



توصيف برنامج دكتوراة أمراض القلب والأوعية الدموية
(عام 2013-2014)

Basic information : معلومات أساسية

- ١ - اسم البرنامج : MD of Cardiovascular medicine
- ٢ - طبيعة البرنامج : multiple (مشترك)
- ٣- القسم/ الأقسام المسؤولة عن البرنامج: القسم المانح للدرجة: قسم القلب
الأقسام المشتركة: الفسيولوجى – الكيمياء الحيوية – الفارماكولوجى
– الباثولوجى - التشريح
- ٤- تاريخ إقرار البرنامج فى مجلس القسم : ٢٠١٣ / ٠٩ / ٠٣
- ٥- تاريخ إقرار البرنامج فى مجلس الكلية: ٢٠١٣ / ٠٩ / ١٥
- ٦- مسؤل البرنامج: Prof. Dr . Khaled Emad EL Rabbat
- ٧- المراجعة الداخلية للبرنامج: Prof. Dr. Saad Ammar
- ٨- المراجعة الخارجية للبرنامج: Prof. Dr. Abdel Fattah Ferer (Zagazig Univ)

Professional information : معلومات متخصصة

١ - الأهداف العامة للبرنامج :

1- Program aims:

The overall goals of the program are to:

- 1.١ Conduct self-learning and continuous development of the acquired skills.
- 1.٢ Integrate knowledge from different related specialties to help in the practice of cardiovascular medicine.



- 1.٣ Use logical thinking and scientific analysis of the available data to diagnose and treat different cardiovascular diseases.
- 1.٤ Identify the existing problems in the field of cardiovascular medicine and develop methods for solving them.
- 1.٥ Work as a team member and when necessary, lead a team with reasonable professional performance.
- 1.6 Show great proficiency in using the basic and advanced skills and imply them in dealing with patients with cardiovascular problems .
- 1.٧ Innovate and Develop simple methods to facilitate the diagnosis and treatment of different cardiovascular diseases.
- 1.٨ Show awareness of the recent methodologies and their implementation in the field of cardiovascular medicine.
- 1.٩ Show efficiency in making critical decisions to solve the possible emerging problems during the management of acute and emergency cases.
- 1.١٠ Show awareness of the basics and methodologies of scientific research and apply them in the field of cardiovascular medicine.
- 1.1١ Contribute in the development of the community.
- 1.1٢ Employ the available resources effectively, develop them and work to find new resources.
- 1.1٣ Deal with patients with great integrity and Sincerity and show commitment to the ethical rules of medical practice.
- 1.1٤ Realize the ongoing international changes in the field of cardiovascular medicine and make use of them.
- 1.1٥ Work on self-development and transfer his experience to others.
- 1.1٦ Contribute in adding new knowledge and understanding of different cardiovascular issues.



٢ - المخرجات التعليمية المستهدفة من البرنامج :

2-Intended Learning Outcomes (ILOS):

2.a. Knowledge and Understanding : أ.٢ - المعرفة والفهم :

On successful completion of the program, the graduate will be able to: :

2.a.1 Recognize the recent advances in cardiovascular medicine and its related specialties.

2.a.2 Outline the fundamentals and theories of the cardiovascular medicine.

2.a.3 Recognize the ethical rules in dealing with patients.

2.a.4 Know the principles and fundamentals of quality parameters and their implication in dealing with cardiac patients.

2.a.5 Identify the ethics and principles of scientific research in the field of cardiology.

2.a.6 Understand the possible effects on the surrounding environment and how to improve it.

2.a.7 Know the legal aspects of the medical practice and the consequences of malpractice.

2.b. Intellectual Skills: ب.٢ - القدرات الذهنية :-

On successful completion of the program, the graduate will be able to:

2.b.1 Analyze the available data and use them in solving problems in the field of cardiovascular medicine.

2.b.2 Conduct logical thinking and practical analysis to manage difficulties.

2.b.3. Combine all sources of information in addition to the patient interview to interpret and evaluate the medical history. Such sources include family or friends, medical records and other health care professionals, to overcome limitations regarding information.



2.b.4. Design an initial course of management and formulate rapid professional decisions for stabilization of patients with serious illnesses.

2.b.5 Demonstrate innovation and creativity in using new methods and techniques in diagnosing and treating cardiac patients.

2.b.6. Construct appropriate research strategies for patients with common diseases, both acute and chronic including medical, psychiatric, and surgical conditions.

2.b.7 Analyze medical statistics and principles of collecting, presenting and interpreting medical data precisely.

2.b.8 Plan for both short and long term development of the science of cardiovascular medicine.

2.b.9 Conduct well organized discussions for case presentation and problem solving.

2.b.10 Predict precisely the possible benefits and risks of any interventional procedure in a cardiac patient.

٢.ج . مهارات مهنية وعملية :

2.c. Practical and professional Skills:

On successful completion of the program, the graduate will be able to:

2.c.1 Utilize the basic and professional skills of clinical cardiology in detecting the general & local cardiac physical abnormalities.

2.c.2 Perform & interpret Echocardiography images & reports to recognize normal & abnormal findings.

2.c.3 Use recent scientific modalities in the field of cardiovascular medicine for diagnosis and proper management of various diseases.

2.c.4 Develop and improve the traditional tools & methods of management in cardiology.

2.c.5 Perform the routine and emergency technical interventional procedures both diagnostic and therapeutic in cardiology.



2.c.6 Prescribe & evaluate the medical reports and safe prescription for different types of drugs.

2.c.7 Manage the patient appropriately in the light evidence based medicine, inter-professional interaction, and clinical audit.

2.c.8 Prevent disease and promote healthy living through clinical care and lifestyle advice.

2.c.9 Order appropriate investigations, working inter-professionally as appropriate, in complex cases.

٢.د . مهارات عامة و منتقلة:

2.d. General and transferable skills:-

On successful completion of the program, the graduate will be able to:

- 2.d.1** Assess own work and working on its development.
- 2.d.2** Work effectively as a member or a leader of an interdisciplinary team.
- 2.d.3** Evaluate the work of others and set parameters for evaluation.
- 2.d.4** Use the available time in a smart manner.
- 2.d.5** Use the sources of biomedical information and communication technology to remain current with advances in knowledge and practice. for collection, presentation & analysis of all types of data.
- 2.d.6** learn and evaluate himself to detect education needs.
- 2.d.7** transfer the professional experience to others.

3- Academic Standards

٣ - المعايير الأكاديمية للبرنامج:

- **Academic Reference Standards (ARS) of the Doctorate Program of Cardiovascular medicine**, approved in department council

Date 7 / 2013, and in faculty council date 16 / 7 / 2013. (ملحق ١)

4- Reference standards (benchmarks)

٤- العلامات المرجعية:

المعايير القياسية لبرامج الدراسات العليا (درجة الدكتوراة) الصادرة عن الهيئة القومية لجودة التعليم والإعتماد (مارس ٢٠٠٩)



Academic reference standards (ARS), Doctorate Program (March 2009)
which were issued by the National Authority for Quality Assurance &
Accreditation of Education NAQAAE (ملحق ٢)

(5): Program structure and contents

5 - هيكل ومكونات البرنامج :

أ - مدة البرنامج : Program duration

(سنتان ونصف)

الجزء الأول : ستة أشهر (١٥ أسبوع)

الجزء الثانى : ١٨ شهرا (٤٥ أسبوعا)

رسالة الدكتوراة

Four semesters beginning from the second part

ب - هيكل البرنامج : Program structure

- Total hours of the program: ٦٠ credit hours
- Theoretical: 12 credit hours
- Practical: 18 credit hours
- Thesis: 15 credit hours
- Log book: 15 credit hours
- All are compulsory

**ج - مستويات ومقررات البرنامج :
الزامي compulsory**

الساعات المعتمدة	الكود	المقررات	البند
٦ ساعات	CARD 701	العلوم الأساسية : الفسيولوجي	الجزء الأول
١	CARD 702	الكيمياء الحيوية	
١	CARD703	الفارماكولوجي	
١	CARD 704	الباثولوجيا	
٢	CARD 705	التشريح التطبيقي	
١			



١٦ ساعة	CARD 70٦	Clinical Cardiology course	<p>أمراض القلب والأوعية الدموية وطرق التشخيص المختلفة وأساليب العلاج المتنوعة ويشمل: <u>إجتماعات علمية أسبوعية:</u> أ- إجتماع علمي موسع ٧٠٢ ب- إجتماع هيئة تدريس القسم ٧٠٣ ت- إجتماع الموجات الصوتية ٧٠٤ ث- نادي الدوريات الحديثة ٧٠٥ ج- إجتماع تصوير القسطرة القلبية ٧٠٦ ح- إجتماع التخطيط الكهربى ٧٠٧ <u>محاضرات وتدريب عملي وإكلينيكي:</u> أ- محاضرات فى أمراض القلب والأوعية الدموية ٧٠٨ ب- إجتماع علمي أمراض باطنة عامة ٧٠٩ ت- دراسة كهربية القلب وتدخلات أمراض القلب للبالغين و أمراض القلب للأطفال و علم أمراض القلب الجزيئي و أمراض الشرايين الطرفية ورعاية القلب المركزة ٧١٠</p>	الجزء الثانى
١٥ ساعة				كراسة أنشطة
١٥ ساعة				الرسالة
٦٠ ساعة				الإجمالى

First part (15 weeks duration/6 months)

a- Compulsory courses:

		Number s of hours per week		Total hours/ semester
		Lectures	practical	
Physiology & biochemistry, applied anatomy, pharmacology, pathology	CARD 701-705	6	-	90

b- Elective courses: none



Second part (45 weeks duration/18 months)

a- Compulsory courses:

Course Title	Course Code	NO. of hours per week			Total teaching hours/ 3 semesters
		Theoretical lectures And seminars	Laboratory /practical	Total	
Clinical Cardiology course	CARD 706	6	10	16	540

b- Elective courses: none

c- Selective: none

٦- محتويات المقررات (راجع توصيف المقررات)

Program admission requirements

٧- متطلبات الإلتحاق بالبرنامج :

مادة (٢٣) : يشترط لقياد الطالب لدرجة الدكتوراه فى الطب أو الجراحة أو العلوم الطبية الأساسية أن يكون حاصلًا على درجة الماجستير فى مادة التخصص بتقدير جيد على الأقل من إحدى جامعات ج . م . ع أو على درجة معادلة لها من معهد علمى آخر معترف به من الجامعة.

