills

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

- b1- Analyze the given information.
- b2- Think and expect the outcome of disturbed function.
- b4- Relate normal physiological principles with the mechanisms and pathogenesis of the disease .

###### d- General and Transferable Skills

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

- d1- To prepare the student to communicate with departments of general medicine , ophthalmology , Neurology and psychiatry

##### 3- Contents:

###### **[I] Topic and Number of Lecture Hours:**

Lectures in physiology (not less than 23 hours) 1.5 hour/week for one semester covering the following systems:



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1. **Respiratory physiology and respiratory functions ( 1.5 hour)**
  - oxygen and carbon dioxide transport
2. **Cardiovascular physiology: ( 4 hours)**
  - Circulatory blood flow
  - Cardiac performance and ECG
  - ABP
  - Hemorrhage and Shock
3. **Blood: (1.5 hours)**
  - Hemostasis
  - Blood groups & blood transfusion
4. **Renal physiology (3 hours)**
  - urine formation
  - Water and electrolytes
  - Acid base balance
5. **Cerebral physiology (4 hours)**
  - cerebral circulation, CSF,
  - BBB
  - Pupil size and its regulation
  - Reticular formation, sleep
  - Spinal cord, Pain
6. **Autonomic nervous system and adrenal medulla (1.5 hour)**
7. **Nerve impulse and Neuromuscular physiology (1.5 hour)**
8. **Liver functions (1.5 hour)**
9. **GIT, Deglutition and vomiting (1.5 hour)**
10. **Metabolic response to surgery (1.5 hour)**
11. **Thermoregulation (1.5 hour)**

#### 4- Teaching and Learning Methods:

- 4.1- Lectures
- 4.2- Tutorial.

#### 5- Student Assessment Methods:

- 5.1 **Written exam:** to assess knowledge. And intellectual skills
- 5.2 **Oral exam:** to assess how the student uses the acquired knowledge in thinking , analysis and problem solving with good presentation and self confidence.

#### Assessment Schedule:

One assessment at the end of the course

During course assessment

#### Weighting of Assessments

Final written Exam	55 Marks
Final Oral Examination	20 Marks
Total	100% 75 Marks
During course assessment	25 marks

#### 6- List of References:

- 6.1- Course Notes specific for each lecturer.
- 6.2- Essential Books (Text Books):
  - Review of medical physiology By: William F. Ganong



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- Text Book of medical physiology By: Guyton.

#### 6.3- Recommended Books:

- Human physiology from cell to system By : Lauralee Sherwood.

#### 6.4- Periodicals, Web Sites, etc

- www . Pubmed. com
- Am. J. of physiology.

#### 7- Facilities Required for Teaching and Learning:

Projectors, data show, boards, pens, and simulators.

#### Course Coordinator:

Dr. Bataa Mohamed Ali El Kafoury

Dr. Mona Ahmed Ahmed

**Head of Department:** Prof. Dr. Ebtessam Ahmed Aboushady

**Date:** 1/ 7 / 2009



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### **iii) Internal Medicine Course Specifications:**

**University:** Ain Shams University **Faculty:** of Medicine

#### **Course specifications**

**Program on which the course is given:** Master degree in Anesthesia

**Major or minor element of programs:** Major

**Department offering the program:** Department of Anesthesia, intensive care and pain management

**Department offering the course:** Internal Medicine department, Rheumatology Division

**Academic Level:** 1<sup>st</sup> part (1<sup>st</sup> semester)

**Date of specification approval:** 2009

#### **A- Basic Information**

**Title:** Internal Medicine course **Code:** AIP6003

**Credit Hours:** **Lecture:** 2h/week **Clinical:** 2h/week **Total:** 3 credit hours

#### **Coordinator**

.....

#### **B - Professional Information**

##### **1- Course Aims:**

- Understand the scientific principles underlying health and disease.
- Provide an appropriate background covering the common and important emergencies and diseases.
- Prepare candidate for independent and life-long learning by encouraging self-directed study.
- Enable the development and application of appropriate professional attitudes, communication and problem solving skills.

##### **2- Intended Learning Outcomes (ILOs) from the Course:**

###### **a- Knowledge and understanding**

###### **By the end of the course, the candidate will be able to:**

- Describe the etiology and mechanisms of disease.
- Recognize causes of disease and the associated risk factors and disease prevention.
- Describe the clinical symptoms and signs of the common and most important diseases.
- Define problems and reach a differential diagnosis.
- Describe all forms of appropriate therapy for a given diagnosis (drug therapy and non-pharmacological treatments).
- Demonstrate an understanding of mode of action of frequently prescribed drugs and their known side effects.
- Report the psychological consequences of illness for the patient, family and society.

###### **b- Intellectual skills**

###### **By the end of the course the candidate will be able to:**

- Interpret the most important symptoms and signs of disease.
- Select appropriate investigations and interpret the results.
- Formulate appropriate management plan for individual patients presenting with the most common diseases.
- Make decisions regarding the common clinical situations using appropriate problem solving skills.
- Communicate effectively with patients and their family.

###### **c- Professional skills**



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**By the end of the course the candidate will be able to:**

- c1- Construct a proper history for the patient
- c2- Perform an adequate clinical examination for the patient and identify any abnormalities.
- c3- Interpret the patient data (history and examination) in an organized and informative manner
- c4- Perform clinical procedures
- c5- Recognize and carry out the treatment of the emergency situations

**d- General and transferable skills**

**By the end of the course the candidate will be able to:**

- d1) have the ability to explore both disease and illness with patients, and meet their communication needs and those of their relatives through the acquisition of effective Comprehensive Clinical Method;
- d2) be able to work within the organisational, interpersonal and inter-professional dynamics of the clinical team;
- d3) be able to make judgements about their strengths and weaknesses and take responsibility for continuing learning, personal support and professional development

**3- Course content:**

Topics	No of hours		
	L	C	SDL
<b>CVS:</b>			
Coronary artery diseases.	1	2	
Congestive heart failure.	1		
Infective endocarditis.	1		
Cardiomyopathies.	1		
Hypertension.	1		
Arrhythmias & dysrhythmias.	1		
dyslipidemia .	1		
<b>Respiratory system:</b>			
Athma & Chronic obstructive airway disease.	1	2	
Suppurative lung disease & bronchiectasis.	1		
Pleural effusion & pneumothorax	1		
Interstitial lung disease.	1		
Pulmonary embolism & DVT.	1		
Pulmonary hypertension.	1		
Fever of Unknown origin.	1		
Infections in immuno-compromised host.	1		
Tuberculosis.	1		
Hepatitis.	1		
Brucellosis.	1		
Metabolic syndromes.	1		
Peptic Ulceration & Gastritis.	1		



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Inflammatory bowel disease.	1		
Gastrointestinal bleeding.	1		
Liver cirrhosis.	1	2	
Autoimmune liver disease.	1		
Hemiplegia.	1	2	
Paraplegia.	1		
Cranial nerve palsy.	1		
Ataxias.	1		
Extrapyramidal syndromes.	1		
Peripheral neuropathies.	1		
Seizures.	1		
Bone marrow failure & myelodysplastic syndromes.	1	2	
Bleeding disorders (hemophilia & purpura).	1		
Thrombophilias (acquired & congenital).	1		
Transfusion reactions.	1		
Anemia & Haemolytica disease.	1		
Diabetes	1	2	
Diabetic complications	1		
Hypoglycaemia.	1		
Hyper/Hypocalcaemia.	1		
Adrenocortical insufficiency.	1		
Thyroid dysfunction.	1		
Acute renal failure	1	2	
Chronic renal failure.	1		
Glomerulonephritis and acute nephritic syndrome.	1		
Nephrotic syndrome.	1		
acid base imbalance	1		
Rheumatic heart diseases & rheumatic activity.			1
Upper & lower respiratory tract infections.			1
Mediastinal syndrome.			1
Respiratory failure & mechanical ventilation.			1
CNS infection: meningitis, encephalitis, brain abscess.			1
Travelers' fever.			1
Acute liver injury: jaundice, ascites, encephalopathy.			1
Urinary tract infection.			1
Care of patients on renal replacement therapy.			1
Care of Bone Marrow Transplantation recipient.			1



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hematological malignancies			1
Myopathies & other muscle diseases.			1
Myasthenia gravis.			1
Degenerative brain diseases.			1
Migraine & other headaches.			1
Multiple sclerosis.			1
Sepsis, shock, DIC & ARDS.			1
HIV & AIDS .			1
Salmonellosis.			1

**L: Lecture, T: Tutorial, C/P: Clinical or Practical and SDL: Self directed learning**

#### **4 - Student Assessment Methods**

- 4.1 written exam to assess knowledge, skills
- 4.2 Clinical exam to assess practical and professional skills
- 4.3 oral exam to assess General and transferable skills

#### **Weighing of assessment**

4.1 Final written exam	90 marks
4.2 Final Clinical exam	30 marks
4.3 Final Oral exam	30 marks
Total	150 marks

During semester assessment 50 marks

#### **5 -- List of References**

##### **5.1- Course Notes (paper and / or electronic)**

Clinical learning guide (electronic)

##### **5.2- Essential Books (Text Books)**

- Davidson's textbook of medicine
- Current textbook of medicine
- Kumar textbook of medicine

##### **5.3- Recommended Books**

- Cecil textbook of medicine
- Harrison textbook of medicine

##### **5.4- Periodicals, Web Sites, etc**

<http://emedicine.medscape.com/>

<http://casesblog.blogspot.com/2006/08/whats-new-in-general-internal-medicine.html>

<http://www.e-meducation.org/links/internal-medicine/>

<http://meded.ucsd.edu/clinicalmed/extremities.htm>



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#### **iv) Anesthesia Course Specifications:**

Program(s) on which the course is given: Master of Science in Anesthesia

Major or minor element of programs: Major.

Department offering the program: Department of Anesthesia, intensive care and pain management

Department offering the course: Department of Anesthesia, intensive care and pain management

Academic year / Level: 2<sup>nd</sup> part (2<sup>nd</sup> -4<sup>th</sup> semesters)

Date of specification approval: 2009.

#### **A- Basic Information**

**Title: Anesthesia**

**Code: AIP6004**

**Credit Hours:**

**Lecture: 6 h (90 actual hours)**

**Practical / Clinical: 4h (120 actual hours)**

**Tutorial / Field studies: 3h (180 actual hours)**

**Total: 13h**

**Course Coordinator:**

.....

#### **B - Professional Information**

##### **1- Course Aims:**

**Overall Aim of Course: By the end of the course, the student should be a competent and safe anesthetist:**

**He is able to:**

**- Conduct anesthesia for different common operations, safely and efficiently, to patients with different common medical problems.**

**- Avoid, suspect, anticipate and manage different complications that may occur peri-operatively.**

**- Resuscitate and manage critically ill patients safely and effectively.**

**- Manage peri-operative pain safely and efficiently, and to avoid and manage possible adverse effects of pain and drugs used for its relief**

2 – Intended Learning Outcomes of Course (ILOs)

##### **a. Knowledge and understanding:**

**By the end of the course, the candidate will be able to:**

**a1 – Define various anesthetic techniques**

**a2 – Enumerate all anesthetic drugs, equipments, and tools, and discuss its basic pharmacological and physical properties**

**a3 – State all methods of patient monitoring**





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- a4 – Illustrate the basic physiologic mechanisms for body systems related to anesthetic practice (C.V.S., chest, blood, kidney, liver, endocrines, nervous system)  
a5 - Recognize simple peri-operative problems and how to diagnose it  
a6 – Recall the anatomical description for related body systems (heart, lungs, airway, C.N.S., kidney, liver)

#### b. Intellectual capabilities:

By the end of the course, the candidate will be able to:

- b1- Select the suitable method of management for different anesthetic problems  
b2 – Design an anesthetic plan for different surgical procedures (simple, mild, up to moderate)  
b3 - Design an anesthetic plan for different problems affecting human health  
b4 – Conclude diagnosis from patient's data measured by all monitoring tools in the peri-operative period (relation and correlation of data)  
b5 – Proper patient evaluation allthrough the peri-operative setting

#### c. Professional and practical skills:

By the end of the course. the candidate will be able to:

- c1 – Perform full clinical examination to evaluate the patient's health status  
c2 - Insert a peripheral venous line at different sites  
c3 - Insert a central venous line  
c4 - Insert an endotracheal tube  
c5 - Insert an arterial line line  
c6 – Properly use all components of the anesthetic machine; adjust ventilator and vaporizer settings, and use and analyse monitoring parameters  
c7 – able to use different anesthetic drugs, fluids and medications in the proper dose and method

#### d. General and transferable skills:

By the end of the course, the candidate will be able to:

- d1 – deal with patients with the proper ethical manners  
d2 – work in a team with his colleagues (the team leader and the assistants), nursing staff and doctors of other specialities in the operating room  
d3 – work as a team leader in the setting of O.R., CPR, and trauma care  
d4 – perform the basic steps in clinical research (plan, data collection, statistical analysis, conclusion)

#### 3- Course content:

Topics	Lectures	Practical/ Clinical	Field& self learning
<b>Unit 1 (4 credit h)</b>	<b>2h</b>	<b>1h</b>	<b>1h</b>
Introduction	1		
Vascular access: venous cannulation, central line, arterial cannulation	1	2	
preoperative assessment	1	2	4
Preoperative preparation	1	2	4
Outpatient clinic			6



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Airway management	2	3	8
Monitoring	2	3	8
Respiratory physiology and respiratory functions during anesthesia	2	2	
Inhaled anesthetics	2		2
IV anesthetics	2		2
Anesthesia delivery systems	1	1	2
Neuromuscular physiology& Muscle relaxants Local anesthetics Autonomic nervous system drugs	3		
Anesthetic techniques	1		
Regional anesthesia and nerve blocks	4	10	12
Peri-operative fluid management and transfusion therapy	2		4
Operating room management and environmental safety	2		2
Post anesthesia care	1	2	
Anesthetic complications	2	3	6
<b>Total (Actual hours)</b>	<b>30h</b>	<b>30h</b>	<b>60h</b>
<b>Unit2 (4 credit h)</b>	<b>2h</b>	<b>1.5h</b>	<b>0.5h</b>
Anesthetic implications of concurrent diseases	4	8	3
Outpatient anesthesia	2	4	2
Anesthesia at remote locations	2	4	2
Renal physiology &Anesthesia for renal and genitourinary systems	2	4	2
Anesthesia for liver and GIT	2	4	3
Anesthesia for ENT	2	2	2
Anesthesia for orthopedic surgery	2	2	2
Anesthesia for trauma and emergency conditions	2	3	2
Anesthesia for obstetrics and gynecology	2	4	3
Anesthesia and endocrine diseases	2	3	2
Anesthesia for the elderly	2	2	2
CPR	2	3	3
Acid base balance	2	2	
Ethical and legal aspects	1		1
Quality assurance in anesthetic practice	1		1



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Total (Actual hours)	30h	45h	30h
<b>Unit 3 (5 credit h)</b>	<b>2h</b>	<b>1.5h</b>	<b>1.5h</b>
Cardiovascular physiology &Anesthesia for cardiothoracic surgery	3	4	6
Anesthesia for vascular surgery	2	2	6
Cerebral physiology &Anesthesia for neurosurgery	3	4	6
Pediatric anesthesia	2	2	6
Anesthesia for organ transplant	2	2	6
<b>Pain management:</b>			
<b>Classification and types</b>	1		
<b>Assessment of pain</b>	1	1	
<b>Acute (postoperative) pain</b>	2	3	8
<b>Management of chronic pain</b>	1	2	8
Acupuncture	1	2	
Interventional pain therapy	1	2	4
<b>Intensive care</b>			
Mechanical ventilation	1	5	12
Postoperative intensive care	2	3	8
Pediatric intensive care	2	3	8
Management of burn patient	1	2	6
Obstetric intensive care	2	3	
Poisoning	1	2	
General intensive care	2	3	6
<b>Total (Actual hours)</b>	<b>30h</b>	<b>45h</b>	<b>90h</b>

#### 4 – Teaching and Learning Methods

- 4.1- Lectures and tutorials
- 4.2- Practical and clinical cases
- 4.3- Workshops and simulators
- 4.4- Case study

#### 5- Student Assessment Methods

- 5.1...Final written exam.... to assess all course topics.....
- 5.2...Final oral exam..... to assess all course topics....
- 5.3...Final practical exam.. to assess student performance and skills
- 5.4..... to assess.....

