

FLORIDA ATLANTIC UNIVERSITY™

Graduate Programs—NEW COURSE PROPOSAL

UGPC APPROVAL _____
 UFS APPROVAL _____
 SCNS SUBMITTAL _____
 CONFIRMED _____
 BANNER POSTED _____
 ONLINE _____
 MISC _____

DEPARTMENT NAME: **BMED**

COLLEGE OF: **COLLEGE OF BIOMEDICAL SCIENCE – MEDICAL EDUCATION PROGRAM**

RECOMMENDED COURSE IDENTIFICATION:

PREFIX BMS COURSE NUMBER 6162 LAB CODE (L or C) _____

(TO OBTAIN A COURSE NUMBER, CONTACT ERUDOLPH@FAU.EDU)

COMPLETE COURSE TITLE : **THE CARDIOVASCULAR SYSTEM**

EFFECTIVE DATE

(first term course will be offered)

SPRING 2012

CREDITS: **8 HRS.**

TEXTBOOK INFORMATION:

PATHOPHYSIOLOGY OF HEART DISEASE	LILLY	LIPPINCOTT WILLIAMS & WILKINS, 4 TH EDITION (2006)
12-LEAD ECG: THE ART OF INTERPRETATION	GARCIA, HOLTZ	JONES AND BARTLETT (2001)

GRADING (SELECT ONLY ONE GRADING OPTION): REGULAR X PASS/FAIL _____ SATISFACTORY/UNSATISFACTORY _____

COURSE DESCRIPTION, NO MORE THAN 3 LINES: The purpose of the CMC Cardiovascular System course is to teach the fundamentals of cardiovascular medicine including cardiac anatomy, cardiovascular physiology, and cardiovascular pathology.

PREREQUISITES W/MINIMUM GRADE:*	COREQUISITES:	OTHER REGISTRATION CONTROLS (MAJOR, COLLEGE, LEVEL): STUDENTS MUST BE ADMITTED TO THE MEDICAL PROGRAM
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PREREQUISITES, COREQUISITES & REGISTRATION CONTROLS SHOWN ABOVE WILL BE ENFORCED FOR ALL COURSE SECTIONS.

*DEFAULT MINIMUM GRADE IS D-.

MINIMUM QUALIFICATIONS NEEDED TO TEACH THIS COURSE : **M.D./PHD**

Other departments, colleges that might be affected by the new course must be consulted. List entities that have been consulted and attach written comments from each.

Gauri Agarwal, M.D..
 E-Mail: gagarwal@fau.edu
 Phone: (561) 297-4132

Faculty Contact, Email, Complete Phone Number

SIGNATURES

SUPPORTING MATERIALS

<p>Approved by:</p> <p>Department Chair: _____</p> <p>College Curriculum Chair: _____</p> <p>College Dean: _____</p> <p>UGPC Chair: _____</p> <p>Dean of the Graduate College: _____</p>	<p>Date:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>Syllabus—must include all details as shown in the UGPC Guidelines.</p> <p>Written Consent—required from all departments affected.</p> <p>Go to: http://graduate.fau.edu/gpc/ to download this form and guidelines to fill out the form.</p>
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Email this form and syllabus to diamond@fau.edu and eqirjo@fau.edu one week **before** the University Graduate Programs Committee meeting so that materials may be viewed on the UGPC website by committee members prior to the meeting.

FAU Medical Education Program. 2011-2012

Syllabus :

1. Course title : Cardiovascular system

Course number: BMS 6162

Number of credit hours: 8

Lecture Hours: up to 8 hrs/week in BC-126, unless otherwise specified.

Small-group Hours: up to 6 hrs/week for PBL, location as assigned

Other activity Hours: up to 4 hrs/week location as assigned

2. Course prerequisites:

Accepted for matriculation in the FAU Medical Sciences program.

3. Course logistics:

a. term: Spring 2012

b. not an online course

c. Biomedical Science Building room BC-126, anatomy lab, small group PBL rooms.