مدة الدراسة لنيل الدكتوراة سنتان ونصف موزعة كما لآتى :

• جزء أول : علوم أساسية: فصل دراسى لمدة ستة شهور (٦ ساعات معتمدة) ومن یرسب یعید مادة الرسوب فقط .

• الجزء الثانى : ثلاث فصول دراسية لمدة سنة ونصف (٣٩) ساعة معتمدة يستوفى خلالها الطالب الساعات المعتمدة ثم یرسب له بالتقدم لامتحان التحريرى وإذا اجتاز الامتحان التحريرى بنجاح يحق له التقدم الى الامتحان الشفهى والعملى والإكلينيكي خلال شهر من تاريخ الامتحان التحريرى.

• رسالة (١٥ ساعة معتمدة)



تبدأ الدراسة عند بداية التسجيل تنتهى بامتحان شامل فى نهاية كل أربع فصول دراسية بعد اجتياز الطالب امتحانات الجزء الأول بنجاح يسمح له بتسجيل رسالة لمدة أربعة فصول دراسية تبدأ عند بداية الفصل الدراسى الثانى وتناقش بعد مرور عامين على الأقل من تاريخ تسجيل الرسالة على أن تكون المناقشة بعد ستة أشهر على الأقل مع اجتياز الامتحان التحريرى والإكلينيكية والشفهى (الامتحان الشامل).

• **يمنح الطالب الدرجة بعد مناقشة الرسالة واجتياز الامتحان الشامل.**

يكون التقدم للقيده لدرجة الدكتوراه مرتين فى السنة خلال شهرى مارس وأكتوبر من كل عام .

٨ - القواعد المنظمة لإستكمال البرنامج :

- مادة (٢٤) : يشترط فى الطالب لنيل درجة الدكتوراه فى الطب أو الجراحة أو العلوم الطبية الأساسية ما يلى :
- حضور المقررات الدراسية بصفة مرضية طبقا للساعات المعتمدة.
 - أن يقوم ببحث فى موضوع تقره الجامعة بعد موافقة مجلس الكلية والقسم لمدة سنتان على الأقل.
 - أن يتقدم بنتائج البحث فى رسالة تقبلها لجنة الحكم بعد مناقشة علنية للرسالة.
 - اجتياز الطالب ثلاث دورات فى الحاسب الألى (دورة فى مقدمة الحاسب الألى – دورة تدريبية " متوسطة " – دورة فى تطبيقات الحاسب الألى) • وذلك قبل مناقشة الرسالة.
 - اجتياز الطالب اختبار التوفيل بمستوى لا يقل عن ٥٠٠ وحدة وذلك قبل مناقشة الرسالة.
 - أن يجتاز بنجاح الاختبارات التحريرية والإكلينيكية والشفهية المقررة وفقا لما هو مبين باللائحة.

مادة (٢٥) : على الطالب أن يقيد اسمه للامتحان قبل موعده بشهر على الأقل.

مادة (٢٦) : يشترط لنجاح الطالب فى امتحان الدكتوراه الحصول على الحد الأدنى للنجاح فى جميع الاختبارات المقررة وفى كل جزء من أجزاءها على حدة ذلك بأخذ المتوسط لتقديرات أعضاء اللجنة اذا رسب الطالب فى أى مقرر من المقررات بعد الامتحان فى جميع المقررات.

مادة (٢٧) : يعقد الامتحان التحريرى لدرجة الدكتوراه فى شهرى نوفمبر ومايو من كل عام – لمن يجتاز الامتحان التحريرى فى نفس الدور يتقدم الامتحان الشفهى والإكلينكى والعملى.

مادة (٢٨) : لا يجوز للطالب أن يبقى مقيدا لدرجة الدكتوراه لأكثر من أربع سنوات دون أن يتقدم لمناقشة الرسالة ويجوز لمجلس الكلية أن يعطى الطالب مهلة لمدة سنتين فى حالة قبول العذر.

مادة (٢٩) : تضاف درجات التحريرى ووصف الحالة ليعضاها ويعتبر النجاح والرسوب فى المجموع الكلى للتحريرى (٦٠% على الأقل من الدرجة النهائية للتحريرى) ومن ينجح فى الامتحان التحريرى يصرح له بدخول باقى الامتحانات الإكلينيكية والشفهية والعملية وعدد الرسوب يعيد الطالب الامتحان الشفوى والإكلينكى.

لا يحق للطالب التقدم للامتحان التحريرى أكثر من أربع مرات.

مادة (٣٠) : تبين فى شهادة الدكتوراه موضوع الرسالة والمادة أو المواد الاختيارية.

مادة (٣١) : تبين الجداول فى الباب الخامس المقررات الدراسية التى تدرس لنيل درجة الدكتوراه طبقا للساعات المعتمدة الاختبارات التحريرية والإكلينيكية والشفهية.



To assess knowledge and understanding & intellectual skills: From 2.a.1.....2.a.7. and 2.b.1.....2.b.10.	Written examination	1
To assess knowledge and understanding, intellectual skills & General & transferable skills 2.a.1.....2.a.7., 2.b.1.....2.b.10., 2.d.1.....2.d.7.	Oral examination	2
To assess knowledge and understanding, intellectual skills & practical and clinical skills and General & transferable skills: 2.a.1.....2.a.7., 2.b.1.....2.b.10., 2.c.1.....2.c.9., 2.d.1.....2.d.7.	Practical & clinical examination	3

First part

إجمالي	الدرجة				الاختبار	المقرر
	إكلينيكي	عملي	نظري	تحريري		
٢٠٠			١٠٠	١٠٠	اختبار تحريري مدة ثلاث ساعات + اختبار شفهي	الفسيولوجي و الكيمياء الحيوية
٢٠٠			١٠٠	١٠٠	اختبار تحريري مدة ثلاث ساعات + اختبار شفهي	الباثولوجي و الفارماكولوجي
١٠٠			٥٠	٥٠	اختبار تحريري مدة ثلاث ساعات + اختبار شفهي	التشريح التطبيقي
٥٠٠	إجمالي الدرجة					

Second part

إجمالي	الدرجة				الاختبار	المقرر
	إكلينيكي	عملي	نظري	تحريري		
١٠٠				١٠٠	اختبار تحريري مدة ثلاث ساعات	ورقة أولى (أمراض القلب)
١٠٠				١٠٠	اختبار تحريري MCQ مدة ثلاث ساعات	ورقة ثانية (أمراض القلب)



١٠٠				١٠٠	أمتحان نظري (حالة) (Commentary)
٣٠٠	٢٠٠	٥٠	٥٠		اختبار شفوي + الحليني (2 + Long case short cases)
٦٠٠					إجمالي الدرجة

١٠ - طرق تقويم البرنامج:

Evaluation of Program:

Evaluator	Tools	Sample
Internal evaluator (s) مقيم داخلي	Prof. Hamza Kabil	<u>attached</u>
External Evaluator (s) مقيم خارجي	Reviewing according to external evaluator Checklist report of NAQAA.	<u>attached</u>
Alumni الخريجون	مقابلات ، استبيان	<u>attached</u>
Stakeholder (s) أصحاب العمل	مقابلات ، استبيان	Representative samples sectors
Others طرق أخرى	none	

المسئول عن البرنامج : أ.د. خالد عماد الرباط

التاريخ : ٢٠١٣/٠٩/٠١

التوقيع:

Program Coordinator:

Name: Prof. Khaled Emad El Rabbat

Signature:

Date: 01/09/2013



الملحقات :

ملحق 1: Academic standards of the program

ملحق 2: المعايير القياسية العامة للدراسات العليا الصادرة عن الهيئة.

ملحق 3: مصفوفة المعايير الأكاديمية للبرنامج مع المعايير القياسية للدراسات العليا الصادرة عن الهيئة.

ملحق 4: مصفوفة البرنامج مع المعايير الأكاديمية للبرنامج.

ملحق 5: مصفوفة المقررات مع البرنامج Program-Courses ILOs Matrix

ملحق 6: توصيف المقررات الخاصة بالبرنامج.

وثيقة المعايير الأكاديمية لبرنامج الدكتوراة فى مجال أمراض القلب و الأوعية الدموية

Academic Standards (ARS) for Doctorate Degree in Cardiovascular medicine

١- مواصفات الخريج

خريج برنامج الدكتوراة فى مجال أمراض القلب و الأوعية الدموية يجب أن يكون قادرا على :

- ١-١ التعلم الذاتى المستمر مع تنمية قدراته باستمرار.
- ٢-١ الدمج بين التخصصات المختلفة لكى تساعده فى علاج مرضى امراض القلب و الأوعية الدموية.
- ٣-١ استخدام التفكير المنطقى والتحليل العلمى للمعلومات المتوفرة لحل المشكلات التى تواجهه مع مرضى امراض القلب و الأوعية الدموية.
- ٤-١ معرفة المشكلات التى تواجهه فى مجال امراض القلب و الأوعية الدموية مع ايجاد طرق لحل هذه المشكلات.
- ٥-١ العمل فى فريق مع امكانية قيادة الفريق بنجاح.
- ٦-١ دراية ومعرفة بعدد من المهارات الاساسية و المتقدمة وكيفية تطبيقها فى علاج مرضى القلب و الأوعية الدموية.
- ٧-١ العمل على تطوير وابتكار طرق بسيطة لتسهيل تشخيص و علاج بعض حالات مرضى القلب و الأوعية الدموية.
- ٨-١ اتقان عدد كبير من الوسائل الحديثة وتطبيقها فى علاج مرضى القلب و الأوعية الدموية.
- ٩-١ المهارة فى اتخاذ القرارات الحاسمة فى حل المشكلات التى تواجهه فى علاج بعض الحالات الحرجة لمرضى القلب و الأوعية الدموية.
- ١٠-١ دراية ومعرفة باسس و مناهج البحث العلمى و كيفية تطبيقها فى مجال القلب و الأوعية الدموية.
- ١١-١ المشاركة الفعالة فى خدمة و تنمية المجتمع.
- ١٢-١ الاستفادة بأكبر قدر من الموارد المتاحة مع الحفاظ عليها والعمل على زيادتها وتطويرها.
- ١٣-١ مصداقية ونزاهه فى التعامل مع المرضى بما يعكس التزامه بقواعد مهنة الطب.
- ١٤-١ دراية ومعرفة بالمتغيرات العالمية وكيفية الاستفادة منها.
- ١٥-١ التطوير الذاتى والعمل على نقل خبراته إلى الاجيال الأخرى.