#### Assessment Schedule

Assessment 1..... week.....



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Assessment 2 ..... week.....  
Assessment 3..... week.....  
Assessment 4..... week.....

### Weighing of Assessments

- Mid-Term Examination		%
- Final-Term Examination		
- Final written Examination	360 marks =	%
- Final oral Examination	70 marks =	%
- Final practical Examination	120 marks =	%
Semester Work		%
Final Clinical Exam:	100 marks =	%

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Total 650 marks = %  
During semesters assessment: 150 marks

### 6- List of References

#### 6.1- Course Notes

Lecture notes

#### 6.2- Essential Books (Text Books)

-Basics of Anesthesia: by Stoelting RK and Miller RD, 5<sup>th</sup> edition, Churchill Livingstone

- Lee's Synopsis of Anesthesia by: Davies NJH, Cashman JN, 13<sup>th</sup> edition, Elsevier

Butterworth Heinemann

#### 6.3- Recommended Books

- Anesthesia by Miller RD 6<sup>th</sup> edition, Elsevier Churchill Livingstone, New York, 2005

- Stoelting's Anesthesia and Co-existing disease, 5<sup>th</sup> edition, By: Hines RL, Marschall KE, 2008, Elsevier Churchill Livingstone

- Anesthesiology: Problem-oriented patient management 3<sup>rd</sup> edition, By: Yao FSN, Artusio JF, JB Lippincott Company

#### 6.4- Periodicals, Web Sites, ... etc

- British Journal of Anaesthesia...

- ASA Refresher Course Lectures.....

- Anesthesiology

- Anesthesia Analgesia

- Egyptian journal of anesthesia

### 7- Facilities Required for Teaching and Learning

- Lecture and tutorial rooms

- Computer and data show

- CDs and DVDs

- Operating rooms

- Equipment, monitors,

- Mannequins and simulators

- Simulators

**Course Coordinator:**



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Head of Department:

**Date:**



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## v) **Physics and Measurements Course Specifications:**

Program(s) on which the course is given: Master Degree of Anesthesia

Department offering the programme: Department of Anesthesia, Intensive Care and Pain Management

Department offering the course: Department of Anesthesia, Intensive Care and Pain Management

Academic year / Level: 2<sup>nd</sup> part (2<sup>nd</sup>, 3<sup>rd</sup> or 4<sup>th</sup> semester)

Date of specification approval: 2009

### A- Basic Information

Title: Physics & Clinical Measurements in Anesthesia

Code: AIP6005

Credit Hours: Lecture: 1credit hour (1h/w) Practical: ½ credit hour (1 h/w) Field Visits: ½ credit hour (2h/w)  
Total: 2 credit hours

### B- Professional Information

#### 1 – Overall Aims of Course:

By the end of the course, the student should become fully acquainted with the physical principles related to anaesthesia, recognise how to deal with different equipments efficiently and safely and to perform and make use of various types of essential clinical measurements in order to avoid hazards that may affect patient safety.

#### 2 – Intended Learning Outcomes of Course (ILOs):

##### a- Knowledge and Understanding:

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

- a1- to understand physical principles of machines, equipments and tools used in anaesthetic practice.
- a2- to know the safety measures that should be followed during practice.
- a3- to know the principles of different clinical measurements.

##### b- Intellectual Skills:

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

- b1-analysis of the data obtained from monitors.
- b2-interpretation of values gained from different monitors.
- b3-detection of any anaesthetic system failure.

##### c- Professional and Practical Skills

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

- c1- how to check proper performance of anaesthetic machine and different equipments.
- c2- to practice different techniques and methods for measurement of different vital data adequately in a proper time with minimal errors.
- c3- to deal with troubleshooting of anaesthetic machine and different apparatus.



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#### d- General and Transferable Skills

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

- d1- dealing with computed systems.
- d2- team work and problem solving.
- d3- organized thinking and precision in taking decisions.

### 3. Contents :

Topic	NO. of HOURS		
	lectures, discussion sessions	practical	field study
-SI units ( basic – derived ) -Behaviour of gases & Gas laws	1		
- Medical gas supply	0.5		3
- Gas diffusion & Solubility of gases in liquids - Uptake & Distribution of inhalation anaesthetics	1		
- Flow,Viscosity,Density ,Surface tension ,Osmosis	1		
- Pressure Gauges & Pressure Regulators	0.5		2
- Anaesthetic breathing systems	0.25	1	3
-Safety measures in anaesthetic machine	0.25		3
-Electricity ( principles, electronics ,pace maker, defibrillators , electrocution )	1	2	2
-Heat & Temperature	0.5		
-Humidity & Nebulizers	0.5		1
-Vaporizers	1		3
-Ventilators	0.5		4
-Respiratory functions	0.5	2	
-Pollution in OR & Scavenging systems	0.5		2
-Fires & Explosions in OR	0.5		2
-Measurement of arterial blood pressure	1	2	
-Measurement of CVP	0.25	1	
-Measurement of pulmonary artery pressure	0.25	1	
-Measurement of neuro-muscular blockade	0.25	0.5	
-Measurement of humidity	0.25	0.5	
-Measurement of CO <sub>2</sub> ; Capnography	0.5	1.5	1
-Measurement of O <sub>2</sub> ; Pulse Oximetry	0.5	1.5	1
-Measurement of cardiac output	0.5	1	
-Measurement of temperature	0.5	1	
-Measurement of osmosis	0.5		



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-Flowmeters	0.5		3
- Mass spectrometer	0.5		
<b>SUM</b>	<b>15</b>	<b>15</b>	<b>30</b>
<b>TOTAL NO. of HOURS</b>	<b>60</b>		

#### 4 – Teaching and Learning Methods”

- 4.1- lectures
- 4.2- discussion sessions
- 4.3- practical
- 4.4- field study

#### 5- Student Assessment Methods

- 5.1-written exam: to assess knowledge, orientation, analysis
- 5.2-practical exam: to assess interpretation, problem solving
- 5.3-oral exam: to assess different course topics

#### Assessment Schedule:

- Assessment 1..... week.....
- Assessment 2 ..... week.....
- Assessment 3..... week.....
- Assessment 4..... week.....

#### Weighting of Assessments:

Mid-Term Examination		%
Final-Term Examination (written):	60 marks	%
Final Oral Examination:	20 marks	%
Practical Examination:	20 marks	%
Semester Work		%
<u>Other types of assessment</u>		%
Total	100 marks	%
During semester assessment:	25 marks	

#### 6- List of References

- 6.1- Course Notes  
Hand out to the students part by part.
- 6.2- Essential Books (Text Books)
  - *Basic Physics and Measurement in Anaesthesia.*  
By Kenny, Gavin, Davis, Paul D. Published by Butterworth- Heinemann Publishers: 5<sup>th</sup> edition, 2003  
\*available in department library & book stores in the faculty of medicine
  - *Fundamental Principles and Practice of Anaesthesia*





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By Peter Hutton, Griselda Cooper, Francis M James, John F. Butterworth IV. Published by Informa Health Care, 2002

\*available in department library & book stores in the faculty of medicine

- Miller's Anesthesia

By Ronald Miller. Published by Churchill Livingstone; 6th edition, 2004

\*available in department library & book stores in the faculty of medicine

### 6.3- Recommended Books

- *Understanding Anesthesia Equipment*

By Jerry A. Dorsch, Susan E. Dorsch. Published by Lippincott Williams & Wilkins, 5<sup>th</sup> edition, 2007

\*available in Al-Ahram library

- *Physics Applied To Anaesthesia*

By D.W. HILL, London. Published by Butterworth. 3rd ed, 1976.

\*available in department library

### 6.4- Periodicals, Web Sites, etc

[www.anaesthesiaweb.com/default.aspx](http://www.anaesthesiaweb.com/default.aspx)

[www.pharmacology2000.com/physics/Chemistry\\_Physics/physics1.htm](http://www.pharmacology2000.com/physics/Chemistry_Physics/physics1.htm) - 123k -

[www.freshgasflow.com/index.html](http://www.freshgasflow.com/index.html)

### 7- Facilities Required for Teaching and Learning

- conditioned teaching room that accommodates all students for lectures.
- rooms for round table discussion and workshop.
- different audio-visual facilities e.g.:
  - . sound system,
  - .data show with computer system,
  - .white board
- Simulators

**Head of Department:**

**Course Coordinator:**



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## vi) **Pharmacology Course Specifications:**

Program(s) on which the course is given **Master of Science in Anesthesia**  
Major or minor element of programs Major.

Department offering the program Department of Anesthesia

Department offering the course Department of Pharmacology

Academic year / Level 2<sup>nd</sup> part (2<sup>nd</sup>-4<sup>th</sup> semesters)

Date of specification approval: 2009

### **A- Basic Information**

**Title:** pharmacology course

**Code:** AIP6006

**Credit Hours:** 2 hour

**Lecture:** 2/week **Total:** 30

### **B - Professional Information**

#### **1- Course Aims:**

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

#### **2- Intended Learning Outcomes (ILOs) from the Course:**

##### **a- Knowledge and understanding**

**By the end of the course, the candidate will be able to:**

- a1- Identify the basic pharmacokinetic principles affecting drug actions
- a2- Discuss the different clinical pharmacology principles that should be applied in selecting and prescribing drugs
- a3- Describe the pharmacotherapies of cardiac dysrhythmias, hypertension, heart failure, ischemic heart disease and dyslipidemias
- a4- Describe the pharmacotherapies of shock, diabetes mellitus, bronchial asthma and epilepsy
- a5- Identify the different types and uses of diuretics, corticosteroids, antiemetics and antibacterials
- a6- Describe the effectiveness of the different analgesic drugs

##### **b- Intellectual skills**

**By the end of the course, the candidate will be able to:**

- b1- Calculate the appropriate dosing of drugs according to the different characteristics of patients.
- b2- Compare the different pharmacotherapies of acid-base balance disorders.
- b3- Evaluate the different agents used in general and local anesthesia.
- b4- Assess the different uses of skeletal muscle relaxants
- b5- Obtain and record a comprehensive drug history of the patient.

##### **c- Professional skills**

**By the end of the course, the candidate will be able to:**

- c1- Report the different drug adverse reactions and toxicities
- c2- Apply the basic principles of the management of different adverse drug reactions and toxicities.
- c3- Prescribe the different pharmacotherapies in endocrinal emergencies
- c4- Avoid or manage drug interactions and adverse effects during anesthesia.

##### **d- General and transferable skills**



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**By the end of the course, the candidate will be able to:**

- d1- Communicate effectively with other health care professionals to maximize patient benefits and minimize the risk of errors.
- d2- Understand the importance of continuing medical education.

### **3- Course content:**

Topics	No of hours
	L
1. Introduction to Pharmacokinetics	1
2. Antibacterial agents	1
3. Antiemetic drugs	1
4. Analgesic drugs	2
5. Corticosteroids	1
6. Drug dosage in the ICU	2
7. Common Drug toxicities and management	1
8. Basic Principles of Clinical Pharmacology	1
9. Electrolytes and acid base balance	1
10. Endocrinal emergencies	1
11. drug therapy of heart failure	1
12. Drug therapy of ischemic heart diseases and dyslipidemias	1
13. Drug therapy of dysrhythmias	1
14. Drug therapy of hypertension	1
15. Diuretics	1
16. Drug therapy of shock	2
17. Drug therapy of hemostatic disorders	1
18. Drug therapy of diabetes mellitus	1
19. Drug therapy of bronchial asthma	1
20. Drug therapy of epilepsy	1
21. General and Local Anesthesia	5
22. Muscle relaxants	2

### **L: Lectures**

#### **4 - Student Assessment Methods**

- 4.1 Written exam to assess knowledge and intellectual skills
- 4.2 Oral exam assess knowledge and intellectual skills
- 4.3 Practical exam assess intellectual and professional skills

#### **Weighing of assessment**

4.1 written exam	60 marks
4.2 oral exam	10 marks
4.3 practical exam	30 marks
Total	100 marks

During semester assessment: 25 marks

#### **5 -- List of References**

##### **5.1- Course Notes (paper and / or electronic)**

Lecture Notes by professors of Pharmacology department; faculty of medicine; Ain Shams university....

##### **5.2- Essential Books (Text Books)**



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### **5.3- Recommended Books**

1. Goodman and Gilman's Manual of Pharmacology and Therapeutics. Ed. Laurence L. Brunton; Keith L. Parker; Mc Graw- Hill, 2008.
2. Basic and Clinical Pharmacology 10th Edition. Ed:Bertram G. Katzung; Appleton & Lange , 2007.
3. Principles of Pharmacology. The pathophysiologic basis of drug therapy. Eds. Golan et al. 2nd edition. 2008. Lippincott, WW

### **5.4- Periodicals, Web Sites, etc**

**Pubmed:** <http://www.ncbi.nlm.nih.gov/PubMed>



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## 6 - Elective Courses

- a) Medical Statistics
- b) Computer science
- c) Medical Laws and Ethics
- d) Hospital Administration

### a) Medical Statistics Course Specification:

University: Ain Shams University Faculty: of Medicine

#### Course specifications

Program on which the course is given: Master of Science degree in Anesthesia

Major or minor element of programs: Minor

Department offering the program: Department of Anesthesia, intensive care and pain management

Department offering the course: Community, Environmental and Occupational Medicine

Academic Level: 2<sup>nd</sup> part (2<sup>nd</sup> , 3<sup>rd</sup> or 4<sup>th</sup> semester)

Date of specification approval: 2009

#### A- Basic Information

Title: Medical statistics course

Code: E6009

Credit Hours: 1 hour

A credit hour = one hour lecture or 2 hours practical weekly for 15 weeks

#### Coordinator

Community, Environmental and Occupational Medicine Department

## B - Professional Information

### 1- Course Aim:

To enable the doctorate candidate to plan, conduct, analyze and interpret the results of a research in his specific field. This course unit introduces the application of statistical ideas and methodology to medical research.

