

FLORIDA ATLANTIC UNIVERSITY™

Graduate Programs—COURSE CHANGE REQUEST

UGPC APPROVAL _____
 UFS APPROVAL _____
 SCNS SUBMITTAL _____
 CONFIRMED _____
 BANNER POSTED _____
 CATALOG: _____

DEPARTMENT NAME: N/A	COLLEGE OF: MEDICINE
COURSE PREFIX & NUMBER: BMS 6005	CURRENT COURSE TITLE: Fundamentals of Biomedical Science 2

CHANGE(S) REQUESTED

<p>SHOW "X" IN FRONT OF OPTION</p> <p>CHANGE CREDITS FROM _____ TO: _____</p> <p>CHANGE GRADING FROM _____ REGULAR TO: S/U</p> <p>CHANGE PREREQUISITES TO: _____</p> <p>CHANGE MINIMUM GRADE TO: _____</p> <p>CHANGE COREQUISITES TO: _____</p> <p>CHANGE OTHER REGISTRATION CONTROLS TO: _____</p> <p>OTHER _____</p>	<p>SHOW "X" IN FRONT OF OPTION</p> <p>CHANGE PREFIX FROM _____ TO: _____</p> <p>CHANGE COURSE NO. FROM _____ TO: _____</p> <p>CHANGE TITLE TO: _____</p> <p>CHANGE DESCRIPTION TO: _____</p>
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<p>CHANGES TO BE EFFECTIVE (TERM):</p>	<p>Attach syllabus for ANY changes to current course information.</p>
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<p>Will the requested change(s) cause this course to overlap any other FAU course(s)? If yes, please list course(s).</p> <p style="text-align: center;">YES <u>No</u></p>	<p>Any other departments and/or colleges that might be affected by the change(s) must be consulted. List entities that have been consulted and attach written comments from each.</p> <p style="text-align: center;">N/A</p>
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TERMINATE COURSE, EFFECTIVE (GIVE LAST TERM COURSE IS TO BE ACTIVE):

Faculty Contact, Email, Complete Phone Number: **Deborah Louda Ph.D.; Associate Professor of Clinical Biomedical Science BC-140A; 561 297-3622; dlouda@fau.edu**

SIGNATURES

SUPPORTING MATERIALS

<p>Approved by: _____</p> <p>Department Chair: <u>[Signature]</u></p> <p>College Curriculum Chair: <u>[Signature]</u></p> <p>College Dean: <u>[Signature]</u></p> <p>UGPC Chair: _____</p> <p>Dean of the Graduate College: _____</p>	<p>Date: _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>Syllabus—must include all criteria as detailed in UGPC Guidelines.</p> <p>Go to: http://graduate.fau.edu/gpc/ to access Guidelines and to download this form.</p> <p>Written Consent—required from all departments affected.</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 COLLEGE OF MEDICINE

Syllabus

Fundamentals of Biomedical Science 2

BMS **6005**

Number of credit hours: 6

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

Anatomy Lab Hours: 1 hr/week formal instruction; self-directed optional time

2. Course prerequisites:

Accepted for matriculation in the FAU College of Medicine.

3. Course logistics:

a. term: fall 2011

b. not an online course

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

4. Instructor information:

Course Director: Deborah Louda Ph.D.
Associate Professor of Clinical Biomedical Science
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561 297-3622
dlouda@fau.edu

Course support: Ms Mavis Brown
Curriculum Coordinator
BC -138
561-297-0899
mwbrown@fau.edu

Please note: Any official student communication from the director or curriculum coordinator 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:

The FBS Course series (FBS 1, FBS 2, FBS 3) is designed to provide students with a broad foundation in critical biomedical science subject areas, including biochemistry, molecular biology, cell biology, genetics, microbiology, immunology, pharmacology, pathology, histology, physiology, anatomy, and embryology. FBS 1 focuses on biochemistry, molecular biology, cell biology, genetics, and an introduction to the anatomical sciences. FBS 2 then builds on and extends this basis into the areas of microbiology, immunology, inflammation, and pharmacology while continuing anatomy.