4. Instructor information:

Course Director: Gauri Agarwal, M.D.
Assistant Professor
BC-118
gagarwal@fau.edu

Course support:	Ms Tamara Alexander Program Assistant BC-137 561-297-1373 talexa14@fau.edu	Ms Mavis Brown Curriculum Coordinator BC-138 561-297-0899 mwbrown@fau.edu
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Please note: Any official student communication from the director or program assistant will be sent via e-mail to students at their FAU e-mail addresses. *If students would like to meet with the course director, they must call or e-mail the course director to schedule an appointment.*

5. TA contact information:

N/A

6. Course description:

Rationale:

The Continuity Medicine Curriculum uses a chronic illness model and an integrated patient care approach to prepare students for medical practice.

The purpose of the CMC Cardiovascular System course is to teach the fundamentals of cardiovascular medicine including cardiac anatomy, cardiovascular physiology, and cardiovascular pathology. The course uses an integrated approach to present the basic science underpinning of clinical cardiovascular medicine. To achieve this goal, a combination of lectures, simulation cases, auscultation exercises with a cardiopulmonary simulator (Harvey), and problem-based learning (PBL) is used. The PBL sessions in the small-group setting use a set of cardiovascular disease models to focus students on the basic sciences. Lectures in the classroom setting are thematically related to the disease model and used to complement the PBL cases with additional key concepts.

The CMC Cardiovascular System course builds on the foundation in gross anatomy and imaging acquired in the Fundamentals of Biomedical Science sequence and the CMC Neuroscience and Behavior course. This

course provides continued opportunity to integrate anatomy with clinical problems and as such complements the teaching in Physicianship Skills courses (BMS_6015, 6016 & 6017). The goals of the medical program are to teach the attitudes and skills required for achieving competency as effective practitioners. This course provides further opportunities to acquire a fund of knowledge by encouraging students to be proactive and responsible for their learning in the classroom, small-group and simulation settings.

7. Course objectives/student learning outcomes:

Competency Based Objectives:

At the end of the course, medical students will be able to:

Professionalism

- § Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to their peers, patients and faculty
- § Appreciate the importance of a compassionate, non-judgmental attitude with classmates, faculty and staff
- § Understand and respect the need to collaborate with each other to promote learning
- § Apply reflective practice as a strategy to achieve personal and professional growth
- § Apply methods to reduce stress and improve wellness in oneself and others

Interpersonal Skills and Communication

- § Students must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with their peers and faculty
- § Demonstrate the ability to work in professional teams to solve problems.
- § Demonstrate the ability to do self and peer evaluations of performance and knowledge levels
- § Demonstrate skills to learn in a student-centered and adult learning environment

Patient Care

- § Correlate the biomedical science aspect of model diseases of the nervous system to the clinical knowledge acquired in the Integrated Patient Care and Physicianship Skills

Medical Knowledge:

- § Understand the basic vocabulary and physiology of the basic and clinical cardiovascular sciences as they relate to structures, processes and diseases of the coronary and peripheral vasculature, cardiac muscle, conduction system, valvulature, and pericardium.
- § Correlate basic normal human anatomy with images used by health care professionals
- § Identify the knowledge base and gaps related to the application of course content to clinical disorders
- § Utilize a variety of resources (faculty, textbooks, computers, internet, etc.) to find information about anatomical, histological and developmental issues related to normal structure and clinical problems of the cardiovascular system
- § Understand the basic pathologic processes as they apply to disease mechanisms of the cardiovascular system
- § Understand the abnormal findings on a cardiovascular exam of a patient with a cardiovascular system disorder
- § Understand the principles and practice of pharmacological therapy for disorders of the cardiovascular system
- § Understand the principles of reading an electrocardiogram
- § Demonstrate the ability to recognize heart sounds via auscultation on a simulated patient
- § Demonstrate the ability to recognize and manage basic cardiovascular pathologic processes on a simulated patient

Practice-Based Learning and Improvement

- § Reflect on the importance of dedication to life-long learning and strive for excellence in order to consistently provide optimal performance in class, small group and ultimately in patient care
- § Take charge of their own learning and effectively elicit feedback from faculty and peers in order to optimize learning

Systems-Based Practice

§ N/A

8. Course evaluation method:

Exam Composition: All examination questions will be multiple-choice. Clinical vignettes will be used for many questions, and images will be incorporated as appropriate. *Approximately* 1-2 questions per lecture hour, 1-2 questions per PBL case hour and 1-2 questions per laboratory hour will be used.