### 2- Intended Learning Outcomes (ILOs) from the Course:

#### a- Knowledge and understanding

By the end of the course, the candidate will be able to:

a1 - Define medical statistics and identify uses and importance of medical statistics in medical research

a2 – Define:

Types of variables.

Descriptive statistics.



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Presentation and summarization of data.  
Measures of central tendency and scatter.  
Principles of probability and probability distributions.  
Concepts of inferential statistics: confidence interval and hypothesis testing.  
Different tests of statistical significance.  
Difference between parametric and nonparametric tests of significance.  
Correlation and regression  
Concept of statistical modeling using multivariable and multivariate statistical methods.  
Combining evidence from different studies and meta-analysis  
Importance and methods of sampling and how to determinate the suitable sample size.  
Different types of research methodology:  
observational and intervention studies and the different statistical issues related to the design,  
conduct, analysis and interpretation of the results of each study type.  
Ethical aspects of medical research including those specifically applied to clinical trials.

#### b- Intellectual skills

By the end of the course, the candidate will be able to:

- b1 - Interpret correctly the results of statistical analyses and critically evaluate the use of statistics in the medical literature.
- b2 - Integrate and evaluate information from a variety of sources.

#### c- Professional skills

By the end of the course, the candidate will be able to:

- c1- Select appropriate study designs to address questions of medical relevance
- c2 - Select and apply appropriate statistical methods for analyzing data typically encountered in medical applications.
- c3- Use selected software packages for statistical analysis and data management.

#### d- General and transferable skills

By the end of the course, the candidate will be able to:

- d1 - Work effectively in a group from different backgrounds.
- d2 - Respects the role of staff and co-staff members regardless of degree or occupation.
- d3 - Communicate effectively with professional statisticians and the wider medical community, including the ability to present results of statistical analyses through written and oral presentations
- d4 - Use of computer data bases and other computer skills.
- d5 - Handle data appropriately and analyze them through: decision processes, objective criteria, problem definition, project design and evaluation, risk management, teamwork and coordination.
- d6 - Learn independently with open-mindedness and critical enquiry.

### 3- Course content:

Topics		
	T	C/P
Introduction to medical statistics and its uses	x	x
Types of variables and Descriptive statistics	x	x
Graphic presentation of data	x	x



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Introduction to probability theory and rules	X	X
Sample and population: sampling distribution of mean and proportion	X	X
Confidence interval of a mean and a proportion	X	X
Confidence interval of a difference between two mean /proportion	X	X
Testing a hypothesis about population mean/proportion	X	X
Testing a hypothesis about the difference between two means/proportion	X	X
Comparing between more than two means-Introduction to factorial analysis	X	X
Cross-tabulation and introduction to categorical data analysis	X	X
Simple correlation and simple regression	X	X
Introduction to multivariable and multivariate analysis	X	X
Study designs: observational studies	X	X
Study designs: Intervention studies: clinical trials	X	X
Study designs: Experimental animal studies	X	X
Study designs: Bias and Confounding	X	X
Ethical issues in medical research	X	X
Sample size estimation for continuous and binary outcome measures.	X	X
Meta-analysis and publication bias.	X	X

T: Tutorial and C/P: Clinical or Practical and SDL: Self directed learning

#### 4 - Student Assessment Methods

4-1 Written exam to assess knowledge and understanding and will concentrate on problem solving questions

#### 4-2 Weighing of assessment

Final Written exam 50 marks

Final Oral exam

Total 50 marks

#### 5 - List of References

##### *5.1- Course Notes (paper and / or electronic)*

Student Notes on Medical Statistics and Research Methods. Prof. Mohsen Abdel Hamid and Dr Moustafa El Houssinie. Department of Community, Environmental and Occupational Medicine.

##### *5.2- Essential Books (Text Books)*

Statistics in Clinical Practice. avid Coggon. BMJ Books. 2<sup>nd</sup> edition 2003

##### *5.3- Recommended Books*

Handbook of Epidemiology. Springer 2005

##### *5.4- Periodicals, Web Sites, etc*

- [www.brettscaife.net/statistics/introstat/](http://www.brettscaife.net/statistics/introstat/)
- [onlinestatbook.com/rvls/](http://onlinestatbook.com/rvls/)
- [www. Epidemiolog.net](http://www.Epidemiolog.net)
- <http://www.shef.ac.uk/scharr/spss/>



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## b) Computer Science Course Specification:

Program(s) on which the course is given: Master of Science in Anesthesia

Major or minor element of programs: Minor

Department offering the program: Department of Anesthesia, Intensive Care and Pain Management

Department offering the course: Department of Anesthesia, Intensive Care and Pain Management

Academic year / Level: 2<sup>nd</sup> part (2<sup>nd</sup> , 3<sup>rd</sup> or 4<sup>th</sup> semester)

Date of specification approval: 2009

### A- Basic Information

**Title:** Computer Science

**Code:** E6047b

**Credit Hours: Lecture:** 1 h/w (15 h)

**Tutorial:**

**Practical:**

**Total:**

**1 credit hours (15 actual hours)**

### Coordinator

**C- Professional Information**

#### *1 – Overall Aims of Course:*

By the end of the course, the student should become aware of computer science principles and tools, how to do a presentation, how to use internet in communication and getting knowledge and updated sciences.

#### *2– Intended Learning Outcomes of Course (ILOs):*

##### **a. Knowledge and Understanding:**

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

- a1- Know computer components
- a2- Understand principles of computer
- a3- Know commonly used softwares

##### **b. Intellectual Skills:**

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

- b1- How to get maximum from computer facilities
- b2-How to use internet to get knowledge
- b3-How to do a presentation with the help of computer

##### **c. Professional and Practical Skills**

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

- c1- Use of computer in an optimum way
- c2- Use Microsoft office properly
- c3- Use of internet



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#### d. General and Transferable Skills

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

- d1- Communicate with colleagues through the net.
- d2- Communicate with staff through computer
- d3- Interchange data with colleagues and staff

#### 3. Contents :

Topic	No. of hours /week		
	lectures	practical	Tutorial
Information Technology	2		
Windows	2		
Microsoft Office (word, excel, access, power point)	8		
Internet	3		

#### 4 - Student Assessment Methods

- 4.1..... to assess .....
- 4.2.....to assess .....
- 4.3..... to assess.....
- 4.4.....to assess.....
- 4.4.....to assess.....

#### Weighing of Assessments:

Mid-Term Examination	%	
Final Examination (written):	50 marks	%
Final Oral Examination:	%	
Practical Examination:	%	
Semester Work		%
<u>Other types of assessment</u>	<u>%</u>	
Total	50 marks	%

#### 5 -- List of References

- 5.1- Course Notes (paper and / or electronic)  
Lecture notes
- 5.2- Essential Books (Text Books)  
.....
- 5.3- Recommended Books  
.....
- 5.4- Periodicals, Web Sites, etc  
.....  
.....

#### 6- Facilities Required for Teaching and Learning

- Conditioned teaching rooms
- Computers for students



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- Data show
- white board

**Head of Department:**

**Course Coordinator:**



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### c) Medical Laws and Ethics Course Specifications:

Program(s) on which the course is given: Master of Science in Anesthesia

Major or minor element of programs: Minor

Department offering the program: Department of Anesthesia, intensive care and pain management

Department offering the course: Department of Anesthesia, intensive care and pain management

Academic year / Level: 2<sup>nd</sup> part (2<sup>nd</sup>, 3<sup>rd</sup> or 4<sup>th</sup> semester)

Date of specification approval:

#### A- Basic Information

Title: Medical Laws تشريعات

Code: E6035b

Credit Hours:

Lecture: 1h

Tutorial:

Practical:

Total: 1 credit hour

#### Coordinator

#### B - Professional Information

##### 1- Course Aims:

**The aim of this course is to make the intensivist aware of the laws that affect his medical practice, in his / her relations with patients, their relatives, nurses, paramedicals and his colleagues, and to know his/her rights and duties during medical practice with such personells.**

##### 2- Intended Learning Outcomes (ILOs) from the Course:

###### a- Knowledge and understanding

**By the end of the course, the candidate will be able to:**

- a1 – know the laws affectind his medical practice
- a2 – know the rights and duties towards other persons during his work
- a3 – know the rights of patients, their relatives
- a4 –know how to deal with medicolegal problems in ICU

###### b- Intellectual skills

**By the end of the course, the candidate will be able to:**

- b1- avoid and detect any medicolegal problems during his/her practice
- b2 – deal with medicolegal problems that may be encountered during work
- b3 - .....

###### c- Professional skills



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**By the end of the course, the candidate will be able to:**

- c1- get an informed written cosent from the patient and/or his/her relatives
- c2- behave safely and correctly in any medicolegal problem encountered
- c3- behave correctly if he/she was obliged to go to the court

#### d- General and transferable skills

**By the end of the course the candidate will be able to:**

- d1 – communicate in a right manner with patient and his/her relatives
- d2 – behave with colleagues as a team work
- d3 - .....

#### **2- Course content:**

Topics	No. of hours			
	L	T	C/P	SDL
Medical syndicate rules	2			
Medicolegal aspects of patient privacy	1			
Medicolegal aspects of getting a consent	1			
Medicolegal aspects of trauma and accidents	2			
Medicolegal aspects of iatrogenic complications and medical mishaps	2			
Medicolegal aspects of drug abuse and toxicology	2			
Medicolegal aspects of brain death anf organ transplant	2			
Laws of medicolegal impotence	3			

**L: Lecture, T: Tutorial, C/P: Clinical or Practical and SDL: Self directed learning**

#### **4 - Student Assessment Methods**

- 4.1..... to assess .....
- 4.2.....to assess .....
- 4.3..... to assess.....
- 4.4.....to assess.....
- 4.4.....to assess.....

#### **Weighing of Assessments:**

Mid-Term Examination	%	
Final Examination (written):	50 marks	%
Final Oral Examination:	%	
Practical Examination:	%	
Semester Work	%	
<u>Other types of assessment</u>	%	
Total	50 marks	%



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## 5 -- List of References

5.1- Course Notes (paper and / or electronic)

Lecture notes

5.2- Essential Books (Text Books)

.....

.....

5.3- Recommended Books

.....

.....

5.4- Periodicals, Web Sites, etc

## HOSPITAL MANAGEMENT COURSE SPECIFICATIONS

**University:** Ain Shams University **Faculty:** of Medicine

### Course specifications

**Program on which the course is given:** Master of Science Anesthesia.

**Major or minor element of programs:** Minor

**Department offering the program:** Anesthesia department.

**Department offering the course:** community environmental and occupational medicine department

### A- Basic Information

**Title:** Hospital Management **Code:** E6073

**Credit Hours:** 1 hour **Lecture:** 1/w **Total:** 15

### Coordinator

Healthcare Quality Unit at Department of Community Medicine

### B - Professional Information

#### 1- Course Aims:

With the growing importance of hospital industry in providing health care to people across the country, hospital management courses are also becoming popular. The government of India is also paying attention on providing health care in both rural and urban areas. The requirement of professional administrators in the hospitals is growing at a rapid pace primarily because the nature of work in hospitals is quite deferent from other organizations. Hospitals are expected to deliver quality service 24 hours a day at a minimal cost. The urgent nature of its work and the level of efficiency that is expected have increased the need of well-formulated hospital management courses throughout the world providing participants with basic hospital management concepts

#### 2- Intended Learning Outcomes (ILOs) from the Course:

##### a- Knowledge and understanding

**By the end of the course the candidate will be able to:**

a1- Put Strategic planning

a2- Perform operational planning



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- a3- Manage human resources
- a4- Manage healthcare quality

### **b- Intellectual skills**

**By the end of the course the candidate will be able to:**

- b1- Create effective management systems which allow hospital management to monitor and observe the performance of key hospital processes, organisation arrangements, people and resources.
- b2- Understand how to respond positively when performance is inadequate and change becomes necessary.

### **c- Professional skills**

**By the end of the course the candidate will be able to:**

- c1- Manage and lead hospital staff
- c2- Support quality improvement initiatives.
- c3- Measure hospital performance

### **d- General and transferable skills**

**By the end of the course the candidate will be able to:**

- d1- Work within the organisational, interpersonal and inter-professional dynamics of the clinical team.
- d2- Make judgements about their strengths and weaknesses and take responsibility for personal support and professional development

### **3- Course content:**

Topics	No of hours
	L
Basic concepts and principles of hospital management	3
Strategic planning	3
Operational planning	7
Human resources management	7
Quality management	3
Communication skills	2

### **4 - Student Assessment Methods**

- 4.1 written exam to assess knowledge, skills

#### **Weighing of assessment**

4.1 written exam	50
Total	50

### **5 -- List of References**

**5.1- Course Notes (paper and / or electronic)**

**5.2- Essential Books (Text Books)**

**5.3- Recommended Books**

**5.4- Periodicals, Web Sites, etc**



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**N.B. each semester should not exceed 6 credit hours**





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## V- General Information

### 1 – Monitoring Of Training and Submission Of Training Reports

You must keep proper and updated records in your logbook to reflect the activities encountered in your training. Your logbook must be duly endorsed by an authorized signatory at the end of each semester.

You will be continuously assessed by your supervisors, in consultation with head of department. An assessment will be submitted within 2 weeks of completion of each semester.

### 2 - Miscellaneous Information:

#### Injury and/or Blood or Body Fluid Exposure:

During regular working hours, you should immediately report an exposure incident to ----- . If exposure occurs after regular working hours or during a weekend or holiday; please call the ----- . For injury, please report to the Emergency Department.

*Please also be sure to inform the supervisors of an exposure incident and/or injury.*

### 3 - Action Completion Of Clinical Training

Once all training sessions are completed the log book should be signed by the senior supervisor and the head of the department and then should be submitted to post graduate Secretariat.

### 4- Reference

The Training Guide is available at the post graduate Secretariat and could be downloaded from the following website is

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## VI – Your log book

### 1- Introduction

The aim of this book is to give you a guide to the expectations for each item. It will be a guide for both you and your teachers to what you should be seeing and doing.

It will give you a list of the important topics that you should think about and should be covered in:

1. Clinical or practical sessions or
2. Tutorials
- or
3. Self-directed learning (SDL)

**For each item there is also a list of**

1. Clinical conditions or Practical sessions to be seen or attended (According to each degree)
2. Practical procedures to be seen and done

### **REMEMBER**

This document is *only a guide*. It is not an exhaustive list. It is not just a checklist to score points. It is a guide to encourage you to read and learn more. *This book is for your benefit*. It will form a record of your clinical training and experience.

### 2 - Supervisors

### 3–Tables for Training Records

Candidates are required to fulfill 75% of the listed activities in order to be eligible for the exam entry. The minimum number required for each activity = 75%. You are free to attend more and record your extra attendance.