١٦-١ المشاركة فى الاضافة الى علم امراض القلب و الاوعية الدموية.

٢- -المستويات المعيارية

١-٢ المعرفة والفهم :

بانتهاج دراسة برنامج الدكتوراة يجب ان يكون الخريج على قادرا على :

- ١-١-٢ معرفة التطورات الحديثة فى مجال امراض القلب و الاوعية الدموية وبعض التخصصات الاخرى ذات الصلة.
- ٢-١-٢ فهم النظريات و الاسس التى بنى عليها طب امراض القلب و الاوعية الدموية.
- ٣-١-٢ معرفة المبادئ الاخلاقية للتعامل مع المرضى.
- ٤-١-٢ ادراك المعايير المختلفة للجودة وكيفية تطبيقها فى ممارسته العملية مع مرضى القلب.
- ٥-١-٢ معرفة اخلاقيات و أساسيات البحث العلمى.
- ٦-١-٢ الدراية بكيفية تاثر البيئة المحيطة و التحسين فيها بما يساعد فى تقديم خدمة طبية مميزة للمرضى.
- ٧-١-٢ معرفة الابعاد القانونية المختلفة للمشكلات التى يمكن ان تواجهه اثناء ممارسته طب امراض القلب و الاوعية الدموية.

٢-٢ المهارات الذهنية :

بانتهاج دراسة برنامج الدكتوراة يجب ان يكون الخريج قادرا على :

- ١-٢-٢ الاستنتاج من المعطيات القليلة المتوفرة لديه فى علاج مرضى القلب و الاوعية الدموية.
- ٢-٢-٢ التفكير المنطقى و التحليل العملى للمعلومات المتوفرة فى حل المشكلات الخاصة بعلاج مرضى القلب.
- ٣-٢-٢ حل المشكلات التى تواجهه فى علاج بعض الحالات الحرجة لمرضى القلب بما يتوافر لديه من معلومات.
- ٤-٢-٢ اتخاذ القرارات الحاسمة فى علاج الحالات الحرجة لمرضى القلب مع توافر الدقة و السرعة فى القرارات.
- ٥-٢-٢ الابداع و الابتكار بمايساعد فى علاج مرضى القلب.
- ٦-٢-٢ التخطيط لدراسات بحثية تضيف الى الابحاث و الدراسات الاخرى.
- ٧-٢-٢ صياغة دراسة بحثية.
- ٨-٢-٢ ابتكار خطط قصيرة و طويلة المدى للتطوير المستمر فى مجال امراض القلب و الاوعية الدموية.
- ٩-٢-٢ الحوار الهادف البناء استنادا على ما يتوفر لديه من معلومات.
- ١٠-٢-٢ تحديد الفائدة و المخاطر التى قد تترتب على أى اجراء تداخلى.

٣-٢ المهارات المهنية:

بانتهاج دراسة برنامج الدكتوراة يجب ان يكون الخريج قادرا على :

- ١-٣-٢ ممارسة المهارات الاساسية و المتقدمة المستخدمة فى تشخيص و علاج مرضى القلب و الاوعية الدموية بكفاءة عالية.
- ٢-٣-٢ تقييم الطرق المختلفة المستخدمة فى تشخيص و علاج مرضى القلب و الاوعية الدموية.

- ٣-٣-٢ استخدام التكنولوجيا الحديثة وثورة المعلومات بما يساعده فى اداء مهنة طب أمراض القلب و الاوعية الدموية.
- ٤-٣-٢ العمل على تطوير الوسائل التقليدية وتنمية الاخرين.
- ٥-٣-٢ إجراء الطرق التداخلية المختلفة اللازمة لعلاج الحالات الحادة والمزمنة لمرضى القلب والأوعية الدموية.
- ٦-٣-٢ معرفة كيفية كتابة التقارير الطبية المختلفة لمرضى القلب و الاوعية الدموية.
- ٧-٣-٢ استخدام الوسائل الطبية القائمة على الدليل ومراعاة التداخل بين التخصصات فى علاج مرضى القلب و الاوعية الدموية.
- ٨-٣-٢ العمل على الوقاية من الأمراض المتعلقة بالقلب والأوعية الدموية وتقليل خطر الإصابة بها.
- ٩-٣-٢ اختيار أفضل الفحوصات والاختبارات للوصول للتشخيص الدقيق.

٤-٢ المهارات العامة والمنتقلة :

بانتهاء دراسة برنامج الدكتوراة يجب ان يكون الخريج قادرا على:

- ١-٤-٢ تقييم اداءه العملى مع معرفة كيفية تطويره.
- ٢-٤-٢ العمل فى فريق مع تنظيم العمل داخل الفريق و التواصل بفاعلية مع كل المحيطين.
- ٣-٤-٢ تقييم اداء فريق العمل مع وضع ضوابط و معايير لهذا التقييم.
- ٤-٤-٢ ادارة الوقت و اللقاءات العلمية
- ٥-٤-٢ استخدام المصادر المختلفة واستغلال التطور التكنولوجى للحصول على المعلومات وتطوير الأداء.
- ٦-٤-٢ التعلم الذاتى و المستمر اثناء المراحل المختلفة للحياة العملية.
- ٧-٤-٢ تعليم الاخرين ونقل خبراته وتجاربه اليهم.

الاجتماع مجلس القسم بتاريخ ٢٠١٣/٠٩/٠٢

رئيس مجلس القسم

أ.د. هشام أبو العينين

الاجتماع مجلس الكلية بتاريخ ٢٠١٣/٠٩/٢٥

ملحق 2: المعايير القياسية العامة للدراسات العليا الصادرة عن الهيئة

ملحق ٢

المعايير القياسية العامة لبرامج الدكتوراة

١- مواصفات الخريج :

خريج برنامج الدكتوراة يجب ان يكون قادرا على:

- ١-١ اتقان اساسيات ومنهجيات البحث العلمى.
- ٢-١ العمل المستمر على الاضافة للمعارف فى مجال التخصص.
- ٣-١ تطبيق المنهج التحليلى والناقد للمعارف فى مجال التخصص والمجالات ذات العلاقة.
- ٤-١ دمج المعارف المتخصصة مع المعارف ذات العلاقة مستنبطا ومطورا للعلاقات البينية بينها.
- ٥-١ اظهار وعيا عميقا بالمشاكل الجارية والنظريات الحديثة فى مجال التخصص.
- ٦-١ تحديد المشكلات المهنية وايجاد حلول مبتكرة لحلها.
- ٧-١ اتقان نطاقا واسعا من المهارات المهنية فى مجال التخصص.
- ٨-١ التوجه نحو تطوير طرق وادوات واساليب جديدة للمزاولة المهنية.
- ٩-١ استخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته المهنية.
- ١٠-١ التواصل بفاعلية وقيادة فريق عمل فى سياقات مهنية مختلفة.
- ١١-١ اتخاذ القرار فى ظل المعلومات المتاحة.
- ١٢-١ توظيف الموارد المتاحة بكفاءة وتنميتها والعمل على ايجاد موارد جديدة.
- ١٣-١ الوعى بدوره فى تنمية المجتمع والحفاظ على البيئة.
- ١٤-١ التصرف بما يعكس الالتزام بالنزاهة والمصداقية وقواعد المهنة.
- ١٥-١ الالتزام بالتنمية الذاتية المستمرة ونقل علمه وخبراته للآخرين.

٢- المعايير القياسية

١-٢ المعرفة والفهم:

- بانتهاج دراسة برنامج الدكتوراة يجب ان يكون الخريج قادرا على الفهم والدراسة بكل من:
- ١-١-٢ النظريات والاساسيات والحديث من المعارف فى مجال التخصص والمجالات ذات العلاقة.
 - ٢-١-٢ اساسيات ومنهجيات واخلاقيات البحث العلمى وأدواته المختلفة.
 - ٣-١-٢ المبادئ الاخلاقية والقانونية للممارسة المهنية فى مجال التخصص.
 - ٤-١-٢ مبادئ وأساسيات الجودة فى الممارسة فى مجال التخصص.
 - ٥-١-٢ المعارف المتعلقة بأثار ممارسته المهنية على البيئة وطرق تنمية البيئة وصيانتها.

٢-٢ المهارات الذهنية:

بانتهاج دراسة برنامج الدكتوراه يجب ان يكون الخريج قادرا على:

- ١-٢-٢ تحليل وتقييم المعلومات في مجال التخصص والقياس عليها والاستنباط منها.
- ٢-٢-٢ حل المشاكل المتخصصة استنادا على المعطيات المتاحة.
- ٣-٢-٢ اجراء دراسات بحثية تضيف الى المعارف.
- ٤-٢-٢ صياغة أوراق علمية.
- ٥-٢-٢ تقييم المخاطر في الممارسات المهنية.
- ٦-٢-٢ التخطيط لتطوير الاداء في مجال التخصص.
- ٧-٢-٢ اتخاذ القرارات المهنية في سياقات مهنية مختلفة.
- ٨-٢-٢ الابتكار/الابداع.
- ٩-٢-٢ الحوار والنقاش المبني على البراهين والادلة.