Exams will be delivered electronically via student laptops. Laboratory Practical Exams will be pen and paper exams.

Exam Administration: All examinations will be administered in the Biomedical Sciences building on the dates and times documented in the examination schedule. A student must sit for all examinations as scheduled. **A student must obtain permission for an excused absence from the course director** and notify the Assistant Dean for Student Affairs prior to the time for sitting for a scheduled examination. In the event of a personal emergency, the course director and the Assistant Dean for Student Affairs must be notified of the absence as soon as possible. Missed examinations will be rescheduled at the discretion of the course director, at a time that does not interfere with other course work. Unexcused absences will result in a grade of zero (0) for the missed examination.

All absences from examinations should be documented by the course director and will be communicated to the Office of Student Affairs. A record of excused and unexcused absences from examinations will be maintained by the Office of Student Affairs. A pattern of recurrent absences from examinations, whether excused or unexcused, will be reviewed by the class promotions committees and may result in a recommendation up to and including dismissal from the FAU Medical Education Program. (See the Student Rights and Responsibilities Handbook)

During the exams, students are required to follow the examination protocol presented by the proctors. No specific questions regarding an exam item will be answered during any exam.

Examination Scoring: *Scoring will be based solely on the answers recorded by the student on their laptop computer.* Miskeying of answers or omission of an answer will not be considered in grading a student's examination. Accuracy is the sole responsibility of the student.

Grades will be available via Blackboard in a timely fashion.

Viewing the Examination: All exams will be secure. Students can access a copy of the exam in the Office of Medical Education, Room BC-136. Review of the exams is limited to times outside formal curriculum activities.

Grading Policy:

Activity	Date	Percentage of Grade
Exam #1	Monday May 4	30%
Exam #2-Written	Friday May 29	30%

Exam #2- Practical	Friday May 29	10%
PBL Small Group Performance		30%
Total		100

The course director will determine the minimum passing score in the course. Students are required to pass the individual activities (Exam #1, Exam #2, Practical Exam, Small group performance) in order to pass the course overall.

The Student Rights and Responsibilities Handbook contain a description of the grading system.

1. Exam #1
 - Consists of questions covering objectives from lectures and PBL cases.
 - Includes material up to Friday May 1
2. Exam #2
 - Consists of questions covering objectives from lectures and PBL cases.
 - Includes material up to Thursday May 28. *The exam is not cumulative but builds on prior knowledge.*
3. Practical Exam
 - Consists of stations testing the recognition of common heart sounds and basic management approach to cardiovascular diseases seen during the course in simulation sessions.
 - Students will be able to review heart sounds at the session on Wednesday May 27th.
 - The practical exam will include all simulation material up to Wednesday May 27.
4. PBL Small Group Performance
 - Active participation and attendance are expected in all small groups (See Attendance Policy).
 - Consists of the Core Facilitator Evaluation of the student performance during the course.
 - Students are expected to meet with their Core Facilitator half-way through the course for a 10-15 minute review of their performance and to use the course evaluation form to guide this formative feedback.

When a student obtains a “D” or “F” on any examination, a letter is sent to the student asking them to contact the Course director for assistance. The letter is copied to the student’s file.

9. Course grading scale:

A = 93-100; A- = 90-92; B+ = 88-89; B = 83-87; B - = 80-82;
 C+ = 78-79; C= 73-77; C- = 70-72; D+ = 68-69; D = 63-67; D- = 60-62; F = 59 and below.

10. Policy on makeup tests, etc.

Failure on examinations:

- a) If a student passes a course, but has failed one of the written examinations, the student will be asked to meet with the Course Director to discuss any problems the student may have had with the material. A plan of action for improving the student’s performance will be determined.
- b) If a student passes a course, but has a written examination average that is below passing (as determined by the course director), the student will receive a “Fail” for the course and will also be asked to meet with the Course Director. The student will be discussed at the Promotions Committee meeting.