#### **Weekly Department Plan**

Day /time	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday
Bedside education						
Conference						
Grand round				yes		
Emergency attendance	As scheduled	As scheduled	As scheduled	As scheduled	As scheduled	As scheduled
Operative day	Daily	daily	Daily	Daily	Daily	Daily
Clinic day	Daily	Daily	Daily	Daily	Daily	Daily

**Monthly activity.....**

**Sixth monthly activity .....**

**Yearly activity: Annual conference of Egyptian society of Anesthesia**

**Conferences attendance**

**(NB. Minimum number required is 3)**



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No	Date	Place	Topics	Supervisor signature

**Seminars attendance**  
(NB. Minimum number required is 5)

No	Date	Place	Topics	Supervisor signature

**Thesis attendance**  
(NB. Minimum number required is 10)

No	Date	Place	Name of the thesis	Supervisor signature

**CLINICAL ATTENDANCE**  
(NB. Minimum number required is 10)

No	Date	Place	Name of the Clinic	Supervisor signature



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### TUTORIALS ATTENDED

(NB. Minimum number required is 5)

No	Date	Place	Name of the tutorial	Supervisor signature

### ACTIVITIES ATTENDED

(NB. Minimum number required is 5)

No	Date	Place	Name	Supervisor signature

### EMERGENCY (ON DUTY) ATTENDANCE

(NB. Minimum number required is 10)

No	Date	Place	Department	Supervisor signature

### CASE PRESENTATIONS

(NB. Minimum number required is 3)



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No	Date	Place	Diagnosis	Supervisor signature

PATIENTS SEEN / WITH ANY OF THE ABOVE PROBLEMS  
(NB. Minimum number required for each diagnosis is 5)

No	Date	Primary diagnosis	Supervisor signature

Practical skills (Agreement Scale)

### Requirements

Candidates are required to fulfill 75% of the listed activities in order to be eligible for the exam entry. The minimum number required for each activity = 75%. You are free to attend more and record your extra attendance. (According to each degree: Minimum number required to attend is 5, Minimum number required to assist is 5, Minimum number required to be done independently is 5, Grade: v. good is required to pass)

Item	No	Observed	Date	assisted	Date	Done independently (A, B, C) According to each department	Date	Supervisor signature
ABG	1							
	2							
	3							
Intubation	1							
	2							
	3							

a- Poor b- Satisfactory c- Excellent





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Arterial line insertion and arterial blood sampling  
(NB. Minimum number required is 20)

No	Date	Primary diagnosis	Supervisor signature

Pre-anesthetic evaluation  
(NB. Minimum number required is 30)

No	Date	Primary diagnosis	Supervisor signature







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كلية معتمدة


Preanesthetic checkup of equipment and drugs  
(NB. Minimum number required is 20)

No	Date	Primary diagnosis	Supervisor signature

Simple airway management and mask ventilation





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Spinal anesthesia

(NB. Minimum number required is 20)

No	Date	Primary diagnosis	Supervisor signature

Epidural anesthesia

(NB. Minimum number required is 20)

No	Date	Primary diagnosis	Supervisor signature



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### OTHERS

(Teaching Experience, Research Experience, Projects, Publications, Field tasks, Administrative Experience, Administrative Experience)

#### 5 - Log book preview

The candidate logbook will be reviewed and patients seen/ skills performed summarized by diagnosis groups during the semester evaluation and at the end of the course in the table below. The results of this review will be totaled in the summary chart below.

#### Summary

Semester	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	Total
<b>Activity</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	
Conferences attendance					
Seminars attendance					
Thesis attendance					
<b>CLINICAL ATTENDANCE</b>					
<b>TUTORIALS ATTENDED</b>					
<b>ACTIVITIES ATTENDED</b>					
<b>EMERGENCY (ON DUTY) ATTENDANCE</b>					
<b>CASE PRESENTATIONS</b>					



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Peripheral iv line insertion					
Central Venous line insertion					
Arterial line insertion and arterial blood sampling					
Pre-anesthetic evaluation					
Intraoperative monitoring					
Preanesthetic checkup of equipment and drugs					
Simple airway management and mask ventilation					
Endotracheal intubation					
Laryngeal mask insertion					
Spinal anesthesia					
Epidural anesthesia					
Supervisor signature					

VII - Head Of Department Approval For The Exam Entry

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قسم التمريض والرعاية المركزة

و علاج الاطام



كلية معتمدة

VIII – Thesis Follow up

التاريخ/

التقرير النصف السنوى لعام /

عن الطالب /

المقيد لدرجة ( ماجستير / الدكتوراة )

بقسم /

تقرير السادة الاساتذة المشرفين

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| <input type="checkbox"/> | قطع شوطا محدودا  | <input type="checkbox"/> | بدأ               | جمع المادة العلمية و كتابة المقدمة |
| <input type="checkbox"/> | إنتهى من الجمع   | <input type="checkbox"/> | أوشك على الإنتهاء |                                    |
| <input type="checkbox"/> | قطع شوطا محدودا  | <input type="checkbox"/> | بدأ               | الجزء العملى                       |
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وكيل الكلية

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تم تشكيل لجنة المناقشة / / تاريخ التشكيل نعم لا

مد / شطب القيد

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بقسم /

تقرير السادة الاساتذة المشرفين

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### VIII – Evaluation Forms

*Evaluation Form (at the end of each semester)*

To be completed at -----

**Candidate**

**Supervisor**

**Location**



قسم التمريض والرعاية المركزة

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كلية معتمدة

Aim of training

---

Agreed educational objectives and timescale in which objectives should be achieved.

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Comments by Candidate

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Comments by Supervisor

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**Date of next meeting**

**Signed by candidate**

**Signed by Supervisor**

**Date**



قسم التمريض والرعاية المركزة

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### VIII – Evaluation Forms

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كلية معتمدة

Aim of training

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Agreed educational objectives and timescale in which objectives should be achieved.

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Comments by Candidate

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Comments by Supervisor

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**Date of next meeting**

**Signed by candidate**

**Signed by Supervisor**

**Date**





قسم التخيير والرعاية المركزة

وعلاج الأدم



كلية معتمدة

### VIII – Evaluation Forms

*Evaluation Form (at the end of each semester)*

To be completed at -----

**Candidate**

**Supervisor**

**Location**

Aim of training

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Agreed educational objectives and timescale in which objectives should be achieved.

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Comments by Candidate

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قسم التمريض والرعاية المركزة

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كلية معتمدة

Comments by Supervisor

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*Date of next meeting*

Signed by candidate

Signed by Supervisor

Date



قسم التخيير و الرعاية المركزة

و علاج الاغم



كلية معتمدة

### VIII – Evaluation Forms

#### *Evaluation Form (at the end of each semester)*

To be completed at -----

**Candidate**

**Supervisor**

**Location**

Aim of training

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Agreed educational objectives and timescale in which objectives should be achieved.

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Comments by Candidate

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Comments by Supervisor

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**Date of next meeting**

**Signed by candidate**

**Signed by Supervisor**

**Date**



قسم التمريض والرعاية المركزة

وعلاج الأدم



كلية معتمدة



قسم التمريض والرعاية المركزة

و علاج الاطعم



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## Degree Program Evaluation Form by The Candidate

To be completed at the end of your degree.

Please consider each pair of statements and decide which most clearly reflects your view and **tick one box or answer the question.**

### I. Individual Information

1. Are you a graduate of ASU?  
yes no to some degree
2. Year and semester when studies began:

### II. General Questions

1. What are the advantages/disadvantages of the general study environment at the University ASU?
2. What were your expectations when you applied to the degree?
3. Do you feel that the degree program prepares you well for your future studies or employment according to the demands and expectations of those institutions?  
yes no to some degree
4. Has the time limit of the program (two or three academic years) caused you any difficulties or inconveniences?  
yes no to some degree

### III. Structure of Degree Program

1. Did you receive enough guidance in planning your study schedule in the beginning of the program?  
yes no to some degree
2. What were the main difficulties in the planning of your study schedule?
3. What is your general opinion on the structure of the degree program?
4. In your opinion, does the degree program offer a good balance of lectures, seminars, conferences, and book exams?  
yes no to some degree

### a) General Studies

- i) Do you feel that you have received enough guidance on academic writing?  
yes no to some degree
- ii) Do you feel that you have acquired sufficient knowledge on research skills (eg. quantitative and qualitative research methods)?  
yes no to some degree



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## b) Courses

i) Have you had some special difficulties in completing some of the courses? Please specify.

ii) Has there been a sufficient variety of courses offered for your optional studies?  
yes no to some degree

iii) Have you received enough guidance for the preparation of your thesis?  
yes no to some degree

## IV. Concluding Points

1. Did the degree program meet your expectations?  
yes no to some degree

2. What aspects of the degree program do you particularly like?

3. What aspects of the degree program do you particularly dislike?

4. What are your suggestions on how to improve the program?

Thank you!

### Glossary:

#### Job description

##### **Senior supervisor:**

The main supervisor of the thesis and follows the progress of the candidate all through the program

##### **Program coordinator:**

Plan, coordinate and administer activities within assigned program areas; develop, coordinate and advise on policy related to specified programs.

Monitor and evaluate program effectiveness, investigate trends, and recommend and implement modifications to improve program effectiveness.

Represent assigned programs on behalf of the director to the University and the public; serve on various committees and attend professional meetings as appropriate.

Prepare reports and analyses setting forth progress, adverse trends and appropriate recommendations or conclusions.

##### **Course Coordinator**

The Course Coordinator serves as the liaison between the faculty members and candidates in the course.

Meet with faculty and departmental curriculum committees to formulate course objectives and develop course content related to service learning.

Develop appropriate evaluation tools to assess the achievement of course objectives related to service learning.



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### *Supervisor signature*

The supervisor signature or the authorized personnel delegated (مفوض شخص) for signature by the senior supervisor.

## TABLE OF CONTENTS:

	Page
I- Welcome Statement	
II- Mission Statement	
III- Senior supervisor and affiliated departments and hospitals	
IV – Program specifications	
1 - Basic Information	
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5 - Program courses:	
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Doctorate Degree in Anesthesia courses specifications:	
i) Physics and Measurements Course Specification	
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VIII – Thesis follow up  
IX - Evaluation forms





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## I – Welcome Statement:

The Department of Anesthesia, intensive care and pain management welcomes you to the Medical Doctorate degree in Anesthesia. As a department, we are committed to medical student education and continuously strive to improve your educational experience.

This handbook presents information guide and logbook activity of the Medical Doctorate degree in Anesthesia, administered by the Department of Anesthesia, intensive care and pain management, Faculty of Medicine, Ain Shams University.

## II - Mission Statement:

The mission of the Faculty of Medicine, Ain Shams University is “*Preparation of a trained physician, researcher and life long tutor capable of following standards of medical care and ethics, with managerial and technical skills in his specialty. Furthermore, promotion outstanding programs of health care to serve the society, environmental development and targeted scientific research for continual improvement of health*”.

The mission of this degree is to prepare an expert anesthesiologist, researcher and life long tutor, capable of following standards of medical care and ethics, with managerial and technical skills in the field of anesthesia, and can transmit such experience to senior anesthesiologists. Furthermore, he/she can promote programs of health care to serve society, environment development and scientific research for continual improvement of health.

## III – Senior Supervisor and Affiliated Departments and Hospitals

### Senior Supervisor

Prof.

-----  
-----  
-----

E-mail:

### Affiliated Departments and Hospitals

Department of Anesthesia, Intensive Care and Pain Management

## IV – Program Specifications

### A- Basic Information

1. Program title: **Medical Doctorate in Anesthesia**
2. Program type:  Single  Double  Multiple
3. Faculty: of Medicine, Ain Shams University



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**4. Department:** Department of Anesthesia, Intensive Care and Pain Management

**5. Assistant co-ordinator**

Write the name .....

**6. Co-ordinator**

Write the name.....

**7. Last date of program approval: 2009**

**B- Professional Information:**

**1. Program aims:**

By the end of the program, the anesthesiologist will be able to prepare patient for anesthesia in a proper way, conduct anesthesia in a safe manner, with smooth, pain-free post operative recovery. Also, he/she can solve common and uncommon problems encountered during work in a safe and scientific manner. Furthermore, he/she can share and transfer Knowledge and experience to his/her colleagues. Also, he/she is capable of updating his/her knowledge and doing his research for improving level of health care in his society.

**2. Intended learning outcomes (ILOs):**

***By the end of the program, the candidate will be able to:***

- Know and understand Anesthetic techniques, equipment, drugs used***
- Put an anesthetic plan for different surgical procedures and different medical problems***
- Do and conduct different anesthetic techniques safely and efficiently***
- Anticipate, avoid and manage problems encountered during patient care***
- transmit his knowledge and experience to other colleagues***
- Conduct research in a proper, safe and valuable manner***

**a. Knowledge and understanding:**

**By the end of the program the candidate will be able to:**

- a1** – Define various anesthetic techniques
- a2** – Enumerate all anesthetic drugs, equipments, and tools, and discuss its basic pharmacological and physical properties
- a3** – State all methods of invasive and non-invasive patient monitoring
- a4** – Illustrate the basic physiologic mechanisms for body systems related to anesthetic practice (C.V.S., chest, blood, kidney, liver, endocrines, nervous system)
- a5** - Recognize simple, moderate, and major peri-operative problems and how to diagnose it



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**a6** – Recall the anatomical description for related body systems (heart, lungs, airway, C.N.S., kidney, liver)

**b. Intellectual capabilities:**

**By the end of the program the candidate will be able to:**

- b1**- Select the suitable method of management for different anesthetic problems
- b2** – Design an anesthetic plan for different surgical procedures (simple, mild, up to moderate)
- b3** - Design an anesthetic plan for different problems affecting human health
- b4** – Conclude diagnosis from patient's data measured by all monitoring tools in the peri-operative period (relation and correlation of data)
- b5** – Proper patient evaluation allthrough the peri-operative setting
- b6** – Manage complicated anesthetic problems in patients with complex health complications

**c. Professional and practical skills:**

**By the end of the program the candidate will be able to:**

- c1** – Perform full clinical examination to evaluate the patient's health status
- c2** - Insert a peripheral venous line at different sites
- c3** - Insert a central venous line
- c4** - Insert an endotracheal tube
- c5** - Insert an arterial line line
- c6** – Insert an epidural catheter with and without image intensifier
- c7** – Properly use all components of the anesthetic machine; adjust ventilator and vaporizer settings, and use and analyse monitoring parameters
- c8** – able to use different anesthetic drugs, fluids and medications in the proper dose and method

**d. General and transferable skills:**

**By the end of the program the candidate will be able to:**

- d1** – deal with patients with the proper ethical manners



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**d2** – work in a team with his colleagues (the team leader and the assistants), nursing staff and doctors of other specialities in the operating room

**d3** – work as a team leader in the setting of O.R., CPR, and trauma care

**d4** – perform the basic steps in clinical research (plan, data collection, statistical analysis, conclusion)

**d5** – 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. Academic standards: (Benchmarks)

- University of **Oxford — Medical Sciences Division**
- FRCA program

### 4. Curriculum structure and contents:

4a- Program duration: 3 years (6 semesters)