٣-٢ المهارات المهنية:

بانتهاء دراسة برنامج الدكتوراة يجب ان يكون الخريج قادرا على:

- ١-٣-٢ اتقان المهارات المهنية الاساسية والحديثة في مجال التخصص.
- ٢-٣-٢ كتابة وتقييم التقارير المهنية.
- ٣-٣-٢ تقييم وتطوير الطرق والادوات القائمة في مجال التخصص.
- ٤-٣-٢ استخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية.
- ٥-٣-٢ التخطيط لتطوير الممارسة المهنية وتنمية اداء الاخرين.

٤-٢ المهارات العامة والمنتقلة:

بانتهاء دراسة برنامج الدكتوراة يجب أن يكون الخريج قادرا على:

- ١-٤-٢ التواصل الفعال بأنواعه المختلفة.
- ٢-٤-٢ استخدام تكنولوجيا المعلومات بما يخدم تطوير الممارسة المهنية.
- ٣-٤-٢ تعليم الاخرين وتقييم ادائهم.
- ٤-٤-٢ التقييم الذاتي والتعليم المستمر.
- ٥-٤-٢ استخدام المصادر المختلفة للحصول على المعلومات والمعارف.
- ٦-٤-٢ العمل في فريق وقيادة فرق العمل.
- ٧-٤-٢ ادارة اللقاءات العلمية والقدرة على ادارة الوقت.

ملحق ٣: مصفوفة المعايير الأكاديمية للبرنامج مع المعايير القياسية للدراسات العليا الصادرة عن الهيئة

ملحق ٤: مصفوفة مضاهاة المعايير الأكاديمية للبرنامج و أهداف و نواتج تعلم البرنامج

ملحق (٥) مصفوفة المعارف والمهارات للبرنامج الدراسي

المعارف Knowledge & Understanding							ILOs	
2.a.7	2.a.6	2.a.5	2.a.4	2.a.3	2.a.2	2.a.1	Courses & codes	
■					■		CARD 701	<u>Physiology</u>
		■		■	■		CARD 702	<u>Biochemistry</u>
			■				CARD 703	<u>Pharmacology</u>
		■				■	CARD 704	<u>Pathology</u>
			■				CARD 705	<u>Applied anatomy</u>
■	■			■		■	CARD 706	<u>Clinical Cardiology</u>

مهارات ذهنية Intellectual Skills										ILOs	
										Courses & codes	
										Courses	
2.b.10	2.b.9	2.b.8	2.b.7	2.b.6	2.b.5	2.b.4	2.b.3	2.b.2	2.b.1		

								■	■	CARD 701	<u>Physiology</u>
	■							■		CARD 702	<u>Biochemistry</u>
			■		■					CARD 703	<u>Pharmacology</u>
						■				CARD 704	<u>Pathology</u>
		■			■					CARD 705	<u>Applied anatomy</u>
■		■		■				■	■	CARD 706	<u>Clinical Cardiology</u>

مهارات عملية و مهنية Practical & Clinical Skills									ILOs		
									Courses & codes		
									Courses		
2.c.9	2.c.8	2.c.7	2.c.6.b	2.c.5	2.c.4	2.c.3	2.c.2.	2.c.1			
			■						■	CARD 701	<u>Physiology</u>
		■		■						CARD 702	<u>Biochemistry</u>
						■				CARD 703	<u>Pharmacology</u>
				■						CARD 704	<u>Pathology</u>
■							■			CARD 705	<u>Applied anatomy</u>
	■			■	■		■		■	CARD 706	<u>Clinical Cardiology</u>

مهارات عامة General and transferable skills							ILOs			
							Courses & codes			
							Courses			
2.d.7.	2.d.6	2.d.5	2.d.4	2.d.3	2.d.2	2.d.1				

	■			■		■	CARD 701	<u>Physiology</u>
■					■	■	CARD 702	<u>Biochemistry</u>
		■	■				CARD 703	<u>Pharmacology</u>
						■	CARD 704	<u>Pathology</u>
	■			■			CARD 705	<u>Applied anatomy</u>
■		■	■			■	CARD 706	<u>Clinical Cardiology</u>

رئيس القسم
التوقيع :



Benha University
Faculty of Medicine.
Department of Cardiology

ملحق (٦)

Program courses

Second part:

1- Clinical Cardiology 706

نموذج رقم (١٢)

جامعة / بنها
كلية / الطب البشرى
قسم : القلب والأوعية الدموية

توصيف مقرر دراسي

١- بيانات المقرر		
الفرقة / المستوى : دكتوراة	اسم المقرر : Clinical Cardiology	الرمز الكودي : 706
<input type="checkbox"/> <input type="checkbox"/>	عدد الوحدات الدراسية : نظري : 6 credit hours/week عملي : 10 credit hours/week	التخصص : القلب والأوعية الدموية

The students should be able

٢- هدف
المقرر:

- Diagnose different Cardio vascular diseases.
- Establish a differential diagnosis for patients presenting with different cardiovascular problems .
- Develop clinical practice which is based on an analysis of relevant clinical trials and to have an understanding of other research methodologies.
- Are able to apply the knowledge of biological and behavioral sciences in clinical practice.
- Are able to identify and take responsibility for their own educational needs and the attainment of these needs.
- Have developed the skills of an effective teacher.

2.a. Knowledge and understanding:

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

- 2.a.1.** Discuss the etiology, pathogenesis, clinical features, and complications, principles of prevention and management of common cardiac disorders and acute emergencies.
- 2.a.2** Define the scientific spectrum of clinical data.
- 2.a.3** Describe basic pathology of different cardiovascular disorders.
- 2.a.4** Identify the clinical spectrum of common cardiovascular multi-system association.
- 2.a.5** Identify scientific backgrounds of the pathogenesis of cardiovascular diseases.
- 2.a.6** Identify the basics and principles of echocardiography and cardiac catheterization.
- 2.a.7** Identify the pharmacologic bases for cardiac diseases treatment.
- 2.a.8** illustrate the concept of emergency management of acute cardiac disorders.
- 2.a.9** Describe the determinants of health and principles of disease prevention and behavior change appropriate for specific patient populations within the community, and apply these to patient care responsibilities and broader patient care initiatives (natural history of disease and relationships with risk factors and disease prevention).
- 2.a.10** Demonstrate an understanding of the power of the scientific method in establishing the causation of disease and efficacy of traditional and non-traditional therapies.
- 2.a.11** Mention up-dated knowledge regarding the clinical trials and scientific studies in the field of cardiology.

أ-

المعلومات
والمفاهيم :

2.b. Intellectual Skills:

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

- 2.b.1 Analyze and evaluate of information and data in the field of Cardiology.
- 2.b.2 Interpret the results of different investigations related to cardiovascular diseases.
- 2.b.3 Set up clinical decision making according to cultural and individual needs.
- 2.b.4 Offer treatment plans for common and rare cardiovascular problems.
- 2.b.5 criticize a research study and write a scientific study on a research problem.

ب-
المهارات
الذهنية:

2.c. Practical and Professional Skills

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

- 2.c.1. Collect clinical data specially the art of history taking.
- 2.c.2 Examine and identify the signs of common and rare cardiovascular disorders.
- 2.c.3 Perform ECG – CXR within the context of clinical evaluation.
- 2.c.4 Perform and interpret a transthoracic echocardiographic study of common and rare cardiovascular diseases.
- 2.c.5 operate cardiac catheterization for different acquired and congenital cardiovascular diseases.
- 2.c.6 analyze results electrophysiological studies.
- 2.c.7 Offer proper medical treatment for common and rare cardiovascular disorders.
- 2.c.8 Manage all cardiovascular emergencies properly.

ج- المهارات
المهنية
الخاصة
بالمقرر :

2.d. General and transferable Skills:

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

2.d.1. Communicate with the patients to gain their confidence.

2.d.2 Communicate with other health care providers.

2.d.3 Provide leadership and get the best out of his team in a congenial working atmosphere.

2.d.4 Understand different scientific methodologies and have critical reading abilities

2.d.5 Achieve Computer skills necessary to make use of medical data bases and used to internet for communication.

2.d.6 Write scientific article and doctorate thesis under basics of scientific research.

2.d.7 Respect patient's rights and privileges including patient's right to information and right to seek a second opinion.

2.d.8 Be humble and accept the limitations in his knowledge and skill and to ask for help from colleagues when needed.

2.d.9 Search effectively general available midline data bases in order to find relevant research articles related to a particular disease and patient's conditions.

2.d.10 Apply high moral and ethical standard while carrying out human or animal research

د -

المهارات

: العامة

3- Course contents:

3-a) Theoretical topics:

٤- محتوى
المقرر:

TOPIC	Hours			
	Lectures	Practical/ small groups	Total	% of Total
1. Heart failure	50	30	80	11.1
2. Cardiac arrhythmias	40	30	70	9.7
3. Valvular heart disease	50	40	90	12.5
4. Rheumatic fever	8	6	14	1.9
5. Infective endocarditis	8	4	12	1.6
6. Coronary heart disease	70	40	110	15.2
7. Congenital heart diseases	36	16	52	7.2
8. Systemic arterial hypertension	24	18	42	5.8
9. Hypotension and syncope & sudden cardiac death	20	16	36	5
10. Heart muscle disease	28	16	42	5.8
11. Pulmonary heart disease	30	16	46	6.3
12. Diseases of the pericardium;	18	10	28	3.8
13. Cardiac involvement with other organ systems	24	12	34	4.7
14. Cardiac involvement in miscellaneous conditions	16	6	22	3
15. Diseases of the aorta and peripheral vessels	26	10	36	5
TOTAL	270	360	720	

3-b) Clinical / practical topics:

تابع محتوى
المقرر:

a) Clinical topics:

- History & pathophysiology of cardiac symptoms.
- General examination & pathophysiology of cardiac signs.
- Precordial Examination: (Palpation and the basics of auscultation)
- Murmurs.
- Commentary Case studies.

b) Practical topics:

The duration of training program in each area is determined by the Head of the Department of cardiology. In General it includes:

- a) Cardiac catheterization Lab
- b) Echocardiogram Room
- c) ECG Learning course
- d) Intensive Coronary care unit
- e) Outpatient Department
- f) Wards
- g) Exercise ECG and Holter room 1 month

4-A) Methods used:

Tool

**Modified Lectures
Clinical Sessions**

**Group Discussion
Case Study**

Journal Club

Audio-visual

٥- أساليب
التعليم والتعلم

1. **Lectures:** Lectures are to be kept to a minimum. Certain selected topics can be taken as lectures. Lectures may be didactic or integrated.