- c) Course Directors may designate a student's performance for the grade report as a grade of "D" While not failing, a grade of "D" identifies an unsatisfactory performance for graduate level training, and could result in a recommendation by the Course Director to perform remedial work. Students with "D" grades will be reviewed by class promotions committees. Earning one or more grades of "Low Fail" could signify that the student is not making sufficient academic progress, and may result in a recommendation by the promotions committee for the student to repeat a course or courses, repeat an academic year, or be dismissed from the school of medicine.
- d) If a student passes a course, but failed the practical examination, (as determined by the course director), the student will receive a grade of "D" for the course and be asked to meet with the Course Director. A plan of action for improving the student's performance will be determined. Evidence of successful completion of the remediation must be provided by the Course Director for inclusion in the student file. The student will be discussed at the Promotions Committee meeting.

Failure in problem-based learning:

- a) If a student fails the problem-based learning portion of a course (as determined by the course director), the student will receive a grade of "D" for the course and be asked to meet with the Course Director. A plan of action for improving the student's performance will be determined. Evidence of successful completion of the remediation must be provided by the Course Director for inclusion in the student file. The student will be discussed at the Promotions Committee meeting.

11. Special Course requirements:

Attendance Policy:

The FAU faculty and administration agree that student attendance and participation in all scheduled learning sessions are important to students' academic and professional progress, and ultimate success as physicians.

Attendance at the Monday/Wednesday/Friday small-group sessions and wrap-up is mandatory.

For an absence to be excused, a request must be made to the Course Director. Only a Course Director can excuse an absence. No missed work associated with a specific session can be made up without loss of credit for satisfactory completion unless an excused absence has been granted.

An excused absence from a small-group PBL session will be made up by the assignment of an additional learning issue to the student. An unexcused absence will result in the assignment of an additional learning objective for each absence, and a two point deduction from the PBL small group performance component of the final grade.

Attendance at the Tuesday morning anatomy sessions is expected for all scheduled activities. Students are expected to be on time: in that each session will start with a short written quiz, being on time is defined as being ready to start at the assigned time so as to not be pressured to finish the web-based quiz within its assigned time.

Repeated unexcused absences from required curricular activities may result in disciplinary action, up to and including dismissal from the FAU Medical Education Program.

12. Classroom etiquette policy:

Students should be considerate of each other by switching his/her cell phone to vibrate during all teaching activities.

If a telephone call is of an emergency nature and must be answered during class, the student should excuse him/herself from the lecture hall before conversing.

Laptop computer use should be limited to viewing and recording lecture notes rather than checking e-mail, playing or viewing other distracting websites. Students may be asked by faculty to turn off laptops during any session where group participation is required (such as PBL and wrap-up sessions).

13. Disability policy statement:

In compliance with the Americans with Disabilities Act (ADA), students who require special accommodation due to a disability to properly execute coursework must register with the Office for Students with Disabilities (OSD) –in Boca Raton, SU 133 (561-297-3880)—and follow all OSD procedures.

14. Honor code policy:

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards because it interferes with the University mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the University community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility.

The FAU Honor Code requires a faculty member, student, or staff member to notify an instructor when there is reason to believe an academic irregularity is occurring in a course. The instructor must pursue any reasonable allegation, taking action where appropriate. The following constitute academic irregularities:

1. The use of notes, books or assistance from or to other students while taking an examination or working on other assignments, unless specifically authorized by the instructor, are defined as acts of cheating.
2. The presentation of words or ideas from any other source as one's own is an act defined as plagiarism.
3. Other activities that interfere with the educational mission of the University.

For full details of the FAU Honor Code, see University Regulation 4.001 at www.fau.edu/regulations/chapter4/4.001_Honor_Code.pdf.

The Code of Honorable and Professional Conduct should serve as a guide to medical students in matters related to academic integrity and professional conduct. The Code of Honorable and Professional Conduct provides a mechanism for peer evaluation of student conduct which the FAU faculty and administration believe is an essential component of medical education and development of medical students.

15. Required texts/readings:

The following are textbooks that students are expected to purchase for use in the Cardiovascular System course. All the textbooks listed below are available at the FAU Bookstore. Students may want to purchase the textbooks independently to obtain the best pricing.