4b- Program structure:



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درجة الدكتوراه في التخدير  
Medical Doctorate in Anesthesia (AIP700)

المناهج			
الساعات المعتمدة	الكود	المقررات الدراسية	متطلبات الجامعة
		دورة أساسيات البحث العلمي	الجزء الأول
2	AIP7001	فيزياء و قياسات	
4	AIP7002	أدوية	
15			الرسالة
22	AIP7003	تخدير و رعاية مركزة و علاج الألم	الجزء الثاني
2	E7024 E7043 E7034	يتم اختيار مادة واحدة من 1- احصاء طبي 2 - تشريع طبي 3 - إدارة مستشفيات	المقررات الاختبارية
15			كراسة الأنشطة
60			المجموع

5. Program courses:

5.1 First Part /First Semester

a. Compulsory

Code	Course Title	No. of units	No. of hours/week			ILOs
			Lectures	Practical & Clinical	Tutorial	
AIP7001	Physics and Measurement		1 h/w	1 h/w	2 h/w	
AIP7002	Pharmacology					

5.2 Second Part (2nd – 6th semesters)

a. Compulsory

Code	Course Title	No. of units	No. of hours/week			ILOs
			Lectures	Practical & Clinical	Tutorial	
AIP7003	Anesthesia, Intensive					



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	Care and Pain Management						
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#### b. Elective

Code	Course Title	No. of units	No. of hours/week			ILOs	
			Lectures	Practical & Clinical	Tutorial		
AIP7024	Medical Statistics						
AIP7043	Medical Laws and Ethics						
AIP7034	Hospital Administration						

#### 6. Program admission requirements:

المادة (7): يشترط لقيد الطالب للحصول على درجة الدكتوراه :-

1- أن يكون حاصلاً على درجة الماجستير في مادة التخصص أو إحدى المواد الأساسية المتصلة بها من إحدى الجامعات المصرية أو على درجة معادلة لها. 2- موافقة جهة العمل على متطلبات الدراسة. 9- تسديد الرسوم ومصاريف التدريب وإستهلاك الأجهزة وإستيفاء المستندات المطلوبة في الملحق (2) 10 0- التفرغ للدراسة لمدة خمس فصول دراسية على الأقل قبل دخول امتحان الجزء الثاني. ويمكن أن يتم التدريب لنفس المدة على الأقل في احد المستشفيات أو المراكز العلمية المعتمدة من الكلية بعد أستيفاء الشروط التي تحددها الأقسام المختصة.

#### 7. Regulation for progression and program completion

مادة (8): يتم التسجيل لدرجات الدكتوراه مرتين في العام : الأولى من أول يوليو حتى آخر أغسطس والثانية من أول نوفمبر حتى آخر ديسمبر 0

مادة (9): توزع الدراسة في كل عام جامعي على فصلين دراسيين مدة كل منهما خمسة عشر اسبوعاً . يبدأ الاول في أول أكتوبر ويبدأ الثاني في منتصف فبراير. مع تنظيم فصل دراسي مكثف لمدة ستة اسابيع . و يتم التسجيل للفصل الدراسي قبل اسبوعين من بدايته على الأقل بعد إستيفاء الشروط حسب المقررات المسجلة. ولا ينبغي أن يزيد العبء الدراسي في الفصل الواحد عن 6 ساعات معتمدة. ويجوز للطالب تعديل المقررات خلال اسبوعين من بداية الفصل الدراسي ( بالحذف او الاضافة ). كما يجوز له الانسحاب خلال ستة اسابيع من احد المقررات دون احتسابه راسباً فيه.

مادة (17): مدة الدراسة للحصول على الدكتوراه ستة وثلاثون شهراً (ست فصول دراسية) يجتاز خلالها الطالب برنامجاً تدريبياً متكاملماً بالقسم طبقاً للساعات المعتمدة الموضحة بالباب الخامس ويستوفى خلالها المطلوب منه في كتيب متابعة الأنشطة ولا يسمح له بدخول الإمتحان قبل إستيفاء ثلاثة أرباع المطلوب منه من الساعات المعتمدة.



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**مادة (18):** مدة الدراسة في الجزء الأول للدكتوراه إن وجد فصل دراسي واحد يجتاز بعده الطالب إمتحاناً ولا يشترط النجاح فيه بالكامل للإنتقال للدراسة في الجزء الثاني ويشترط خلالها التدريب بإحدى المستشفيات الجامعية أو المراكز المعتمدة من القسم ولجنة الدراسات العليا بالكلية سواء بالداخل أو الخارج على أن يتم إستكمال الدراسة طبقاً للساعات المعتمدة.

**مادة (19):** يقوم الدارس لدرجة الدكتوراه بتسجيل موضوع الرسالة مع القيد للدرجة ولا تجوز مناقشة الرسالة قبل مرور عامين على التسجيل للدرجة ولا يخصص لها درجات.

**مادة (20):** يقوم الدارس لدرجة الدكتوراه بإستيفاء متطلبات الجامعة قبل التسجيل ومتطلبات الكلية ومناقشة الرسالة قبل دخول إمتحان الجزء الثاني. ومتطلبات الجامعة هي الحصول على شهادة التوفيل في اللغة الإنجليزية (مجموع 550 درجة) ومتطلبات الكلية هي حضور دورات معتمدة من لجنة الدراسات العليا بالكلية في مجال التخطيط والدراسات الطبية والإحصاء الطبي أو إجتياز إختبارات خاصة تحدها اللجنة.

**مادة (21):** الساعات المعتمدة لدراسة الدكتوراه ست و تسعون ساعة منها ست و ثلاثون ساعة تمت دراستهم اثناء الماجستير و يضاف ستون ساعة معتمدة على الأقل ويخصص منها خمس عشرة ساعة لكتيب متابعة الأنشطة وخمس عشرة ساعة للرسالة وست ساعات على الأقل للجزء الأول إن وجد.

**مادة (22):** مدة القيد لدرجة الدكتوراه خمس سنوات ويجوز لمجلس الجامعة بناءً على طلب مجلس الكلية وبعد موافقة لجنة الدراسات العليا بالكلية بعد طلب مجلس القسم وإستناداً إلى تقارير سنوية من جميع المشرفين على الطالب السماح بإضافة عام واحد وبعد أقصى ثمان سنوات من تاريخ القيد للحصول على درجة الدكتوراه.

**مادة (23):** تلتزم الأقسام المعنية بالأشتراك مع أقسام المواد المرتبطة بوضع إمتحانات موضوعية تشمل وسائل التقييم المختلفة من أسئلة طويلة وقصيرة ومتعددة الإختيارات ، وإختبارات إكلينيكية مقننة تقيس المهارات المختلفة على أن تشمل كراسة المناهج تفاصيل ذلك وتعتمد من لجنة الدراسات العليا بالكلية .

**مادة (24):** مجموع درجات الامتحان النهائي للدكتوراه 1500 درجة منها 300 درجة للجزء الأول إن وجد. ويضاف اليها المعدل الفصلي التراكمي بما يوازي 400 .

**مادة (25):** يعقد إمتحان الدور الأول في أكتوبر ونوفمبر من كل عام ويعقد إمتحان الدور الثاني في أبريل ومايو من كل عام.

**مادة (26):** يكون النجاح في مواد الدكتوراه بعد الحصول على 60% من درجة التحريري والعملية والاكليينكي والشفوي كل على حدة.

- للارتقاء بالمستوى الاكليينكي للطبيب الجامعي تقرر تنظيميا داخليا بتواجد المعيد لمدة أربع سنوات على رأس العمل، مارا على الأقسام الأساسية المختلفة بالمستشفى شرطا مضافا لدخوله امتحان دكتوراه التخدير.

#### All course specifications should be included as appendices

- i) Physics and Clinical Measurement Course Specification
- ii) Pharmacology Course Specification
- iii) Anesthesia, Intensive Care and Pain Management Course Specification
- iv) Elective Courses
  - a) Medical Statistics Course Specification
  - b) Medical Laws and Ethics Course Specification
  - c) Hospital Administration Course Specification



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### Assessment Schedule and Weighing of Assessments

Item	Mark			Points	GPA	حالة الطالب Student
	During semester	End of semester	Total			
First semester (If present)	80	300	380			
Second semester	80		80			
Third semester	80		80			
Fourth semester	80		80			
Fifth semester	80		80			
Sixth semester Final exam	Written		1200 *	1200		
	Oral					
	Practical /Clinical					
Total	400	1500	1900			

\* 1500 if there is no first semester

ملحوظة: تعادل درجات الطالب طبقاً للنقاط على الوجه التالي:

1 - 90 % فأكثر	:	4	نقاط A
2 - من 85% حتى أقل من 90 %	:	3.67	نقاط A-
3 - من 80% حتى أقل من 85%	:	3.33	نقاط B+
4 - من 75% حتى أقل من 80%	:	3.00	نقاط B
5 - من 70% حتى أقل من 75%	:	2.67	نقاط B-
6 - من 65% حتى أقل من 70%	:	2.33	نقاط C+
7 - من 62% حتى أقل من 65%	:	2.00	نقاط C
8 - من 60% حتى أقل من 62%	:	1.67	نقاط C-
9 - أقل من 60%	:	صفر	F

مجموع درجات الامتحان النهائي للدكتوراه 1500 درجة منها 300 درجة للجزء الأول إن وجد. ويضاف إليها المعدل الفصلي

التراكمي بما يوازي 400 درجة للدكتوراه .

ويتم حساب المعدل الفصلي (GPA) على أساس مجموع حاصل ضرب نقاط كل مقرر مضروباً في عدد ساعاته المعتمدة

مقسوماً على الساعات المعتمدة للمقررات التي درسها الطالب في الفصل الدراسي. كما يتم حساب المعدل التراكمي للطالب (CGPA)





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على أساس مجموع حاصل ضرب النقاط التي حصل عليها الطالب في كل مقرر مضموناً في عدد ساعاته المعتمدة مقسوماً على مجموع الساعات المعتمدة الكلية.

في حالة الرسوب في مادة أو مجموعة من المقررات في الدكتوراه يتم إعادة في المادة أو المجموعة فقط. ويتم حساب التقدير الفعلي الذي يحصل عليه في أول إعادة فقط أما إذا تكرر رسوبه فيحسب له عند النجاح تقدير **60%** فقط (أي **1.67** نقاط أي - (C).



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## i) Physics and Clinical Measurement Course Specification:

*Program(s) on which the course is given: MD Degree of Anesthesia*

**Department offering the programme: Department of Anesthesia, Intensive Care and Pain Management**

**Department offering the course: Department of Anesthesia, Intensive Care and Pain Management**

**Academic year / Level: 1<sup>st</sup> part (1<sup>st</sup> semester)**

**Date of specification approval: 2009**

### D- Basic Information

**Title: Physics & Clinical Measurements in Anesthesia**

**Code: AIP7001**

**Credit Hours: Lectures: 1 credit hour Practical: ½ credit hour Tutorial and Field Visits: 1/2 credit hour Total: 2 credit hours**

### E- Professional Information

#### 1 – Overall Aims of Course

By the end of the course, the student should become fully acquainted with the physical principles related to anaesthesia, recognise how to deal with different equipments efficiently and safely and to perform and make use of various types of essential clinical measurements in order to avoid hazards that may affect patient safety.

#### 2 – Intended Learning Outcomes of Course (ILOs)

##### e- Knowledge and Understanding:

**a1-** to understand physical principles of machines, equipments and tools used in anaesthetic practice.

**a2-** to know the safety measures that should be followed during practice.

**a3-** to know the principles of different clinical measurements.

##### f- Intellectual Skills

**b1-** analysis of the data obtained from monitors.

**b2-** interpretation of values gained from different monitors.

**b3-** detection of any anaesthetic system failure.



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### g- Professional and Practical Skills

- c1- how to check proper performance of anaesthetic machine and different equipments.
- c2- to practice different techniques and methods for measurement of different vital data adequately in a proper time with minimal errors.
- c3- to deal with troubleshooting of anaesthetic machine and different apparatus.

### h- General and Transferable Skills

- d1- dealing with computed systems.
- d2- team work and problem solving.
- d3- organized thinking and precision in taking decisions.

### 3. Contents

Topic	NO. of HOURS		
	lectures, discussion sessions	practical	field study
Review - SI units ( basic – derived ) - Behaviour of gases & Gas laws - Medical gas supply - Pressure Gauges & Pressure Regulators - Flow,Viscosity,Density ,Surface tension ,Osmosis	1		3
- Gas diffusion & Solubility of gases in liquids - Uptake & Distribution of inhalation anaesthetics	0.5		
- Anaesthetic breathing systems	0.25	1	2
-Radiology . x- ray , Radiation safety . radioactive isotopes . ultrasound technology . laser	2.5		3
- EEG , Evoked potentials	2		2
-Safety measures in anaesthetic machine	0.25		3
-Electricity ( principles, electronics ,pace maker, defibrillators , electrocution )	1	2	2
-Heat & Temperature	0.25		
-Humidity & Nebulizers	0.25		1
-Vaporizers	1		3
-Ventilators	0.5		4
-Respiratory functions	0.5	2	
-Pollution in OR & Scavenging systems -Fires & Explosions in OR	0.5		3



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-Measurement of arterial blood pressure	0.25	2	
-Measurement of CVP	0.25	1	
-Measurement of pulmonary artery pressure	0.25	1	
-Measurement of neuro-muscular blockade	0.25	0.5	
-Measurement of humidity	0.25	0.5	
-Measurement of CO <sub>2</sub> ; Capnography	0.5	1.5	1
-Measurement of O <sub>2</sub> ; Pulse Oximetry	0.5	1.5	1
-Measurement of cardiac output	0.5	1	
-Measurement of temperature	0.25	1	
-Measurement of osmosis	0.5		
-Flowmeters	0.5		2
- Mass spectrometer	0.5		
<b>SUM</b>	<b>15</b>	<b>15</b>	<b>30</b>
<b>TOTAL NO. of HOURS</b>	<b>60</b>		

#### 4 – Teaching and Learning Methods

- 4.1- lectures
- 4.2- discussion sessions
- 4.3- practical
- 4.4- field study

#### 5- Student Assessment Methods

- 5.1- written exam: to assess knowledge, orientation, analysis
- 5.2- practical exam: to assess interpretation, problem solving
- 5.3-oral exam: to assess different course topics
- 5.4..... to assess.....

#### Assessment Schedule

- Assessment 1..... week.....  
 Assessment 2 ..... week.....  
 Assessment 3..... week.....  
 Assessment 4..... week.....

#### Weighting of Assessments

Mid-Term Examination		%
Final written Examination	60 marks	%
Final Oral Examination	20 marks	%
Final Practical Examination	20 marks	%
Semester Work		%



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<u>Other types of assessment</u>		<u>%</u>
Total	100 marks	100 %
During semester assessment	30 marks	

## 6- List of References

### 6.1- Course Notes

Hand out to the students part by part.