2. **Journal Club:** Recommended to be held once a week. All the PG students are expected to attend and actively participate in discussion and enter in the Log Book the relevant details. The presentations would be evaluated using check lists and would carry weightage for internal assessment. A time table with names of the students and the moderator should be announced in advance.

3. **Subject Seminar:** Recommended to be held once a week. All the PG students are expected to attend and actively participate in discussion and enter in the Log Book relevant details. The presentations would be evaluated using check lists and would carry weightage for internal assessment. A timetable for the subject with names of the students and the moderator should be announced in advance.

4. **Case Discussion:** Recommended to be held once a week. All the PG students are expected to attend and actively participate in discussion and enter in the Log Book relevant details. The presentations would be evaluated using check lists and would carry weightage for internal assessment. A timetable for the case presentation with names of the students should be announced in advance.

5. **Ward Rounds:** Ward rounds may be service or teaching rounds.

- a) **Service Rounds:** Postgraduate students should do service rounds every day for the care of the patients. Newly admitted patients should be worked up by the post graduate student and presented to the faculty members the following day.
- b) **Teaching Rounds:** Every unit should have 'grand rounds' for teaching purpose at the bed side. A diary should be maintained for day-to-day activities by the post-graduate students.
- c) Entries of (a) and (b) should be made in the Log book.

6. **Inter Departmental Meetings:** Strongly recommended particularly with departments of Cardiac Surgery at least once a month. These meetings should be attended by post-graduate students and relevant entries must be made in the Log Book.

Cardiac Surgery: Interesting cases and important topics related to the field should be discussed.

<p>7. Teaching Skills: Post-graduate students must teach under graduate students (eg. Medical, Nursing) by taking demonstrations, bedside clinics, tutorials, lectures etc. Assessment is made using a checklist by medical faculty as well as by the students. Record of their participation is to be kept in Log Book. Training of postgraduate students in Educational Science and Technology is recommended.</p> <p>8. Continuing Medical Education Programmes (CME): Recommended that at least one national and state level CME programmes should be attended by each student during the course.</p> <p>11. Conferences: Attending conference is compulsory. Post-graduate student should attend the weekly department conference and if possible the national conference during the course.</p>	<p>تابع أساليب التعليم والتعلم</p>
<p>لا يوجد</p>	<p>٦- أساليب التعليم والتعلم للطلاب ذوى القدرات المحدودة</p>
<p>٧- تقويم الطلاب :</p>	

5-A) Attendance criteria: Faculty bylaws (Log book)

- Weekly conference
 - Lectures
 - Ward Rounds
 - Outpatient clinic
 - Training programs (ECG, Echocardiography and cardiac catheterization).
- (The minimum accepted is 75%)

أ- الأساليب
المستخدمة

5-B) Assessment tools:

Tool	Purpose (ILOs)
Written examination	To assess knowledge ,understanding and intellectual acquisition
Oral examination	To assess knowledge given, attitude and presentation: 2.a.1.....2.a.6, 2.b.1.....2.b.3
Practical/clinical examination	To assess practical skills: 2.a.1.....2.a.6, 2.b.1.....2.b.3 2.c.1.....2.c.7. 2.d.1....2.d.7
Log book & attendance	To assess attendance & participation in different activities (75% at least).

5-C) time schedule:

Item	Time
Clinical cardiology course	3 semesters (45 weeks)
Exams	At the end of semesters
Continuous evaluation	Throughout the whole course through discussions and log book

ب- التوقيت

5-D) Weighting System:ج- توزيع
الدرجات

Examination	Marks allocated	% of Total Marks
Final exam:	300	50%
a – Written, MCQ & case scenarios	250	42%
b-Practical/ clinical	50	8%
c- Oral		8%
Total	600	100%

٨- قائمة الكتب الدراسية والمراجع :

أ- مذكرات

لا يوجد

ب- كتب

ملزمة

- **Braunwald's Heart Disease Review and Assessment.**
(The 9th Edition by Dr. Leonard S. Lilly), 2013

- **Hurst:** The Heart.
(13th edition, 2500 pages by Dr. Valentin Fuster)
- **Topol:** Textbook of Cardiovascular Medicine
(4th edition by Dr. Brian P Griffin & Eric J Topol)
- **Feigenbaum:** Echocardiography
(7th edition by Dr. William F. Armstrong)
- **Opie:** Heart Physiology from cell to circulation
- **Zipes:** Cardiac electrophysiology: from cell to bedside
- **Perloff:** congenital heart disease in adults
- **Park:** congenital heart disease
- **The Bedside** clinical manual.
- **Moss and adam's** heart diseases in infants, children, and adolescents
- **Marriot:** Electrocardiography
- **Josephson:** clinical cardiac electrophysiology
- **Otto:** The practice of echocardiography
- **Kaplan:** Clinical hypertension
- **Grossman's:** Cardiac catheterization, angiography, and intervention
- **Oxford** Handbook of Clinical Medicine
- **The Merck** Manual
- **The Washington** manual of medical therapeutics.

ج- كتب
مقترحة

II. International Guidelines:

- ACC/AHA guidelines ([www. My.americanheart.org](http://www.My.americanheart.org))
- European Society of Cardiology Guidelines (<http://www.escardio.org/knowledge/guidelines>)

III. Recommended high impact journals:

- Circulation (<http://circ.ahajournals.org/>)
- Journal of American College of Cardiology (<http://onlinejacc.org/>)
- Journal of American Heart Association (<http://www.ahajournals.org/>)
- New England Journal of Medicine (<http://www.nejm.org/>)
- Heart journal (<http://heart.bmj.com/>)
- European Heart Journal (<http://eurheartj.oxfordjournals.org/>)
- Lancet
- JAMA
- Journal of American Society Of Echocardiography
- British Heart Journal

IV. Web sites (including the Departement page on facebook.com)

- <http://www.cardioegypt.com/>
- <http://www.escardio.org>
- <http://www.heart.org/>
- <http://www.aha.org/>
- <http://emedicine.medscape.com/>
- <http://www.circulationfoundation.org.uk/>

د - دوريات
علمية أو
نشرات ...
الخ

أستاذ المادة : أ.د. أحمد عبد المنعم - أ.د. هبة عبد القادر - أ.د. أسامة سند
رئيس مجلس القسم العلمي : أ.د. هشام أبو العينين.



Benha University
Faculty of Medicine.
Department of Cardiology

ملحق (6)

Program courses

First part:

- | |
|--------------------|
| 1- Physiology |
| 2- Biochemistry |
| 3- Pharmacology |
| 4- Pathology |
| 5- Applied anatomy |

Course Specification

Course title: **Academic Science**

(Code): CARD 705

Academic Year (2013– 2014)

Applied Anatomy Course Specification For MD Degree **In cardiology**

1. Program on which the course is given: MD Degree
2. Major element of the course: Anatomy
3. Department offering the program: Cardiology Department
4. Department offering the course: Anatomy.
5. Academic year / Level: 1st part
6. Date of specification approval: 03/09/2013

A. بيانات المقرر

- Title: Anatomy
- Code: 701
- Credit Hours: 1hrs
- Lecture: 15 hrs
- Practical: 0 hrs.
- Total: 15 hrs

B. Professional Information

1. Overall Aims of Course

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

- a. Demonstration of knowledge of application of the principles and knowledge of the medical sciences in the field of Anatomy.
- b. Demonstrate the surface anatomy of the heart & vascular system
- c. Describe the principles that govern taking decision for diagnostic procedures
- d. Demonstrate relation between heart and surroundings

- e. Describe the anatomy of vascular system
- f. Describe the embryology of cardiovascular system.

2. Intended Learning Outcomes of Course (ILOs):

a) Knowledge and Understanding: (KU)

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

- a1. Demonstrate anatomy of the heart; Pericardium, chambers of heart, blood supply and nerve supply of the heart, surface marking, radiographic anatomy of heart and great vessels
- a2. Demonstrate vascular system (arteries, veins and lymphatic system)
- a3. Demonstrate autonomic system; sympathetic trunk & ganglia and parasympathetic system and cranial nerves;
- a4. Demonstrate zone of interest; thoracic inlet, Diaphragm, intercostals spaces, abdominal wall, great vessel of neck
- a5. State the position of all cardiac structures to guide them in performing catheterization
- a6. The developmental basis of all congenital cardiac and vascular malformation.

b) Intellectual Skills (IS)

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

- b1. Correlate between the medical condition of the patient and the anatomical base
- b2. Integrate the importance of anatomical bases and the cardiac problem
- b3. Interpret the anatomical base implied if the patient medically diseased.
- b4. estimate cardiac chambers and vascular structures in angiograms.
- b5. Differentiate normal and abnormal cardiac and vascular structures in X-rays, CT, MRI

c) Practical and Professional Skills (PS)

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

- c1. detect the surface anatomy of cardiovascular system
- c2. Diagnose the physiologic anatomy of coronary system
- c3. Detect Basic anatomy for the cardiovascular imaging

d) **General and Transferable Skills (GS)**

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

- d1. Communicate with each others and interact effectively with patients about the case or discuss with staff members.
- d2. Present orally plan for the patient problem in accordance with the standard scientific guidelines in seminars or group meetings, discuss results, defend his/her ideas with staff members. Students can recognize and accept the limitations in their knowledge and clinical skills.
- d3. Manipulate computer programs, do web search, to write an essay about important anatomical point of cardiovascular problems
- d4. Work in a team

3. Contents

	No. of hours	Lecture	Tutorial/Practical
<u>Chest Wall</u>			
1) Diaphragm & respiratory muscle movements.	3	3	
2) Anatomical basis of intercostals nerve block and aspiration of the chest			
3) Mediastinum: Divisions, sternal angle & arrangement of the structures			
4) Surface anatomy of the heart aorta and great vessels			
<u>Viscera</u>	6	6	
5) Pericardium, heart & great vessels	1	1	
6) Anatomy of sensory pathways from the thorax (anatomic basis of chest pain)	1	1	
7) Anatomy & development of the pericardium	1	1	
8) Heart: morphology, chambers, vasculature,	1	1	

innervations, valves, developments & anomalies		
9) Coronary vessels	1	1
10) Myocardium (smooth muscles of the heart)	0.5	0.5
11) Conducting system & nerves of the heart	0.5	0.5
12) Fibrous Skelton	0.5	0.5
13) Fetal circulation	0.5	0.5
14) Great vessels: in the thorax, neck, abdomen, pelvis & limbs	1	1
15) Anatomy of pulmonary circulation	1	1
16) Histological anatomy of blood vessels	1	1
17) Embryology of heart and aortic arch.	2	2

TOTAL **15 hours**

4. Teaching and learning methods

- Lectures.
- Diagrams and atlas pictures.