7. Course objectives/student learning outcomes:

After completing this course the student will:

- Explain the basis of microbial classification
- Describe the structure and composition of bacteria
- Summarize bacterial metabolism, genetics, and physiology
- Distinguish the bacterial virulence factors
- Analyze the pathophysiology, epidemiology, clinical presentation, laboratory diagnosis and treatment of bacterial infections
- Summarize fungal structure and physiology
- Analyze the pathophysiology, epidemiology, clinical presentation, laboratory diagnosis and treatment of fungal infections
- Describe the classification of parasites
- Summarize parasitic structure and physiology
- Analyze the pathophysiology, epidemiology, clinical presentation, laboratory diagnosis and treatment of parasitic infection, including adherence, cell migration, and phagocytosis
- Compare the structure and function of the different types of immune system cells, including granulocytes, natural killer cells, macrophages, T-cells, and B-cells
- Summarize the structure and function of immunoglobulins
- Explain antigenicity and immunogenicity
- Describe the structure and function of T cell receptors
- Analyze B- and T-cell activation and regulation of the immune system
- Summarize the chemistry, function, and molecular biology of immunologic mediators including cytokines and chemokines
- Compare the design and function of the classic and alternative complement pathways
- Distinguish immunodeficiency diseases of T- and B-cells, phagocytic cells, and combined immunodeficiencies
- Describe the acute inflammatory response and mediator systems
- Explain the vascular response to injury
- Summarize inflammatory cell recruitment, including adherence, cell migration, and phagocytosis
- Analyze bactericidal mechanisms and tissue injury
- Describe the clinical manifestations of inflammation
- Analyze adaptive cell responses to injury
- Compare mechanisms of cellular injury and necrosis
- Explain the process of apoptosis
- Describe the different types of intracellular accumulations
- Explain multisystem adaptation to environmental extremes and environmental pathology
- Identify the most common autonomic pharmacological agents and predict their main clinical uses
- Summarize the general properties and mechanisms of action of antimicrobials

- Analyze the structure and function of biological membranes including examples of active and passive transport
- Summarize the metabolism of complex lipids
- Compare the metabolism of purine and pyrimidine nucleotides
- Compare and contrast the histology of the various lymphoid organs and correlate it with their functions in the immune system
- Describe the anatomy of the structures found within the abdomen, pelvis, and perineum
- Review the developmental and microscopic anatomy of the respiratory system
- Delineate the embryological development of the urogenital system
- Summarize the microscopic anatomy of the cardiovascular system

8. Course evaluation method:

Examination Policy:

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.

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 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 for review in the Office of Medical Education, Room BC-136

The course grade is made up of three components (exams, Anatomy exams & quizzes, and PBL). An unsatisfactory grade for any of the three components will result in an unsatisfactory grade for the course

Component 1

Exam 1 40 points

Exam 2 40 points

Component 2

Anatomy Exams & Quizzes 20 points

Component 3

PBL facilitators will provide narrative evaluation which will contain notations as to whether the student's academic and professional performance is on the level of "honors" (H), "high satisfactory" (HS) "satisfactory" (S), "marginally satisfactory" (MS), and "unsatisfactory" U. This will be based on the student's performance the following areas:

- Use of student's own knowledge base
- Knowledge acquisition/active learning
- Critical thinking/reasoning/problem-solving
- Teamwork/group communication and assessment

When a student obtains a "MS" or "U" 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:

The grading scale for the course is as follows:

(H) Honors	= or >93% and (H) in PBL
(HS) High Satisfactory	85% - 92.99% (H) or (S) in PBL
(S) Satisfactory	= or >75% and (S) or (H) in PBL
(MS) Marginal Satisfactory	= or >75% and (MS) in PBL 70%-74.99% and (H), (S) or (MS) in PBL
(U) Unsatisfactory	= or >70% and (U) in PBL <70% and (H), (S), (MS), or (U) in PBL

10. Policy on makeup tests, etc.

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 Senior Associate 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 Senior Associate 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 a PIR from 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 MSPPSC and may result in a recommendation up to and including dismissal from the FAU medical Education Program. (See Student Rights and Responsibilities Handbook)

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.

In addition to the FAU Honor Code, the FAU College of Medicine has adopted specific academic, professional and behavioral standards governing medical student conduct which the FAU COM faculty and administration believe are essential components of medical education and the development of medical students. The FAU COM academic, professional and behavioral standards are included in the COM Student Handbook.

15. Required textbooks:

The following are textbooks that students are expected to purchase for use in the Fundamentals of Biomedical Science sequence. All the textbooks listed below will be available at the FAU Bookstore at the beginning of the academic year.