### 6.2- Essential Books (Text Books)

- *Basic Physics and Measurement in Anaesthesia.*

By Kenny, Gavin, Davis, Paul D. Published by Butterworth- Heinemann Publishers: 5<sup>th</sup> edition, 2003

\*available in department library & book stores in the faculty of medicine

- *Fundamental Principles and Practice of Anaesthesia*

By Peter Hutton, Griselda Cooper, Francis M James, John F. Butterworth IV. Published by Informa Health Care, 2002

\*available in department library & book stores in the faculty of medicine

- *Miller's Anesthesia*

By Ronald Miller. Published by Churchill Livingstone; 6<sup>th</sup> edition, 2004

\*available in department library & book stores in the faculty of medicine

### 6.3- Recommended Books

- *Understanding Anesthesia Equipment*

By Jerry A. Dorsch, Susan E. Dorsch. Published by Lippincott Williams & Wilkins, 5<sup>th</sup> edition, 2007

\*available in Al-Ahram library

- *Physics Applied To Anaesthesia*

By D.W. HILL, London. Published by Butterworth. 3rd ed, 1976.

\*available in department library

### 6.4- Periodicals, Web Sites, etc

[www.anaesthesiauk.com/default.aspx](http://www.anaesthesiauk.com/default.aspx)

[www.pharmacology2000.com/physics/Chemistry\\_Physics/physics1.htm](http://www.pharmacology2000.com/physics/Chemistry_Physics/physics1.htm) - 123k -

[www.freshgasflow.com/index.html](http://www.freshgasflow.com/index.html)

## 7- Facilities Required for Teaching and Learning

- conditioned teaching room that accommodates all students for lectures.
- Rooms for round table discussion and workshop.
- Different audio-visual facilities e.g.:
  - Sound system,
  - .Data show with computer system,
  - .White board

- Simulators

**Head of Department:**

**Course Coordinator:**



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## ii) Phamacology Course Specification:

**1- Program title: Medical Doctorate in Anesthesia**

**2- Department offering the program(s): Department of Anesthesia, Intensive Care and Pain Management**

**3- Department responsible for the course: Pharmacology department**

**4- Course code: AIP7002**

**5- Year/Level: 1<sup>st</sup> part (1<sup>st</sup> semester)**

**6- No. of hours/units:**

**7-Authorization date of course specification: 2009**

### Course specifications

Program(s) on which the course is given: Medical Doctorate in Anesthesia

Major or minor element of programs: Major

Department offering the program: Department of Anesthesia, Intensive Care and Pain Management

Department offering the course: Pharmacology

Academic year / Level: 1<sup>st</sup> part (1<sup>st</sup> semester)

Date of specification approval: 2009

### A- Basic Information

**Title: Pharmacology**

**Code: AIP7002**

**Credit Hours:**

**Lecture:**

**Tutorial:**

**Practical:**

**Total: 4 credit hours**

### Coordinator

**Write the name**

.....

### B ~ Professional Information

#### 1- Course Aims:

By the end of the course, students are expected to be able to:

1. **Discuss** the basic pharmacokinetic principles affecting drug actions
2. **Discuss the basic pharmacodynamic principles regulating drug actions**
3. **Evaluate** the appropriate dosing of drugs according to the different characteristics of patients



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4. **Appraise** the different clinical pharmacology principles that should be applied in selecting and prescribing drugs
5. **Assess** the different drug adverse reactions and toxicities
6. **Design a plan for** the management of different adverse drug reactions and toxicities
7. **Discuss** the different pharmacotherapies in endocrinal emergencies
8. **Discuss the basic mechanisms of** the pharmacotherapies of cardiac dysrhythmias, hypertension, heart failure, ischemic heart disease and dyslipidemias
9. **Discuss** the pharmacotherapies of shock, diabetes mellitus, bronchial asthma and epilepsy
10. **Compare** the different types and uses of diuretics, corticosteroids, antiemetics and antibacterials
11. **Evaluate** the different pharmacotherapies of acid-base balance disorders
12. **Transfer the knowledge and skills of selecting and using** the different agents used in general and local anesthesia
13. **Transfer the knowledge and skills of selecting and using** the different uses of skeletal muscle relaxants
14. **Compare the efficacy and effectiveness** of the different analgesic drugs

## 2- Intended Learning Outcomes (ILOs) from the Course:

### a- Knowledge and understanding

By the end of the course the candidate will be able to:

a1 - .....

a2 - .....

a3 -.....

a4 -.....

### b- Intellectual skills

By the end of the course the candidate will be able to:

b1- .....

b2 - .....

b3 - .....

b4 - .....

b5 - .....

### c- Professional skills

By the end of the course the candidate will be able to:

c1-.....

c2-.....

c3-.....

c4-.....





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#### d- General and transferable skills

By the end of the course the candidate will be able to:

d1 - .....

d2 - .....

d3 - .....

d4 - .....

#### Course Contents:

1. Introduction to Pharmacokinetics
2. Antibacterial agents
3. Antiemetic drugs
4. Analgesic drugs
5. Corticosteroids
6. Drug dosage in the ICU
7. Common Drug toxicities and management
8. Basic Principles of Clinical Pharmacology
9. Electrolytes and acid base balance
10. Endocrinal emergencies
11. drug therapy of heart failure
12. Drug therapy of ischemic heart diseases and dyslipidemias
13. Drug therapy of dysrhythmias
14. Drug therapy of hypertension
15. Diuretics
16. Drug therapy of shock
17. Drug therapy of hemostatic disorders
18. Drug therapy of diabetes mellitus
19. Drug therapy of bronchial asthma
20. Drug therapy of epilepsy
21. general and Local Anesthesia
22. Muscle relaxants

#### 4 - Student Assessment Methods

4.1..... to assess .....

4.2.....to assess .....

4.3..... to assess.....

4.4.....to assess.....

4.4.....to assess.....

#### **Weighting of Assessments:**

Mid-Term Examination %

Final Examination (written): 120 marks %



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Final Oral Examination:	20 marks	%
Practical Examination:	60 marks	%
Semester Work		%
<u>Other types of assessment</u>		%
Total	200 marks	%
During semester assessment:	50 marks	

## **5 -- List of References**

5.1- Course Notes (paper and / or electronic)

.....

5.2- Essential Books (Text Books)

.....

.....

5.3- Recommended Books

.....

.....

5.4- Periodicals, Web Sites, etc

.....

.....

## ***6- Facilities Required for Teaching and Learning***

- Conditioned teaching rooms
- Different audio-visual facilities e.g.:
  - . sound system,
  - .data show with computer system,
  - .white board

**Head of Department:**

**Course Coordinator:**



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### iii) Anesthesia, Intensive Care and Pain Management Course Specification

Program(s) on which the course is given: *Doctorate of Anesthesia*

Major or Minor element of program: Major

Department offering the programme: Department of Anesthesia, Intensive Care and Pain Management

Department offering the course: Department of Anesthesia, Intensive Care and Pain Management

Academic year / Level: 2<sup>nd</sup> part (2<sup>nd</sup> – 6<sup>th</sup> semesters)

Date of specification approval: 2009

#### F- Basic Information

Title: Anesthesia

Code: AIP7003

Credit Hours: Lecture: 13h

Tutorial: 3h

Practical: 6h

Total: 22h

#### G- Professional Information

##### 1 – Overall Aims of Course

**By the end of the course, the student should be a competent and safe anaesthetist:He is able to:**

- Conduct anesthesia for different common and uncommon operations, safely and efficiently, to patients with different common medical problems.
- Avoid, suspect, anticipate and manage different complications that may occur perioperatively.
- Manage perioperative pain safely and efficiently, and to avoid and manage possible adverse effects of pain and drugs used for its relief
- Able to resuscitate and manage safely and effectively critically ill patients
- Can learn and train other anesthesia trainers the principles of delivering safe and smooth anesthesia for common operations

##### 2 – Intended Learning Outcomes of Course (ILOs)

###### a- Knowledge and Understanding:

**a1- To know different types of anesthesia with the advantage(s) and disadvantage(s) of every type.**

**a2- To understand the mechanism(s) of action of different anesthetics and co-adjuvant drugs**



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a3- To know the complications of anesthesia, how to anticipate and how to avoid and manage...

**b- Intellectual Skills**

b<sub>1</sub>. Analysis of data to prepare patients for operation, to choose proper type of anesthesia for proper patient and proper operation

b<sub>2</sub>. Anticipate, identify and manage problems under GA (e.g. cardiac arrest)

b<sub>3</sub>. to interpret data with his capability so as to ask for help in the proper time or to transfer the patient to more experienced anaesthetist or more equipped centre to cope with the anticipated problems

**c- Professional and Practical Skills**

c<sub>1</sub>. Ability to resuscitate the patient

c<sub>2</sub>. Ability to do endotracheal intubation safely, and to maintain the airway patent with different available techniques

c<sub>3</sub>- To do common regional and local anesthetic techniques properly and safely.....

**d- General and Transferable Skills**

D<sub>1</sub>. Team working

D<sub>2</sub>. Problem solving

D<sub>3</sub>. How to deal with patients, their relatives and doctors

D<sub>4</sub>. Approach to medicolegal problems

**3. Contents :**

Topic	No. of hours
	Lecture Tutorial/Practical
<b>Lectures:</b>	<b>195 h = 13 Credit hours</b>
<b>Introduction</b>	1
<b>Physiology and Anesthesia:</b>	
Respiratory physiology and respiratory functions during anesthesia	2
Cardiovascular physiology	2



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كلية معتمدة

Hepatic physiology	1
Renal physiology	1
Cerebral physiology	1
Neuromuscular physiology	1
<b>Basic principles of Anesthesia and Pharmacology:</b>	
Inhaled anesthetics	2
IV anesthetics	2
Anesthesia delivery systems	2
Other drugs commonly used in anesthesia: Muscle relaxants Local anesthetics Autonomic nervous system drugs	2
<b>Anesthetic Management:</b>	
Preoperative preparation	4
Anesthetic implications of concurrent diseases	8
Airway management	5
Monitoring	6
Anesthetic techniques	4
Regional anesthesia and nerve blocks	6
Peri-operative fluid management and transfusion therapy	8
Acid base balance	4
<b>Post anesthesia care</b>	2



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كلية معتمدة

<b>Anesthetic complications</b>	8
<b>Anesthesia Sub-specialities:</b>	
Anesthesia for cardiothoracic surgery	8
Anesthesia for vascular surgery	4
Anesthesia for neurosurgery	8
Anesthesia for renal and genitourinary systems	4
Anesthesia for liver and GIT	4
Anesthesia for ENT	4
Anesthesia for orthopedic surgery	4
Anesthesia for trauma and emergency conditions	4
Anesthesia for obstetrics and gynecology	8
Anesthesia and endocrine diseases	4
Anesthesia for transplant	2
Anesthesia for the elderly	4
Pediatric anesthesia	6
Outpatient anesthesia	2
Anesthesia at remote locations	2
<b>Acute postoperative pain</b>	4
<b>Chronic Pain</b>	
<b>Classification and types</b>	2
<b>Assessment of pain</b>	2
<b>Multi-disciplinary pain clinic</b>	2
<b>Management</b>	2
Acupuncture	4



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كلية معتمدة

Interventional pain therapy	6
Operating room management and environmental safety	2
<b>Intensive care</b>	
Postoperative intensive care	4
Pediatric intensive care	4
Management ob burn patient	4
Obstetric intensive care	4
Poisoning	2
General intensive care	6
CPR	4
Ethical and legal aspects	2
Quality assurance in anesthetic practice	1
<b>Practical:</b>	<b>180 h = 6 Credit hours</b>
- Vascular access: venous cannulation, central line, arterial cannulation	15
- Airway management	30
- preoperative assessment	25
-CPCR	30
- Regional techniques and nerve blocks	50
Intensive care practice	30
<b>Tutorial</b>	<b>180 h = 3 Credit hours</b>
Preoperative assessment	30
CPR	20



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Airway management	20
Monitoring	10
Outpatient clinic	20
Mechanical ventilation	20
Intensive care rounds	30
Acute pain	15
Chronic pain	15

#### 4 – Teaching and Learning Methods

- 4.1- Lectures and tutorials
- 4.2- Practical and clinical cases
- 4.3- Workshops and simulators
- 4.4- Case study.....

#### 5- Student Assessment Methods

- 5.1...Final written exam.... to assess all course topics.....
- 5.2...Final oral exam..... to assess all course topics....
- 5.3...Final practical exam.. to assess student performance and skills
- 5.4..... to assess.....

#### Assessment Schedule

- Assessment 1..... week.....
- Assessment 2 ..... week.....
- Assessment 3..... week.....
- Assessment 4..... week.....

#### Weighing of Assessments

Mid-Term Examination	%
Final-Term Examination	
Final written Examination:	660 marks = 60%
Final oral Examination.	110 marks = 10%
Final practical Examination	180 marks = 16%
Semester Work	%
<u>Final clinical exam:</u>	<u>150 marks = 14%</u>
Total	1100 marks 100%
Any formative only assessments	
During semesters assessment	300 marks





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## 6- List of References

### 6.1- Course Notes

Lecture notes

### 6.2- Essential Books (Text Books)

- Anesthesia by Miller RD 6<sup>th</sup> edition, Elsevier Churchill Livingstone, New York, 2005

- Lee's Synopsis of Anesthesia by: Davies NJH, Cashman JN, 13<sup>th</sup> edition, Elsevier

### 6.3- Recommended Books

- Stoelting's Anesthesia and Co-existing disease, 5<sup>th</sup> edition, By: Hines RL, Marschall KE, 2008, Elsevier Churchill Livingstone

- Anesthesiology: Problem-oriented patient management 3<sup>rd</sup> edition, By: Yao FSN, Artusio JF, JB Lippincott Company

### 6.4- Periodicals, Web Sites, ... etc

- British Journal of Anaesthesia

- ASA Refresher Course Lectures

- Anesthesiology

- Anesthesia Analgesia

- Egyptian journal of anesthesia

## 7- Facilities Required for Teaching and Learning

Lecture rooms

Computer and data show

Operating rooms

Equipment, monitors,

Mannequins

Simulators

Course Coordinator:

Head of Department:

Date: / /



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## 6 - Elective Courses

### a. Medical statistics course specification

University: Ain Shams University Faculty: of Medicine

#### Course specifications

Program on which the course is given: Medical Doctorate in Anesthesia

Major or minor element of programs: Minor

Department offering the program: Department o Anesthesia, Intensive Care and Pain Management

Department offering the course: Community, Environmental and Occupational Medicine

Academic Level: 2<sup>nd</sup> part (2<sup>nd</sup> -6<sup>th</sup> semester)

Date of specification approval: 2009

#### A- Basic Information

Title: Medical statistics course

Code: 7024

Credit Hours: 2 hour

A credit hour = one hour lecture or 2 hours practical weekly for 15 weeks

#### Coordinator

Community, Environmental and Occupational Medicine Department

#### B - Professional Information

##### 1- Course Aim:

To enable the doctorate candidate to plan, conduct, analyze and interpret the results of a research in his specific field. This course unit introduces the application of statistical ideas and methodology to medical research.