5. Students Assessment Methods

3. Final written exam to assess knowledge, understanding and intellectual skills (a1 A6,b1....b5)
4. Oral exam to assess (a1....a6,b1.....b5,d1...d4)

Assessment Schedule

Assessment 1: Final written exam.

Assessment 2: Final oral exam.

Weighting of assessment

Final written exam 50%

Final oral exam 50%

Total: 100%

6. List of References

6.1- Essential Books (Text Books):

Gray H & Carmine D, (1985): Gray's Anatomy, 30th edition.
Fredric H, (1998): Fundamental of Anatomy & Physiology, 4th edition,

7. Facilities required for teaching and learning

- Appropriate teaching aids (e.g ,photographs,)
- Computers with net connection.
- Data Show and overhead projectors.

Coordinator: Prof. Khalid El Rabbat

Head of Department: Prof. Hisham Abo El Enein

Course title: PHYSIOLOGY FOR cardiology MD

Code: CARD 701

Academic Year (2013-2014)

- **Department offering the course: PHYSIOLOGY cardiology MD**
(2013 – 2014).

Date of specification approval: 03/09/2013

Date of faculty council approval: 15/09/2013

بيانات المقرر

اسم المقرر : physiology

رمز الكودي : ٧٠١

- **Allocated marks: 200 marks.**
- **Course duration: 15 weeks of teaching.**

Teaching hours:

- **credit hours / week = 15 hrs total teaching hours.**

	Hours / week	Total hours
1- Lectures	1hr/week for 15	15 hrs

	weeks	
--	--------------	--

1 – Overall Aims of Course are :

- 1.1. approaching to the detailed knowledge of human physiology.
- 1.2. understanding the clinical data for the student in the clinical practice.
- 1.3. Developing skills associated with improved health care and health care services.
- 1.4. providing Basic scientific knowledge essential to practice medicine at the primary level of health, dealing with health problems commonly met- with- in clinical practice..

– Intended learning outcomes of course (ILOs)

2.1- Knowledge and understanding:

By the end of this course, students should be able to:

- 2.1- List according to priority the main functions of systems, organs and cells.
- 2.2- Explain and describe the basic and detailed physiological processes in correct medical terms and in correct order.
- 2.3- state important physiological definitions and laws.
- 2.4-discuss the different mechanisms of homeostasis and how to use it in applied physiology.

2.2- Intellectual skills:

By the end of this course, students should be able to:

- 2.2.1- integrate deviations from the normal physiology and its effects.
- 2.2.2- Interpret clinical manifestations into physiological data.
- 2.2.3- Illustrate physiological information in the form of simplified diagrams with complete data on it.
- 2.2.4- Interconnect different branches of physiology to that of cardiology.
- 2.2.5- Analyze any physiological curve related to cardiology.
- 2.2.7- recall The ability to search, analyze and summarize updated physiological information.

2.3- Professional and practical skills:

By the end of this course, students should be able to:

- 2.3.1- Perform efficiently the appropriate steps and procedures in measuring pulse, respiratory rate and arterial blood pressure.

- 2.3.2- interpret acid base and electrolyte balance.
- 2.3.3- interpret different laboratory tests as isolated perused heart
- 2.3.4-perform pulmonary function tests
- 2.3.5-record cardiac contractions in animals under various conditions.
- 2.3.6-asses cardiac muscle contraction
- 2.3.7- study and read ECG papers.
- 2.3.8- asses cardiac work and cardiac reserve

2.4.- General and transferable skills

By the end of this course, students should be able to:

- 2.4.1- deal properly and cautiously in a lab.
- 2.4.2- Use the sources of biomedical information to remain current with the advances in knowledge & practice.
- 2.4.3- Perform tests showing the molecular, biochemical, and cellular mechanisms that are important in maintaining the body's homeostasis.
- 2.4.4- Demonstrate the functions of the body and its major organ systems that are seen in cardiac diseases and conditions.
- 2.4.5- Perform routine technical procedures; diagnostic and therapeutic (including life support).

3- Physiology course for postgraduates (cardiology)

- **Cardiac properties.**
- **Cardiac cycle.**
- **ECG.**
- **Heart rate.**
- **Cardiac work and mechanical efficiency.**
- **Cardiac reserve.**
- **C.O.P**
- **Arterial blood pressure and its regulation.**
- **Coronary and pulmonary circulation.**
- **Venous, capillary and lymphatic circulation.**
- **Edema.**
- **Hemorrhage and shock.**
- **Regulation of respiration.**
- **Exchange of gases across pulmonary membrane.**
- **Lung volumes and capacities.**
- **Hypoxia.**
- **Hemostasis.**
- **Anemias.**
- **Water and electrolyte balance.**

- **Acid base balance.**
- **Fever**
- **Thyroid hormone**
- **Suprarenal cortical hormones**

4– Teaching and learning methods:

4.1.methods used

4.1-1.General lectures

4,1.2.-seminares

4,1.3-confrences

4-2-teaching plan

Time plain:

Item	Time schedule	Teaching hours
Lectures	1Time/week (each time 1hour)	15hours

5- Student assessment methods:

5-a) Assessment TOOLS:

Tool	Purpose (ILOs)
Written examination	To assess knowledge ,understanding and intellectual skills
Oral examination	To assess understanding and stability of knowledge given, attitude and presentation.

5-b) TIME SCHEDULE:

Exam	Week
5- Final exam	at end of second term (May-June)

5-c-Assessment time schedule

Assessment 1... Written and oral

5-d-weighting system (formative or summative).

D) Weighting System:

Examination	Marks allocated	% of Total Marks
2- Final exam:		
a- Written	100	50%
b- Oral	100	50%
Total	200	100%

- Passing grades are: EXCELLENT >85%, VERY GOOD 75- <85%, GOOD 65- <75% and FAIR 60-<65%.

FORMATIVE ASSESSMENT:

- Student knows his marks after the Formative exams.

5-E) Examination description:

Examination	Type	Description
Final Examination	1. Written	written paper composed of short essay-type questions, long assay.
	3. Oral	One oral examination station with 2 staff members (10-15 minutes: 4-5 questions)

6- List of references

6.1- Course notes

Theoretical and practical books are available from faculty bookshops.

6.2- Essential books (text books)

Poul-Erik Paulev(2007): Medical Physiology And Pathophysiology Essentials and clinical problems.

6.3- Recommended books

Poul-Erik Paulev (2009):): Medical Physiology Textbook

6.4- Guyton 2008

6.5-ganong 2008

6.3- Periodicals, Web sites, ... etc

www.jap.physiology.org.

www.physiologyonline.physiology.org/cgi/content

asmnews@asmusa.org

<http://www.phage.org/black09.htm>

7- Facilities required for teaching and learning

1. Data show.
2. Overhead projector.
3. postgraduate laboratories with their equipments.

Department of Physiology

Course coordinator: Prof. Alaa Elteleis

Head of Department: Prof. Alaa Elteleis

Date: 15/08/2013

Department of Cardiology

Course coordinator: Prof. Khalid El Rabbat

Head of Department: Prof. Hisham Abo El Enein

Date: 03/09/2013

Course title: Human Pathology for : **Doctorate** degree of Cardiology
(Code): _____ (CARD 704)

Academic Year (2011 – 2012)

- **Department offering the course:**
.....pathology.....
- **Academic year of MD program:** ...2013/2014.....
- **Major or minor elements of the program:** Minor
- **Academic level:** First part
- **Date of specification approval:**
 - Department council date...03-09-2013
 - Faculty council no date...15-09-2013

A) Basic Information:

- **Allocated marks:** _____ 200 _____ marks

- **Course duration** 15___ weeks of teaching
- **Teaching hours:** 30_____ total teaching hours

	Hours / week	Total hours
1- Lectures	1.2	30
2- Small group teaching / tutorials	0	0
3- Practical	1.2	30
4- Others	-	-
Total	2.4	60

B) Professional Information:

1- Overall Aim of the Course:

The overall goals of the course are to.....:

- 1.1. apply basic pathological knowledge essential for the practice of Cardiology
- 1.2. provide basic and specialized services in relation with biopsy diagnosis in the practice of medicine and investigations.
- 1.3. provide special knowledge & integrate with others that have relation with the special practice
- 1.4. be Aware of early tumor detection and diagnosis of cardiovascular system
- 1.5. Diagnose practical problems as cases study and clinical assessments
- 1.6. Diagnosis, problem solving and decision making skills necessary for proper evaluation and management.