Title	Author(s)	Publisher
Pathophysiology of Heart Disease	Lilly	Lippincott Williams & Wilkins, 4 th edition (2006)
12-Lead ECG: The Art of Interpretation	Garcia, Holtz	Jones and Bartlett (2001)

Recommended Textbooks:

Title	Author	Publisher
Cardiovascular Physiology Concepts	Richard E Klabunde	Lippincott Williams & Wilkins (2004)
Harrison's Principles of Internal Medicine, 16th Edition	Anthony S. Fauci, Eugene Braunwald, Dennis L. Kasper, Stephen L. Hauser, Dan L. Longo, J. Larry Jameson, and Joseph Loscalzo, Eds.	McGraw Hill <i>(Available through online access at UM Calder Library)</i>

The following texts from prior year 1 courses remain of interest:

Title	Author(s)	Publisher
Medical Physiology 1 st Edition	Boron and Boulpaep	Elsevier
The Immune System 2 nd Edition	Parham	Garland Science
Medical Microbiology 5 th Edition	Murray, Rosenthal, Kobayashi & Pfaller	Elsevier
Robbins and Cotran's Pathologic Basis of Disease 7 th Edition	Kumar, Cotran, Robbins	Saunders
Basic and Clinical Pharmacology 10 th Edition	Katzung	McGraw-Hill
Genetics in Medicine 7 th Edition	Thompson and Thompson	Saunders
Biochemistry: Lippincott's Illustrated Reviews 4th Edition	Champe, Harvey and Ferrier	Lippincott, Williams and Wilkins
Langman's Medical Embryology 10 th Edition	Sadler	Lippincott, Williams and Wilkins
Histology: a Text and Atlas 5 th Edition	Ross and Pawlina	Lippincott, Williams and Wilkins
Essential Clinical Anatomy 3 rd Edition	Moore and Agur	Lippincott, Williams and Wilkins
Anatomy in diagnostic imaging 2 nd Edition	Fleckenstein and Trantum-Jensen	Elsevier
Neuroanatomy through Clinical Cases	Blumenfeld	Sinauer, 2002
Frank Netter Anatomy Atlas 4 th Edition	Netter	Elsevier

16. Supplementary resources:

(These resources and others may be accessed via the Blackboard resources.

<http://cvphysiology.com/>

The materials contained in this web site are limited to physiological concepts that serve as the basis of cardiovascular disease.

Integrated Medical Curriculum <http://imc.meded.com/>

The site provides materials related to the gross anatomy component. The username and password given to each student at the beginning of the FBS1 course will continue to be valid.

Medline Dictionary, an online dictionary provided by the US National Library of Medicine and the National Institutes of Health. (A potentially useful resource during the PBL small group sessions).

Aperio Microscope Images: These virtual microscope images, which can be accessed through the Blackboard site, via the "Handouts and Links" tab, can be found at: <http://med.fau.edu/aperio>.

The Internet Pathology Laboratory for Medical Education can be accessed through the Blackboard site via the "Handouts and Links" tab, is a comprehensive learning tool. The application contains useful anatomy, radiology, histology, and microbiology images and tutorials, in addition to thousands of general and systemic pathology images. In addition, WebPath contains a section of case-based laboratory exercises and examination questions (with fully-explained answers) that are very helpful resources for learning and review.

Web-based postings:

Session handouts	Yes	Session Objectives	Yes	Quizzes	No
Required Activities	Yes	Grades	Yes	Exams	<i>Delivered via laptop or pen and paper</i>

17. Course topical outline, including dates:

Content outline:

Please refer to Blackboard for up-to-date information and session-related objectives and handouts.

Week of	Academic Week	Session Topic
04/06/12	Week 32	Course Introduction
		Overview of the Cardiovascular System and Cardiac Anatomy
		Mechanical and Electrical Activity of Cardiac Cells
		Cardiac Cycle I and II
		Metabolism of the Heart
		EKG Recognition Didactic
		EKG Analysis I
		Peripheral Vascular System and Regulation of Arterial Pressure
		Control of the Vascular System I and II
		Pharmacotherapy of Hypertension
		Pathology of Hypertension
		Central and Peripheral Venous System
		PBL 1
04/13/12	Week33	Vascular Smooth Muscle and Endothelium
		Biochemistry of Lipoprotein Metabolism
		Simulation Week 33-34
		Cardiovascular Risk Factors
		Mechanisms of Cardiac Arrhythmias and the Conduction System
		Pharmacotherapy Of Hyperlipidemia
		Pathogenesis of Atherosclerosis
		PBL2
04/20/12	Week 34	Bradyarrhythmias
		Tachyarrhythmias
		Simulation Week 33-34
		Pathophysiology of Angina and Acute Coronary Syndromes
		Pathology of Ischemic Heart Disease
		Pharmacotherapy of Angina and Acute Coronary Syndromes
		Complications of Myocardial Infarctions