In FBS 2 and FBS 3, the additional texts emphasized are:

Title	Author(s)	Publisher
Medical Physiology 1 st Edition	Boron and Boulpaep	Elsevier
The Immune System 3 rd 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

The texts emphasized In FBS 1 remain part of the student resources:

Title	Author(s)	Publisher
Genetics in Medicine 7 th Edition	Thompson and Thompson	Saunders
Biochemistry: Lippincott's Illustrated Reviews 4 th Edition	Champe, Harvey and Ferrier	Lippincott, Williams and Wilkins
Langman's Medical Embryology 11 th Edition	Sadler	Lippincott, Williams and Wilkins
Histology: a Text and Atlas 6 th Edition	Ross and Pawlina	Lippincott, Williams and Wilkins
Essential Clinical Anatomy 3 rd Edition	Moore and Agur	Lippincott, Williams and Wilkins
Frank Netter Anatomy Atlas 4 th Edition	Netter	Elsevier

Suggested textbook:

Title	Author(s)	Publisher
Anatomy in Diagnostic Imaging	Fleckenstein and Tranum-Jensen	Blackwell

16. Web resources:

(These resources and others may be accessed via the “*Handouts and links*” of the student e-Dossier on Blackboard)

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

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

Medline Dictionary <http://www.nlm.nih.gov/medlineplus/mplusdictionary.html>

An online dictionary provided by the US National Library of Medicine and the National Institutes of Health.

A potentially useful resource to be used during the PBL small group sessions.

The Visible Embryo <http://www.visembryo.com>. This highly recommended site presents a series of 3D images of the developing embryo and fetus with text commenting on specific developmental events that are occurring at each stage. The website contains images from the collection of 10,000 embryos at the National Institute of Child Health and Human Development, an institute of NIH.

Aperio Microscope Images: <http://med.fau.edu/aperio>. A collection of virtual microscope images that will be used for in-class didactic sessions as well as in the PBL setting.

Internet Pathology Laboratory for Medical Education [“Webpath”]: <http://med.fau.edu/webpath>. Represents a comprehensive learning tool that contains useful anatomy, radiology, histology, and microbiology images and tutorials, plus general and systemic pathology images. WebPath also contains a section of case-based laboratory exercises and examination questions (with fully-explained answers) that are very helpful resources for learning and review. The username and password given to each student at the beginning of the FBS1 course will continue to be valid.

17. Web-based postings:

Students are encouraged to carry their laptop with them as much as possible in order to access resources, patient log and other resources.

Please refrain from checking personal e-mails during teaching periods. Please put your cell phone or pager on “vibrate” to minimize disruption.

Please be punctual as a courtesy to your colleagues and faculty.

Session handouts	Yes	Session Objectives	Yes	Quizzes	Delivered via laptop
Required Activities	Yes	Grades	Yes	Exams	Delivered via laptop (except practicals)

18. Course topical outline:

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

Session Topic
Nucleotide Metabolism
Fundamentals of Immunology
Principles of Medical Microbiology, Bacterial Structure and Physiology
Fundamentals of Immunology
Overview of Antibiotics
Lymphoid Tissues
Fundamentals of Immunology
Anterior Abdominal Wall and Inguinal Region
Anatomy Case Correlations 12
Gross Anatomy Laboratory (no quiz)
Cellular Injury
Cellular Adaptation
Gram + Bacilli Positive
Gram + Cocci Positive
Spirochetes and Obligate Intracellular Pathogens
Abdominal Viscera and Major Vessels
Anatomy Case Correlations 13

Lung Development
Respiratory System
Pathogenic Mycobacteria
Overview of Lipid Metabolism
Overview of Digestion
Acute Inflammation
Overview of Protein Folding and Stability
Posterior Abdominal Wall, Kidney and Diaphragm
Anatomy Case Correction 14
Membrane Structure
Pumps and Transport
Biology of Parasites and Fungi
ANS Problems
Pelvis and Pelvic Diaphragm
Anatomy Case Correlations 15
Gross Anatomy Laboratory 15 (quiz)
Urogenital Development
Introduction to Virology and Pathogenesis
Cardiovascular System
Perineum
Anatomy Case Correlations

19. 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.

20. 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.

21. 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.

22. Faculty:

Lecturers (in alphabetical order):

Ana Maria Azzarolo, Ph.D.
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