2- Intended Learning Outcomes (ILOs):

2.a. Knowledge and understanding:

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

- 2.a.1. define the pathology of different cardiovascular and lung diseases.
- 2.a.2. describe the pathogenesis of different cardiovascular and lung diseases
- 2.a.3. list the causes of different cardiovascular and lung diseases
- 2.a.4. classify different cardiovascular and lung disease
- 2.a.5. describe the dissection of different cardiovascular and lung biopsies.
- 2.a.6 Describe the clinical manifestations and differential diagnosis of common cardiovascular pathological cases.
- 2.a.7. discuss the scientific basis and interpretation of various diagnostic modalities essential for cardiology.
- 2.a.8 Identify basic knowledge & theories needed to support literature retrieval and further research capabilities.

2.b. Intellectual Skills:

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

- 2.b.1. solve problem and make decision skills necessary for proper evaluation and management.
- 2.b.2. Evaluate the risky problems that could be met during taking biopsies .
- 2.b.3. interpret the clinical and investigational database to be proficient in clinical problem solving.
- 2.b.4. Plan for performance development in his practice.
- 2.b.5. Select the most appropriate and cost effective diagnostic procedures for each problem.
- 2.b.6. be aware of laws in relation to medical practice and be acquainted with related relevant amendments and also related judgments passed by constitutional courts .
- 2.b.7. Formulate of research hypothesis & questions.
- 2.b.8. Adopt the questioning approach to own work & that of others to solve clinical problems

2.c. Practical and Clinical Skills:

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

- 2c.1. diagnose and investigate cases
- 2.c.2. detect all important pathological aspects for early cancer detection and assessment.
- 2.c.3. Perform the gross examination and able to describe the findings of different organs efficiently
- 2.c.4. diagnose and manage different cardiovascular cases.
- 2.c.5. write reports like cancer assessment report, cytological report and immunohistochemical report.

2.d. General and transferable Skills:

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

- 2.d.1. Work effectively as a member or a leader of an interdisciplinary team and
- 2.d.2. respect rules & regularities for evaluation of performance of others.
- 2.d.3. Establish life-long self-learning required for continuous professional development
- 2.d.4. Use the sources of biomedical information and communication technology to remain current with advances in knowledge and practice.
- 2.4.5. Do self criticism. .
- 2.d.6. Retrieve, manage, and manipulate information by all means, including electronic means.

3- Course contents:

Subject	Lectures (hrs)	Tutorial / Small group discussion (hrs)	Practical (hrs)	Total (hrs)	% of Total
General Pathology	5	xx	xx	10	8.3
Cell response to injury,		xx	Xx		
Stem cells and repair, Tissue deposits			Xx		
Inflammation ,Granulomas ,Viral diseases		xx	Xx		
Disturbance of growth Neoplasia,		xx	Xx		
Developmental and genetic diseases		xx			
Nutritional disorders Diagnostic methods in pathology		xx			
Special Pathology	10	0	15	25	42.5
1.Diseases of the heart: (congenital- Inflammatory- Ischemic heart diseases - Myopathy, Tumors		xx			
Diseases of blood vessels including tumors and hypertension		Xx			
<ul style="list-style-type: none"> • Respiratory system: (Corpulmonale. • Chronic obstructive pulmonary disease.(COPD) • Pleural diseases 		Xx			
Nephrology: - Glomerulopathy		Xx			

- Nephrosclerosis					
Total	15	0	15	30	50

4- Teaching and learning methods:

METHODS USED:

1. Modified Lectures
2. Small group discussions
3. Problem solving.
4. Self learning
5. Practical classes
6. museum of pathology
7. histopathology slide lab

TEACHING PLAN:

*Lectures: Division of students into 1 group
once /week, Time from 10 to 11 am*

Tutorials:

Practical classes

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	once/week;	1	15
Total	once/week	1	15

5- Students Assessment methods:

5-A) ATTENDANCE CRITERIA: Faculty bylaws

5-B) Assessment Tools:

Tool	Purpose (ILOs)
Written examination	To assess knowledge, understanding & intellectual skills
Oral examination	To assess knowledge understanding & attitudes

5-C) TIME SCHEDULE: Faculty bylaws

Written exam with pharmacology for 3 hours

Oral exam

5-D) Weighting System:

Examination	Marks allocated	% of Total Marks
a- Written	100	50%
b- Oral	100	50%
Total	200	100%

- The minimum passing & Passing grades (Faculty bylaws).

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) Examinations description:

Written exam.: 100 degrees (50%)

Oral exam. : 100 degrees (50%)

6- List of references:

6.1- Course notes

- 1- Departmental books of General and Special histopathology, available in secretary office.
- 2- Handouts updated, administered by staff members
- 3- Museum notebook.
- 4- CDs for histopathological slides and museum specimens are available at the department.

6.2- Essential books (text books)

- Rosai and Ackerman's Surgical Pathology Juan Rosai, Mosby 2004
- Sternberg's Diagnostic surgical Pathology 4th edition, Lippincott Williams and Wilkins
- Kumar V ,Abbas AK ,Fausto N:Robbins and Cotran Pathologic Basis of Disease ,7th ed.;2005, Elsevier Saunders. Available at faculty bookshops & main library.

6.3- Periodicals, Web sites, ... etc

<http://www.pathmax.com/> <http://www-medlib.med.utah.edu/WebPath/LABS/LABMENU.html#2>
<http://www.med.uiuc.edu/PathAtlasf/titlePage.html>
<http://www.medscape.com/pathologyhome>
<http://www.gw> hyperlink <http://umc.edu/dept/path/2>
umc.edu/dept/path/2

7- Facilities required for teaching and learning:

Facilities used for teaching this course include:

4. Data show
5. Overhead projector
6. Museum specimens
7. Projector slides covering available slides in slide box
5. surgical specimens

Department of Pathology

Course coordinator: Prof. Dr. Samia Ahmed Youssef

Head of Department: Prof. Dr. Abdel-lattif El-Balshi

Date: 14 / 08 / 2013

Department of Cardiology

Course coordinator: Prof. Khalid El Rabbat

Head of Department: Prof. Hisham Abo El Enein

Date: 03 / 09 / 2013

Course Specifications

Course title: Biochemistry for Doctorate Degree in Cardiology.

(Code): CARD 702. **Academic Year:** 2013 – 2014.

- **Department offering the course:** Medical Biochemistry.
- **Academic year of doctorate program:** 2013-2014.
- **Date of specification approval:** 15/09/ 2013,

- **Allocated marks:** 50 marks.
- **Course duration:** 15 weeks of teaching
- **Teaching hours:** 1 credit hour = 15 total teaching hours.

	Hours / week	Total hours
1- Lectures	2 / 12	12
2- Tutorials	1 / 3	3
3- Practical	-----	-----
4- Others	-----	-----
Total	15	15

B) Professional Information:

1. Overall Aim of the Course:

- 1.1. Provide all students with a broad education in fundamental aspects of medical biochemistry and molecular biology;
- 1.2. Provide a sound knowledge and understanding of the biochemical importance of macro-, micronutrients, hormones and enzymes;
- 1.3. To enable the student to illustrate and/or describe the metabolic pathways of macronutrients and nucleotides;
- 1.4. Illustrate the contribution of the organs in metabolic process under different physiological circumstances;
- 1.5. To enable the student to understand the bioenergetics of the concerned metabolic pathways under different physiological circumstances and their integrator regulations with other working metabolic pathways;
- 1.6. Enable students to point out and understand the biochemical and the molecular basis of a range of diseases, their diagnosis and the development of therapies;
- 1.7. Acquire a critical understanding of the basic principles of molecular biology, different methods used in diagnosis of diseases;

1.8. practical laboratory skills, self-management, information retrieval, communication and presentation skills, working with others, decision making and meeting deadlines, that equip students for future employment.

2- Intended Learning Outcomes (ILOs):

2.1- Knowledge and understanding:

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

2.1.1. Describe the main metabolic pathways of the three main dietary sources of energy: carbohydrates, fats and proteins, their digestion absorption, their oxidation to release energy.

2.1.2 discuss the regulation of these pathways and the integration of their metabolism

2.1.3 discuss biochemical alteration in related metabolic disorders.

2.1.4 explain Understand the role of vitamins and enzymes required for catalysis of these processes, in addition to their deficiency manifestations.

2.1.5 Describe the contribution of certain tissues like liver, kidney, muscles and nervous system to metabolism in health and disease.

2.2. Intellectual skills:

2.2.1 Analyze pathological glucose tolerance curve.

2.2.2 Interpret medical laboratory reports.

2.2.3 Solve problems related to metabolic disturbances in a given case study report.

2.3. General and transferable skills:

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

2.4.1. Communicate properly with the staff members as well as with each other.

2.4.2. Work effectively in groups.

2.4.3. Use available resources to get data& knowledge.

3- Course contents:

Subject	Lectures (hrs)	Tutorials (hrs)	Total (hrs)	% of Total
Blood pH regulation, acidosis and alkalosis	1/2	1/2	1	
Major pathways of glucose oxidation	1/2	---	1/2	
Blood glucose regulation, diabetes mellitus, galactosemia & glycogen storage disease	1	1/2	1 1/2	
Plasma lipoproteins, hyperlipidemia, lipotropic factors & fatty liver	1/2	1/2	1	
FA oxidation, ketosis, cholesterol metabolism, hypercholesterolemia and atherosclerosis	1	1/2	1 1/2	
Inborn errors of amino acids metabolism, urea cycle, NPN compounds	1/2	---	1/2	
Basics of heme metabolism, hemoglobinopathies, porphyria and Jaundice	1/2	---	1/2	
Insulin, steroid, thyroid and parathyroid hormones	1/2	---	1/2	
Plasma enzymes & their diagnostic values	---	1	1	
Vitamins & their deficiency manifestation	1/2	---	1/2	
Calcium & phosphate homeostasis, sodium, potassium, iron and their deficiency manifestation.	1	---	1	
Hyperuricemia & gout	1/2	---	1/2	
DNA structure, replication, transcription & Regulation of gene expression	1/2	---	1/2	
RNA structure, transcription and posttranscriptional	1/2	---	1/2	

modification				
DNA damage, mutation and repair	1/2	---	1/2	
Cell cycle & apoptosis, tumor markers	1/2	---	1/2	
Protein synthesis: translation and posttranslational modifications	1/2	---	1/2	
Recombinant DNA technology, blotting techniques and gene therapy.	1/2	---	1/2	
Liver & kidney function tests	1/2	---	1/2	
Urine and blood : normal and abnormal constituents& their clinical relevance.	1	---	1	
Biotransformations, the cytochrome P-450	1/2	---	1/2	
Total	12	3	15	100

III-A) TOPICS:

1. Regulation and abnormalities of blood pH.
2. Carbohydrate metabolism: Glycolysis, hexose monophosphate pathway, uronic acid pathway, blood glucose, clinical implications of carbohydrate metabolism with special emphasis on diabetes mellitus, glucosuria and hypoglycemia.
3. Lipid Metabolism: Fatty acids oxidation, lipoproteins and cholesterol metabolism, lipotropic factors & pathological aspects of lipid metabolism: ketosis, fatty liver, hyperlipidemia and hypercholesterolemia.
4. Protein metabolism: Biological value of proteins, nitrogen metabolism, fate of ammonia produced from deamination, urea cycle, non protein nitrogenous compounds and pathological aspects of protein metabolism: inborn errors of metabolism of individual amino acids.
5. Basics of haem metabolism of, haemoglobinopathies, serum bilirubin, jaundice and porphyria.