		PBL 3
04/27/12	Week 35	Systolic and Diastolic Heart Failure
		Hypertrophic, Dilated, and Restrictive Cardiomyopathies
		Simulation Week 35-36
		Management of Heart Failure I and II
		Pathology of Myocardial Diseases
		Cardiopulmonary Diseases
		PBL 4

05/04/12	Week 36	Exam # 1
		Simulation Week 35-36
		EKG Analysis II
		Syncope
		Pathology of Pericardial Disease and Cardiac Tumors
		Cardiac Imaging I
		PBL 5
05/11/12	Week 37	Valvular Heart Disease I and II
		Simulation Week 37-38
		Pathology of Endocarditis
		Pathology of Valvular Heart
		Endocarditis
		Pathophysiology of Cardiac Emboli
		PBL 6
05/18/12	Week 38	Peripheral Vascular
		Aortic Dissection
		Simulation Week 37-38
		Cardiac Imaging II
		Pathology of Aneurysms Aortic Dissection, and Vasculitis
		Management of Shock
		Sudden Cardiac Death
		PBL 7
05/25/12	Week 39	Cardiac Adaptation at Birth
		Congenital Heart Disease
		Heart Disease in Women
		Simulation Week 39
		Heart Disease in Women
		Genetics of Cardiac Diseases
		The Future of Cardiology
		Exam # 2
		Practical Exam

An **OPTIONAL** EKG placement session will be held on Thursday, April 9 at Boca Raton Community Hospital from 1PM-4PM. Interested students will meet at the hospital and will learn how to perform an EKG and have a tour of the cardiac suites.

The session is entirely optional and is not graded.

Students are to meet at the Cardiology Nuclear Stress/Echo area on the first floor of the main Hospital.

The contact person is George Herfield at hospital extension #7857.

A sign up sheet will be available during the early days of the course for all interested students.

Study Habits:

A major contribution to your learning is active engagement, which includes participation in the learning of other students and interaction with the instructors. Students are expected to be proactive and to access the Blackboard system to review items associated to individual sessions.

Learning in the field of medicine is a life-long endeavor that is not only necessary, but can and should be fun. One of the most important factors for learning is curiosity and sometimes, the best way to keep this curiosity stimulated is through our interaction with colleagues and peers. When learning in small groups, we have a chance to try to explain topics to each other, brainstorm solutions together, give each other constructive feedback, and support and validate each other. We encourage balancing studying alone with learning in small groups. It is important to develop a study routine to avoid “putting things off” and “cramming” and to minimize the stress we may add to our lives in that way.

Independent Study Time:

Independent Study Time allocated within the day time schedule is provided for students, on average about 9 hours per week.

Students are expected to use this time to further their learning. The time should be used for independent study or with peers. It is an opportunity to seek out faculty to interact with them outside the formal teaching setting. Since the PBL small-group format requires that students research learning objectives, the time may be used to prepare for the subsequent sessions. Finally, the time may be used to work on assignments, problem-solving cases, off-campus visits or other tasks that are required by the courses.

Occasionally, some Independent Study Time sessions may be used for curriculum-related activities (e.g. standardized examinations): notice will be given as early as possible for these occasions.

Course and Faculty Evaluation:

FAU highly values the process of formal program evaluation and feedback. FAU students are required to complete all course evaluations and program evaluation surveys which are the Students Perception of Teaching (SPOT).

Grades and transcripts may be held for failure to submit required surveys. Evaluations should be constructive, to help improve individual faculty's teaching, and the content and format of the courses.

Moreover, the timely completion of evaluations at the level of undergraduate medical education assists students in developing the administrative and organizational skills required throughout their academic and professional career. We appreciate your completing evaluations to help continue with improvement of the learning experiences and environment for all students.

Faculty

Lecturers (in alphabetical order):

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