##### 2- Intended Learning Outcomes (ILOs) from the Course:

###### a- Knowledge and understanding

By the end of the course the candidate will be able to:

a1 - Define medical statistics and identify uses and importance of medical statistics in medical research

a2 – Define:

Types of variables.

Descriptive statistics.



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Presentation and summarization of data.  
Measures of central tendency and scatter.  
Principles of probability and probability distributions.  
Concepts of inferential statistics: confidence interval and hypothesis testing.  
Different tests of statistical significance.  
Difference between parametric and nonparametric tests of significance.  
Correlation and regression  
Concept of statistical modeling using multivariable and multivariate statistical methods.  
Combining evidence from different studies and meta-analysis  
Importance and methods of sampling and how to determinate the suitable sample size.  
Different types of research methodology:  
    observational and intervention studies and the different statistical issues related to the design, conduct, analysis and interpretation of the results of each study type.  
Ethical aspects of medical research including those specifically applied to clinical trials.

#### b- Intellectual skills

By the end of the course the candidate will be able to:

- b1 - Interpret correctly the results of statistical analyses and critically evaluate the use of statistics in the medical literature.
- b2 - Integrate and evaluate information from a variety of sources.

#### c- Professional skills

By the end of the course the candidate will be able to:

- c1- Select appropriate study designs to address questions of medical relevance
- c2 - Select and apply appropriate statistical methods for analyzing data typically encountered in medical applications.
- c3- Use selected software packages for statistical analysis and data management.

#### d- General and transferable skills

By the end of the course the candidate will be able to:

- d1- Work effectively in a group from different backgrounds.
- d2- Respects the role of staff and co-staff members regardless of degree or occupation.
- d3- Communicate effectively with professional statisticians and the wider medical community, including the ability to present results of statistical analyses through written and oral presentations
- d4- Use of computer data bases and other computer skills.
- d5- Handle data appropriately and analyze them through: decision processes, objective criteria, problem definition, project design and evaluation, risk management, teamwork and coordination.
- d6- Learn independently with open-mindedness and critical enquiry.



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### 3- Course content:

Topics	T	C/P
Introduction to medical statistics and its uses	x	X
Types of variables and Descriptive statistics	x	X
Graphic presentation of data	x	X
Introduction to probability theory and rules	x	X
Sample and population: sampling distribution of mean and proportion	x	x
Confidence interval of a mean and a proportion	x	x
Confidence interval of a difference between two mean /proportion	x	x
Testing a hypothesis about population mean/proportion	x	x
Testing a hypothesis about the difference between two means/proportion	x	x
Comparing between more than two means-Introduction to factorial analysis	x	x
Cross-tabulation and introduction to categorical data analysis	x	x
Simple correlation and simple regression	x	x
Introduction to multivariable and multivariate analysis	x	x
Study designs: observational studies	x	x
Study designs: Intervention studies: clinical trials	x	x
Study designs: Experimental animal studies	x	x
Study designs: Bias and Confounding	x	x
Ethical issues in medical research	x	x
Sample size estimation for continuous and binary outcome measures.	x	x
Meta-analysis and publication bias.	x	x

T: Tutorial and C/P: Clinical or Practical and SDL: Self directed learning

### 4 - Student Assessment Methods

4-1 Written exam to assess knowledge and understanding and will concentrate on problem solving questions

4-2 Practical exam to assess candidate to apply knowledge in a practical manner

#### 4-2 Weighing of assessment

Final Written exam 60 marks

Final practical exam 40 marks

Total 100 marks

During semester assessment 20 marks

### 5 - List of References

5.1- Course Notes (paper and / or electronic)



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Student Notes on Medical Statistics and Research Methods. Prof. Mohsen Abdel Hamid and Dr Moustafa El Houssinie. Department of Community, Environmental and Occupational Medicine.

#### 5.2- Essential Books (Text Books)

Statistics in Clinical Practice. avid Coggon. BMJ Books. 2<sup>nd</sup> edition 2003

#### 5.3- Recommended Books

Handbook of Epidemiology. Springer 2005

#### 5.4- Periodicals, Web Sites, etc

- [www.brettscaife.net/statistics/introstat/](http://www.brettscaife.net/statistics/introstat/)
- [onlinestatbook.com/rvls/](http://onlinestatbook.com/rvls/)
- [www. Epidemiolog.net](http://www.Epidemiolog.net)
- <http://www.shef.ac.uk/scharr/spss/>



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## b) Medical Laws and Ethics Course Specification:

Program(s) on which the course is given: Medical Doctorate Degree in Anesthesia

Major or minor element of programs: Minor

Department offering the program: Department of Anesthesia, intensive care and pain management

Department offering the course: .....

Academic year / Level: 2<sup>nd</sup> part (2<sup>nd</sup> -6<sup>th</sup> semesters)

Date of specification approval:

### A- Basic Information:

Title: Medical Laws تشريعات

Code: E7043

Credit Hours:

Lecture:

Tutorial:

Practical:

Total: 2 credit hours

### Coordinator

Write the name

.....

### B ~ Professional Information

#### 1- Course Aims:

The aim of this course is to make the intensivist aware of the laws that affect his medical practice, in his / her relations with patients, their relatives, nurses, paramedicals and his colleagues, and to know his/her rights and duties during medical practice with such personells.

#### 2- Intended Learning Outcomes (ILOs) from the Course:

##### a- Knowledge and understanding

By the end of the course the candidate will be able to:

- a1 – know the laws affectind his medical practice
- a2 – know the rights and duties towards other persons during his work
- a3 – know the rights of patients, their relatives
- a4 –know how to deal with medicolegal problems in ICU

##### b- Intellectual skills

By the end of the course the candidate will be able to:



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- b1- avoid and detect any medicolegal problems during his/her practice
- b2 – deal with medicolegal problems that may be encountered during work
- b3 - .....
- b4 - .....

### c- Professional skills

By the end of the course the candidate will be able to:

- c1- get an informed written consent from the patient and/or his/her relatives
- c2- behave safely and correctly in any medicolegal problem encountered
- c3- behave correctly if he/she was obliged to go to the court

### d- General and transferable skills

By the end of the course the candidate will be able to:

- d1 – communicate in a right manner with patient and his/her relatives
- d2 – behave with colleagues as a team work
- d3 - .....
- d4 - .....

### 3- Course content:

Topics	No. of hours			
	L	T	C/P	SDL
Medical syndicate rules				
Medicolegal aspects of getting a consent				
Medicolegal aspects of brain death and organ transplant				
Laws of medicolegal importance				

L: Lecture, T: Tutorial, C/P: Clinical or Practical and SDL: Self directed learning

### 4 -1. Student Assessment Methods

4.a..... to assess .....



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4.b.....to assess .....

4.c..... to assess.....

4.d.....to assess.....

4.e.....to assess.....

#### 4-2 Weighing of assessment

Final Written exam	60 marks
Final practical exam	40 marks
Total	100 marks
During semester assessment	20 marks

#### 5 -- List of References

5.1- Course Notes (paper and / or electronic)

.....

.....

5.2- Essential Books (Text Books)

.....

.....

5.3- Recommended Books

.....

.....

5.4- Periodicals, Web Sites, etc





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### c.Hospital Administration Course Specification:

#### Hospital Management

Specialist			
Course Title	:	Hospital Management	
Course Director	:	Healthcare Quality Unit at Department of Community Medicine	
Objectives	:	<ul style="list-style-type: none"><li>- Providing participants with basic hospital management concepts</li><li>- Providing participant with basic knowledge in:<ul style="list-style-type: none"><li>- Strategic planning</li><li>- Operational planning</li><li>- Human resources management</li><li>- Healthcare quality management</li></ul></li><li>- Providing participants with the skills necessary to:<ul style="list-style-type: none"><li>- Manage and lead hospital staff</li><li>- Support quality improvement initiatives.</li><li>- Measure hospital performance</li></ul></li></ul>	
Course Duration	:	Training hours	
		For MD: two credit hours	30 training hours
Contents	:	Basic concepts and principles of hospital management	
		Strategic planning	
		Operational planning	
		Human resources management	
		Quality management	
		Communication skills	

#### 4 -1. Student Assessment Methods

4.a..... to assess .....

4.b.....to assess .....

4.c..... to assess.....

4.d.....to assess.....

4.e.....to assess.....

#### 4-2 Weighing of assessment

Final Written exam 60 marks

Final practical exam 40 marks

Total 100 marks



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During semester assessment 20 marks

## 5 -- List of References

5.1- Course Notes (paper and / or electronic)

.....

.....

5.2- Essential Books (Text Books)

.....

.....

5.3- Recommended Books

.....

.....

5.4- Periodicals, Web Sites, etc



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## V- General Information

### 1 – Monitoring Of Training and Submission Of Training Reports

You must keep proper and updated records in your logbook to reflect the activities encountered in your training. Your logbook must be duly endorsed by an authorized signatory at the end of each semester.

You will be continuously assessed by your supervisors, in consultation with head of department. An assessment will be submitted within 2 weeks of completion of each semester.

### 2 ~ Miscellaneous Information:

#### Injury and/or Blood or Body Fluid Exposure:

During regular working hours, you should immediately report an exposure incident to infection control unit. If exposure occurs after regular working hours or during a weekend or holiday; please call the infection control nurse on duty. For injury, please report to the Emergency Department.

**Please also be sure to inform the supervisors of an exposure incident and/or injury.**

### 3 ~ Action Completion Of Clinical Training

Once all training sessions are completed the log book should be signed by the senior supervisor and the head of the department and then should be submitted to post graduate Secretariat.

### 4~ Reference

The Training Guide is available at the post graduate Secretariat and could be downloaded from the following website is

-----

## VI – Your log book

### 1- Introduction

The aim of this book is to give you a guide to the expectations for each item. It will be a guide for both you and your teachers to what you should be seeing and doing.

It will give you a list of the important topics that you should think about and should be covered in:

1. Clinical or practical sessions (***According to each degree***)  
or
2. Tutorials  
or
3. Self-directed learning (SDL)

**For each item there is also a list of**



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1. Clinical conditions or Practical sessions to be seen or attended (According to each degree)
2. Practical procedures to be seen and done

**REMEMBER:**

This document is *only a guide*. It is not an exhaustive list. It is not just a checklist to score points. It is a guide to encourage you to read and learn more. *This book is for your benefit*. It will form a record of your clinical training and experience.

**2 - Supervisors**

*Make a list of Supervisors or the delegated personels for signature*

.....

.....

.....

.....

**3-Tables for Training Records**

Candidates are required to fulfill 75% of the listed activities in order to be eligible for the exam entry. The minimum number required for each activity = 75%. You are free to attend more and record your extra attendance.

**Weekly Department Plan**

Day /time	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday
Bedside education						
Conference						
Grand round						
Emergency attendance	According to schedule	According to schedule	According to schedule	According to schedule	According to schedule	According to schedule
Operative day	According to schedule	According to schedule	According to schedule	According to schedule	According to schedule	According to schedule
Clinic day	According to schedule	According to schedule	According to schedule	According to schedule	According to schedule	According to schedule

Monthly activity.....

Sixth monthly activity .....

Yearly activity: Annual conference of Egyptian society of Anesthesia

**CONFERENCES ATTENDANCE**  
(NB. Minimum number required is 5)

No	Date	Place	Topics	Supervisor signature



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### SEMINARS ATTENDANCE

(NB. Minimum number required is 10)

No	Date	Place	Topics	Supervisor signature

### THESIS ATTENDANCE

(NB. Minimum number required is 10)

No	Date	Place	Name of the thesis	Supervisor signature

### CLINICS ATTENDANCE

(NB. Minimum number required is 5)

No	Date	Place	Name of the Clinic	Supervisor signature

### TUTORIALS ATTENDED

(NB. Minimum number required is 10)

No	Date	Place	Name of the tutorial	Supervisor signature

### ACTIVITIES ATTENDED

(NB. Minimum number required is 5)

No	Date	Place	Name	Supervisor signature

### EMERGENCY ATTENDANCE

(NB. Minimum number required is 15)



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No	Date	Place	Department	Supervisor signature

**CASE PRESENTATIONS**  
(NB. Minimum number required is 5)

No	Date	Place	Diagnosis	Supervisor signature

**PATIENTS SEEN / WITH ANY OF THE ABOVE PROBLEMS**  
(NB. Minimum number required for each diagnosis is 15)

No	Date	Primary diagnosis	Supervisor signature

**Practical skills (Agreement Scale)**

**Requirements**

Candidates are required to fulfill 75% of the listed activities in order to be eligible for the exam entry. The minimum number required for each activity = 75%. You are free to attend more and record your extra attendance. **(According to each degree: Minimum number required to attend is 10, Minimum number required to assist is 10, Minimum number required to be done independently is 10, Grade excellent is required to pass)**

Item	No	Observed	Date	assisted	Date	Done independently (A, B, C) According to each department	Date	Supervisor signature
ABG	1							
	2							
	3							



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<b>Difficult Intubation</b>	1							
	2							
	3							

b- Poor b- Satisfactory c- Excellent

### OTHERS

(Teaching Experience, Research Experience, Projects, Publications, Field tasks, Administrative Experience, Administrative Experience)



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## 5 - Log book preview

The candidate logbook will be reviewed and patients seen/ skills performed summarized by diagnosis groups during the semester evaluation and at the end of the course in the table below. The results of this review will be totaled in the summary chart below.

For Doctorate degree

### Summary

Semester	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	Total
Activity	No	No	No	No	No	No	
Supervisor signature							

## VII ~ Head Of Department Approval For The Exam Entry

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## VIII – Thesis Follow up

التاريخ/

التقرير النصف السنوى لعام /

عن الطالب /

المقيد لدرجة ( ماجستير / الدكتوراة )

بقسم /

تقرير السادة الاساتذة المشرفين

- قطع شوطا محدودا  جمع المادة العلمية و كتابة المقدمة بدأ
- إنتهى من الجمع  أوشك على الإنتهاء





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<input type="checkbox"/>	قطع شوطا محدودا	<input type="checkbox"/>	بدأ	الجزء العملي
<input type="checkbox"/>	إنتهى من التحليل	<input type="checkbox"/>	أوشك على الإنتهاء	
<input type="checkbox"/>	قطع شوطا محدودا	<input type="checkbox"/>	بدأ	مناقشة النتائج
<input type="checkbox"/>	إنتهى من التحرير	<input type="checkbox"/>	أوشك على الإنتهاء	
<input type="checkbox"/>	قطع شوطا محدودا	<input type="checkbox"/>	بدأ	المراجعة النهائية مع المشرف
<input type="checkbox"/>	إنتهت تماما	<input type="checkbox"/>	أوشك على الإنتهاء	

<input type="checkbox"/>	مد القيد	<input type="checkbox"/>	إستمرار قيد الطالب	رأى السادة المشرفين
<input type="checkbox"/>		<input type="checkbox"/>	شطب قيد الطالب	

/ /	تاريخ التشكيل	نعم	تم تشكيل لجنة المناقشة
		لا	

مد / شطب القيد

وكيل الكلية

توقيع السادة المشرفين

## VIII – Evaluation Forms

### *Evaluation Form (at the end of each semester)*

To be completed at -----

**Candidate**

**Supervisor**

**Location**

Aim of training

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Agreed educational objectives and timescale in which objectives should be achieved.