5. Basics of purines metabolism with special emphasis on hypouricemia and gout.
6. Basics of pyrimidines metabolism with special emphasis on disorders of metabolism.
7. Hormones: mechanisms of action of hormones, insulin, steroid, thyroid and parathyroid hormones.
8. Enzymes: mechanism of action, factors affecting their actions, with special emphasis on plasma enzymes and their clinical value.
9. Vitamins classification and their deficiency manifestations.
10. Mineral metabolism: Calcium & phosphate homeostasis, sodium, potassium, iron and their deficiency manifestation.
11. Nucleic Acids: structure, functions and protein biosynthesis, DNA structure, DNA replication, protein biosynthesis, DNA damage & repair.
12. Structure and functions of RNAs, transcription and post-transcriptional modification.
13. Recombinant DNA Technology: PCR, restriction endonucleases, cloning, gene preparation, vectors, formation of recombinant DNA, applications of recombinant DNA, Gene therapy.
14. Cell cycle & apoptosis.
15. Tumor markers.
16. Liver & kidney function tests.
17. Body fluids: Urine and blood: normal and abnormal constituents & their clinical relevance
18. Biotransformations, the cytochrome P-450.

III-B) Tutorials:

1. Acidosis and alkalosis
2. Diabetes Mellitus.
3. Hyperlipidemia.
4. Hypercholesterolemia and atherosclerosis.
5. ketosis.
6. Plasma enzymes & their diagnostic values.

III-C) **PRACTICAL CLASSES:** not applicable

4- **Teaching and learning methods:**

METHODS USED:

8. Lectures
9. Tutorials.

TEACHING PLAN:

Lectures: One lecture /week, one hour each, for 12 weeks, from 12:00 am to 1:00pm according to the current time table in the biochemistry department halls.

Tutorials: one hour/week, for 3 weeks, from 1:00 pm to 2:00pm according to the current time table in the biochemistry department halls.

Practical classes: not applicable

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	Once /week (for 12 week)	one hour each (12: 00 am to 1: 00 pm)	12
Tutorials	Once /week (for 3 weeks)	one hour each (1: 00 pm to 2: 00 pm)	3
Total			15

5- Students Assessment methods:

5-A) ATTENDANCE CRITERIA: attendance percentage of > 75% must be fulfilled before the final exam.

5-B) Assessment TOOLS:

Tool	Purpose (ILOs)
Written examination	To assess knowledge & intellectual skills.
Oral examination	To assess knowledge, intellectual skills& general& transferable skills.

5-C) TIME SCHEDULE:

Exam	week
1- Final exam	6 months after registration

5-D) Weighting System:

1- FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

2- SUMMATIVE ASSESSMENT:

Examination	Marks allocated	% of Total Marks
1. Written exam:	25	50%
2. Oral exam:	25	50%
Total	50	100%

- The minimum passing grade is 30 marks (60% of the total marks), provided that at least 15 marks (60% of marks for written exam) are obtained in the written exam.

5-E) Examinations description:

Examination	Description	Marks
1- Written exam	Written exam (1 1/2hour) composed of short essay questions & multiple choice questions.	25
5- Oral exam	one session of oral examination	25
Total		50

6- List of references:

- Main Books: Department book (available for students to purchase from different bookshops at the faculty).
- Essential books: Harper's Biochemistry by: Roberk K. Murray, Daryl K. Granner, Peter A. Mayes and Victor W. Rodwell.
- Recommended Books: Lippincott's illustrated Biochemistry.
- Periodical websites: *www.clinchem.org*

7- Facilities required for teaching and learning:

Facilities used for teaching this course include:

- Lecture halls
- Small group classes
- Information technology / AV aids

Department of Biochemistry

Course coordinator: Prof. Dr. Azza Elbermawy

Head of Department: Prof. Dr. Azza Elbermawy

Date: 10/08/ 2013

Department of Biochemistry

Course coordinator: Prof. Khalid El Rabbat

Head of Department: Prof. Hisham Abo El Enein

Date: 03/09/ 2013

**Course Specification of Medical Pharmacology for MD
Degree in Cardiovascular Medicine
Course code : 70**

بيانات المقرر

اسم المقرر : كيمياء حيويه

الرمز الكودي : ٧٠١

التخصص :دكتوراه قلب و اوعيه دمويه

I. Aim of the course:

The aim of the course is to provide the student with knowledge and essential skills about:

a) Major areas of clinical pharmacology including drugs and their structure, mode of action, drug metabolism and pharmacokinetics in addition to drug-drug interactions with special emphasis on drugs routinely prescribed in cardiovascular diseases. Drug monitoring and dose adjustment for various drugs given in systemic diseases related to cardiovascular diseases.

II. Intended learning outcomes:

1. Knowledge and understanding: By the end of the course the student

should be able to :

- 1-a) Describe general principles of drug pharmacokinetics, pharmacodynamics, adverse reactions and drug-drug interactions.
- 1-b) Identify action and indication of the drugs.
- 1-c) Explain the reasons for various indications of the drugs.

2. Intellectual skills: By the end of the course the candidate should be able to;

- 2-a) Select prescribed drug(s) based on suitability, tolerability and efficacy according to the need of the patient for prevention, diagnosis and treatment.

2-b) Interpret the effect, pharmacodynamics and kinetics of the drugs given routinely in cardiovascular diseases.

3. Professional and practical skills: By the end of the course the candidates should be able to;

- 3-a) Monitor drug therapy, identify different routes of drug administration.
- 3-b) Calculate drug dosage and adjustments in relation to patient age and body weight.
- 3-c) Identify the effect of drugs given in any co-morbid conditions associated with cardiovascular disorder.

4. General and transferable skills: By the end of the course the candidates should be able to;

- 4-a) Use of electronic sources for drug information.

III. Course contents:

Topics:

I) Principles of general pharmacology including pharmacokinetics, pharmacodynamics, adverse drug reactions and drug-drug interactions.

II) Drugs and the heart

- Drug treatment in heart failure.
- Drug treatment of ischemic heart disease.
- Drug treatment of arrhythmias.
- Drug treatment for hypertension.
- Drug treatment for dyslipidemias.
- Choice of anti-microbials in infective endocarditis.

III) Drugs and coagulation system

- Oral and other anticoagulants
- Antiplatelet drugs
- Thrombolytic therapies.

IV) Drugs prescribed in the presence of co-morbid conditions associated with cardiovascular diseases:

- Thyroid and anti-thyroid drugs
- Anti-diabetic drugs
- Corticosteroids
- Tranquilizers, narcotic analgesics and analgesic anti-pyretics

IV. Teaching methods:

Lectures and Tutorials

- Slides /data show
- Discussion

Independent assignments

- Use of electronic resources.

Lectures:

Date	Time	Topics
Week 1	1 hour	Drug Pharmacokinetics
Week 2	1 hour	Drug Pharmacokinetics
Week 3	1 hour	Adverse drug reactions and drug-drug interactions
Week 4	1 hour	Drug treatment in heart failure
Week 5	1 hour	Drug treatment of ischemic heart disease
Week 6	1 hour	Drug treatment of arrhythmias
Week 7	1 hour	Drug treatment for hypertension
Week 8	1 hour	Drug treatment for dyslipidemias
Week 9	1 hour	Choice of anti-microbials in infective endocarditis
Week 10	1 hour	Oral and other anticoagulants
Week 11	1 hour	Antiplatelet drugs
Week 12	1 hour	Thrombolytic therapies
Week 13	1 hour	Thyroid and anti-thyroid drugs and Corticosteroids
Week 14	1 hour	Anti-diabetic drugs
Week 15	1 hour	Tranquilizers, narcotic analgesics and analgesic anti-pyretics

V. Teaching and learning facilities:

Lecture halls.

Audio-visual aids (data-show, slide projection).

List of references

- Course notes
- Essential books (text books)
- Basic and Clinical Pharmacology. edited by Katzung et al.
- Lionel H Opie , Drugs for the heart.
- Website: www.medscape.com

VI. Assessment:**Attendance criteria:**

The prerequisite for entry the final examination is 75% attendance of the lectures as shown in the attendance book.

Assessment tools:

Final assessment: Written and oral exams.

Assessment schedule:

Final assessment at the end of the academic year in the pharmacology department.

Written exam.

Duration: 3 hours.

Description of the exam:

- Short essay questions.

Oral exam: Two examiners- Duration : 30 minutes.

Weighing of assessments:

- Final-term written examination: 50 marks
- Oral examination: 50 marks

Course coordinators:

Prof. Khalid El Rabbat

Head of department

Prof. Hisham Abo El Enein