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Comments by Candidate

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Comments by Supervisor

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**Date of next meeting**

**Signed by candidate**

**Signed by Supervisor**

**Date**

## **Degree Program Evaluation Form by The Candidate**

**To be completed at the end of your degree.**

Please consider each pair of statements and decide which most clearly reflects your view and **tick one box or answer the question.**

### **I. Individual Information**

1. Are you a graduate of ASU?  
yes no to some degree
2. Year and semester when studies began:

### **II. General Questions**

1. What are the advantages/disadvantages of the general study environment at the University ASU?
2. What were your expectations when you applied to the degree?
3. Do you feel that the degree program prepares you well for your future studies or employment according to the demands and expectations of those institutions?  
yes no to some degree
4. Has the time limit of the program (two or three academic years) caused you any difficulties or inconveniences?  
yes no to some degree

### **III. Structure of Degree Program**

1. Did you receive enough guidance in planning your study schedule in the beginning of the program?  
yes no to some degree
2. What were the main difficulties in the planning of your study schedule?



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3. What is your general opinion on the structure of the degree program?

4. In your opinion, does the degree program offer a good balance of lectures, seminars, conferences, and book exams?  
yes no to some degree

#### a) General Studies

i) Do you feel that you have received enough guidance on academic writing?  
yes no to some degree

ii) Do you feel that you have acquired sufficient knowledge on research skills (eg. quantitative and qualitative research methods)?  
yes no to some degree

#### b) Courses

i) Have you had some special difficulties in completing some of the courses? Please specify.

ii) Has there been a sufficient variety of courses offered for your optional studies?  
yes no to some degree

iii) Have you received enough guidance for the preparation of your thesis?  
yes no to some degree

#### IV. Concluding Points

1. Did the degree program meet your expectations?  
yes no to some degree

2. What aspects of the degree program do you particularly like?

3. What aspects of the degree program do you particularly dislike?

4. What are your suggestions on how to improve the program?

Thank you!

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منهج دكتوراة الرعاية المركزة

INTENSIVE CARE

CURRICULUM

For MD Degree in Anesthesiology , Intensive Care and Pain Management

1. General principles of mechanical ventilation. ☐ Basic concepts ☐ Ventilator modes ☐ Noninvasive positive-pressure ventilation ☐ High-flow nasal cannula ☐ Monitoring the ventilated patient ☐ Weaning from mechanical ventilation ☐ Weaning-predictor testing ☐ Pathophysiology of weaning failure ☐ Complications of mechanical ventilation
2. Nutrition support. ☐ Metabolism in critical illness ☐ Indications for nutrition support ☐ Nutrition support in critical illness: macro- and micronutrients ☐ Route and timing of administration ☐ Trophic feeding ☐ Organ specific enteral formulas ☐ Immunomodulating enteral formulas ☐ Nutritional assessment and monitoring ☐ Complications of nutrition support
3. Diagnosis and management of liver failure. ☐ Precipitating factors of decompensation of chronic liver disease ☐ Supportive management of acute on top of chronic liver failure ☐ Etiology of acute fulminant liver failure ☐ Clinical Course ☐ Management ☐ Artificial liver support
4. Acute pancreatitis. ☐ Definitions and risk stratification ☐ Pathogenesis ☐ Etiology and risk factors ☐ Clinical presentation and diagnosis ☐ Early management ☐ Nutritional support ☐ Management of late complications
5. Acute kidney injury. ☐ Definition ☐ Pathogenesis ☐ Pre-renal acute kidney injury ☐ Postrenal acute kidney injury ☐ Intrinsic acute kidney injury ☐ Clinical manifestations ☐ Diagnostic approach ☐ Prevention ☐ Management of established acute kidney injury ☐ Monitoring, and Treating Complications ☐ Medication dosing considerations ☐ Nutritional considerations ☐ Renal replacement therapy
6. Acid-base, electrolyte, and metabolic abnormalities. ☐ Metabolic disorders of acid-base homeostasis ☐ Disorders of potassium homeostasis ☐ Disorders of water homeostasis ☐ Calcium ☐ Disorders of magnesium homeostasis ☐ Phosphorus
7. Acute diabetic emergencies, glycemic control, and hypoglycemia. ☐ Diabetes mellitus: Classification ☐ Glycemic control in the ICU ☐ The Effect of parenteral nutrition, enteral nutrition, and glucocorticoids on glycemic control ☐ Diabetic ketoacidosis and hyperglycemic hyperosmolar state ☐ Physiologic response to hypoglycemia ☐ Management of hypoglycemia
8. Thyroid disorders. ☐ Thyroid function tests ☐ Drug effects and thyroid function ☐ Nonthyroidal illness syndrome ☐ Hypothyroidism and myxedema coma ☐ Thyrotoxicosis and thyroid storm
9. Adrenal insufficiency in the critically ill. ☐ Etiology and pathogenesis ☐ Clinical features ☐ Diagnosis ☐ Critical illness–related corticosteroid insufficiency ☐ Management



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كلية معتمدة

10. Hypothermia, hyperthermia, and rhabdomyolysis. a. Hypothermia ☐ Definition ☐ Heat regulation ☐ Etiology ☐ Clinical presentation and end-organ manifestations ☐ Laboratory evaluation ☐ Management b. Hyperthermia ☐ Pathogenesis ☐ Predisposing factors ☐ Presentation and clinical manifestations ☐ Diagnostic approach ☐ Approach to management 11. Neuroleptic malignant syndrome ☐ Pathophysiology ☐ Presentation ☐ Treatment 12. Critical care of the severely burned. ☐ Phases of burn care ☐ Initial assessment and triage (Phase I) ☐ Primary survey ☐ Secondary survey ☐ Fluid resuscitation: the first 48 Hours (Phase II) ☐ Resuscitation morbidity ☐ Optimizing burn wound coverage (Phase III) ☐ Critical care ☐ Neurologic complications ☐ Cardiovascular complications ☐ Pulmonary complications ☐ Gastrointestinal complications ☐ Renal complications ☐ Hematologic considerations ☐ Infectious complications ☐ Sedation and Analgesia ☐ Nutrition and metabolism 13. Hemorrhagic and thrombotic disorders. ☐ Laboratory tests of coagulation ☐ Disorders of platelets ☐ Complex thrombohemorrhagic disorders (HIT, TTP, HUS, DIC) ☐ Antiphospholipid syndrome ☐ Coagulation factor abnormalities ☐ Direct oral anticoagulants 14. Sepsis and septic shock. ☐ Definitions ☐ Pathogenesis and pathophysiology of severe sepsis and septic shock ☐ Multiple organ dysfunction ☐ Clinical presentation ☐ Cardiovascular profile of septic shock ☐ Management of sepsis and septic shock 15. Use of sedatives and analgesics. ☐ Considerations in managing sedation, analgesia, and NMB in the ICU ☐ Pain management in the ICU ☐ Non-opioid and atypical agents ☐ Sedation management ☐ Neuromuscular blocking agents ☐ Monitoring 16. Circulatory shock: ☐ Classification, ☐ Pathophysiology ☐ Approach to management. 17. Hemodynamic monitoring: macro- and microcirculation. ☐ Cardiac filling ☐ Preload - indicators of preload ☐ Contractility ☐ Afterload - indicators of afterload ☐ Hemodynamic status and blood flow ☐ Measurement of cardiac output ☐ Assessment of adequacy of the circulation ☐ Monitoring the microcirculation 18. Mechanical assist cardiac devices. ☐ Intra-aortic balloon pump counterpulsation ☐ Implanted LV assist devices ☐ Impella devices ☐ TandemHeart device ☐ Extracorporeal membrane oxygenation 19. Acute respiratory failure. ☐ Acute respiratory failure—types 1 and 2 ☐ Acute respiratory distress syndrome ☐ Management strategies 20. Acute pulmonary embolism. ☐ Pathophysiology ☐ Clinical presentation ☐ Diagnostic testing of pulmonary embolism ☐ Risk stratification ☐ Management of acute pulmonary embolism 21. Pulmonary hypertension. ☐ Hemodynamic classification of PH ☐ Pathophysiology of PH and RV failure ☐ Management of PH and RV failure in the ICU ☐ Monitoring ☐ Optimizing preload & Afterload reduction ☐ Pulmonary vasodilators ☐ Augmenting RV cardiac output ☐ Mechanical circulatory support 22. Ischemic cerebrovascular stroke. ☐



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Approach to elevated blood pressure in acute ischemic stroke ☐ Thrombolysis in stroke ☐ Anticoagulation in stroke ☐ Antiplatelet agents in stroke ☐ Massive hemispheric cerebral infarct 23. Subarachnoid hemorrhage. ☐ Etiology and pathophysiology ☐ Clinical presentation ☐ Complications ☐ Diagnostic approach ☐ Management ☐ Blood pressure control ☐ Treatment of medical complications 24. Agitation and delirium in the ICU. ☐ Definition ☐ Prevalence and subtypes ☐ Prognostic significance ☐ Pathophysiology ☐ Risk factors ☐ Diagnosis ☐ Prevention and management ☐ Non-pharmacologic approaches ☐ Pharmacologic therapy 25. Myasthenia gravis and Guillain-Barré syndrome. ☐ Pathophysiology ☐ Clinical presentation & Clinical course ☐ Differential diagnosis & Diagnostic testing ☐ Treatment & Complications 26. Severe head injury. ☐ Primary head injury ☐ Secondary head injury ☐ Treatment considerations & Role of steroid therapy ☐ Management of intracranial hypertension ☐ Anticoagulation ☐ Seizure prophylaxis ☐ Nutritional support 27. Cervical spine injury ☐ Primary injury ☐ Secondary injury ☐ Neurological assessment ☐ Diagnostic approach ☐ Management approach 28. Multimodality intracranial monitoring. ☐ Intracranial pressure monitoring ☐ Cerebral blood flow monitoring ☐ Brain tissue oxygenation monitoring 29. General principles of postoperative intensive care unit care. ☐ Admission and discharge criteria ☐ General postoperative care ☐ Pain, agitation, and delirium ☐ Recovery from general anesthesia ☐ Mechanical ventilation and ventilator liberation ☐ Ambulation, nutrition and prophylaxis ☐ Surgical complications 30. Postoperative management of the cardiac surgery patient. ☐ Early postoperative care ☐ Fluid and line management - Postoperative resuscitation ☐ Hypotension and hypertension ☐ Weaning to extubation ☐ Warming from hypothermia ☐ Common low-cardiac output scenarios ☐ Late postoperative care ☐ Cardiological complications ☐ Pulmonary complications ☐ Neurological complications ☐ Endocrine complications ☐ Renal complications ☐ Hematological complications ☐ Gastrointestinal and hepatic complications 31. Postoperative management of the liver transplant patient. ☐ Early post-operative care management ☐ Routine investigation of the post-transplant patient ☐ Monitoring of graft function ☐ Immunosuppression ☐ Early complications ☐ Primary graft non-function ☐ Surgical problems ☐ Acute rejection ☐ Infectious complications 32. Postoperative management of the renal transplant patient. ☐ Early post-operative care management ☐ Fluid management ☐ Immunosuppression ☐ Primary graft non-function ☐ Acute rejection ☐ Cardiovascular complications ☐ Infectious complications 33. Postoperative management of the lung transplant patient. ☐ Immediate post-transplant care and monitoring ☐ Respiratory management ☐ Hemodynamic





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كلية معتمدة

## Pain Curriculum for MD Degree in Anesthesiology

, Intensive Care and Pain Management Part I. Basic Considerations • Pain Pathways: Peripheral, Spinal, Ascending, and Descending Pathways • A Review of Pain-Processing Pharmacology • Pain and Brain Changes • Psychosocial Aspects of Chronic Pain • Taxonomy and Classification of Chronic Pain Syndromes Part II. Evaluation and Assessment • History and Physical Examination of the Pain Patient • Electromyography and Evoked Potentials • Radiologic Assessment of the Patient with Spine Pain • Psychological and Behavioral Assessment • Disability Assessment Part III. Clinical Conditions • Postoperative Pain and Other Acute Pain Syndromes • The Prediction and Prevention of Persistent Post-Surgical Pain • Low Back Pain Syndromes • Cancer Pain • Neuropathic Pain Syndromes • Phantom Limb Pain • Central Post-stroke Pain Syndrome • Spinal Cord Injury Pain • Chronic Widespread Pain Syndromes including Fibromyalgia and myofascial pain • Headache Management • Dental and Facial Pain • Visceral Pain Part IV. Pharmacologic Treatments • Major Opioids and Chronic Opioid Therapy • Minor and Short-Acting Analgesics, Including Opioid Combination Products • Antidepressants as Analgesics • Membrane Stabilizers for the Treatment of Pain • Nonsteroidal Anti-inflammatory Drugs, Acetaminophen, and COX-2 Inhibitors • Skeletal Muscle Relaxants in Pain Medicine • Topical Analgesics • Neuraxial Agents • Pharmacology for the Interventional Pain Physician Part V. Nerve Block Techniques • Nerve Blocks of the Head and Neck • Upper Extremity Blocks • Lower Extremity Nerve Blocks • Truncal Blocks • Peripheral and Visceral Sympathetic Blocks • Intraarticular Analgesia • Chemical Neurolytic Blocks • Neurolysis of Sympathetic Axis for Cancer Pain Management Part VI. Interventional Techniques (Detailed knowledge of technique is not required) • Interlaminar and Transforaminal Therapeutic Epidural Injections • Pathogenesis, Diagnosis, and Treatment of Zygapophysial (Facet) Joint Pain • Radiofrequency Treatment • Sacroiliac Joint Injections and Blocks / Radiofrequency of the Lateral Branches • Myofascial Injections: Trigger Point, Piriformis, Iliopsoas, and Scalene Injections • Lumbar Discogenic Pain and Diskography • Intradiscal Procedures for the Treatment of Discogenic Lower Back and Leg Pain • Minimally Invasive Procedures for Vertebral Compression Fractures • Spinal Cord and Peripheral Nerve Stimulation • Intrathecal Drug Delivery: Patient Selection, Trialing, and Implantation • Joint Injections Part VII. Pain Management in Special Situations and Special Topics • Pediatric Acute Pain Management • Pediatric Chronic Pain Management • Management of Pain in Older Adults • Managing Pain during Pregnancy and Lactation • Pain Management in the Emergency Department • Pain Management in the Critically Ill Patient • Pain Management at the End of Life RECOMMENDED BOOKS 1. Practical Management of Pain Authors: Honorio Benzon James Rathmell Christopher L. Wu Dennis Turk Charles Argoff Robert Hurley 5th edition, © Mosby 2014. 2. Essentials of Pain Medicine Authors: Honorio Benzon & Srinivasa N. Raja & Scott M Fishman & Spencer Liu & Steven P Cohen Editor: Robert W Hurley 4th Edition, © Elsevier 2017.