

# FLORIDA ATLANTIC UNIVERSITY™

## Graduate Programs—COURSE CHANGE REQUEST

UGPC APPROVAL \_\_\_\_\_  
 UFS APPROVAL \_\_\_\_\_  
 SCNS SUBMITTAL \_\_\_\_\_  
 CONFIRMED \_\_\_\_\_  
 BANNER POSTED \_\_\_\_\_  
 CATALOG \_\_\_\_\_

DEPARTMENT: N/A	COLLEGE: COLLEGE OF MEDICINE
COURSE PREFIX AND NUMBER: BMS 6032	CURRENT COURSE TITLE: FUNDAMENTALS OF BIOMEDICAL SCIENCE 2
CHANGE(S) ARE TO BE EFFECTIVE (LIST TERM): FALL 2012	TERMINATE COURSE (LIST FINAL ACTIVE TERM):
CHANGE TITLE TO:  CHANGE PREFIX FROM:                      TO:  CHANGE COURSE NO. FROM:                      TO:  CHANGE CREDITS FROM:    6                      TO:    7  CHANGE GRADING FROM:                      TO:  CHANGE DESCRIPTION TO:	CHANGE PREREQUISITES/MINIMUM GRADES TO*:   CHANGE COREQUISITES TO*:   CHANGE REGISTRATION CONTROLS TO:   *Please list both existing and new pre/corequisites, specify AND or OR, and include minimum passing grade.
<b>Attach syllabus for ANY changes to current course information.</b>	
Should the requested change(s) cause this course to overlap any other FAU courses, please list them here.	Departments and/or colleges that might be affected by the change(s) must be consulted and listed here. Please attach comments from each.

Faculty contact, email and complete phone number: Deborah Louda, Ph.D.: Associate Professor of Clinical Biomedical Science  
 BC-140A: 561 297-3622; dlouda@fau.edu

<b>Approved by:</b> Department Chair: <u>Sunday Hermon</u> College Curriculum Chair: <u>Araceli Azevedo</u> College Dean: <u>M. J. ...</u> UGPC Chair: _____ Graduate College Dean: _____	<b>Date:</b> <u>3/5/12</u> <u>3/5/12</u> <u>3-5-12</u> _____ _____	<b>ATTACHMENT CHECKLIST</b>  ♦Syllabus (see guidelines for requirements: <a href="http://www.fau.edu/graduate/facultyandstaff/programscommittee/index.php">http://www.fau.edu/graduate/facultyandstaff/programscommittee/index.php</a> )  ♦Written consent from all departments affected by changes
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Email this form and syllabus to [UGPC@fau.edu](mailto:UGPC@fau.edu) **one week before** the University Graduate Programs Committee meeting so that materials may be viewed on the UGPC website prior to the meeting.

**FLORIDA ATLANTIC UNIVERSITY CHARLES E.  
SCHMIDT COLLEGE OF MEDICINE  
COURSE SYLLABUS**

**GENERAL INFORMATION**

**Course Number:** BMS 6032  
**Online:** Blackboard Learning System  
**Term:** Fall 2012  
**Course Title:** Fundamentals of Biomedical Science 2  
**Course Director:** Deborah Louda, Ph.D.  
**Office:** BC 140A  
**Office Hours:** MW 1-2 PM  
**Telephone:** 561-297-3622  
**E-Mail:** [dlouda@fau.edu](mailto:dlouda@fau.edu)

**Course Support:** Abner Alexis  
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**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. The course will be taught in 6 weeks, and consist of lectures, problem based learning sessions, small group discussions, and laboratory activities.

**COURSE OBJECTIVES**

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

## EVALUATION

**Summative Assessment (Grading):** The FBS 2 course will be graded as: S (Satisfactory) or U (Unsatisfactory)

The course grade will have two components (exams & quizzes, and PBL). **In order to pass the course with S grade, the student will be required to pass both components.**

### Component 1

The first component consists of exams and quizzes. Exams 1 and 2 are multiple choice tests covering objectives in lectures, PBL cases and problem sessions. The percentage contribution to total points will be distributed as follows:

Exam 1	25%
Exam 2	45%
Anatomy exams & quizzes	30%
<b>Total</b>	<b>100%</b>

A passing grade for this component will be  $\geq 75\%$  of total points possible.

### Component 2

The second component is PBL. Grading for PBL will consist of a narrative facilitator assessment at the end of the course, and will be given by the facilitators as "satisfactory" (S) and "unsatisfactory" (U) without assigned numerical points. The facilitators will provide notations as to whether the student's academic and professional performance is on the level of S or U based on the student's performance the following areas:

- Research skills;
- Reasoning;
- Professionalism: interpersonal skills;
- Professionalism: work habit.

**Formative Assessment (not graded):** Students will receive narrative feedback from their facilitator and the other students in their PBL group mid-course, and narrative feedback from the other students in both PBL and their Anatomy Dissection Group at the end of the course. Each student is expected to complete feedback forms for his/her peers.

## **COURSE INFORMATION**

### **Attendance Policy**

Professionalism is a major component of the FAU College of Medicine's curriculum. Therefore, medical students as future professionals should conduct themselves appropriately in all curricular activities, including classroom work, laboratory work, and clinical experiences. The professionalism of a medical student includes arriving to educational activities on-time, using laptop computers only for course work during the educational activity, and minimizing disruptions to the educational exercise.

In accordance with the Student Handbook, students are accountable and personally responsible for attending all scheduled educational activities for FBS 2, arriving on time and prepared. It is mandatory for students to attend all PBL sessions, clinical case or problem sessions, labs, and examinations. Students are expected to attend all didactic sessions, and are required to arrive in the classroom on time and to stay to the end of the session. In general, makeups will not be provided to non-assessment activities. Makeup assessments will be provided to students only in the case of a true emergency.

If a student has an emergency that prevents him/her from attending a scheduled activity, he/she is to follow the emergency notification procedure ([http://med.fau.edu/medicine/student\\_affairs/pdfs/Student\\_Handbook.pdf](http://med.fau.edu/medicine/student_affairs/pdfs/Student_Handbook.pdf)). If possible, the student should also call and leave a message with the course director or group facilitator. Attendance, including tardiness, is part of the evaluation for professionalism in FBS 2. Poor evaluations may result in decreased grades and, in severe cases, referral to the Medical Students Promotions & Professional Standards Committee.

### **FAU COM Policy for the Provision of Health Care Services to Students**

Faculty members and residents or fellows with academic assessment/evaluation responsibilities for students are precluded from evaluating any students who are also their patients, because of dual-relationship and conflict of interest issues. The conflict created by this dual role could affect both the quality of medical care and the content of such evaluations in the following way:

- A student-patient might be less likely to report a sensitive medical issue (e.g., drug abuse) to his/her physician if that physician will be providing an evaluation or grade for the student; and
- A faculty member's evaluation or grade (which could include some subjective elements) could potentially be, despite the evaluator's commitment to neutrality, positively or negatively affected as a result of the therapeutic relationship.

In instances of pre-existing doctor-patient/student relationships, the physician must discuss with the student the potential for a dual relationship and inform the student that he/she will recuse him- or herself from any situation in which a formal evaluation is required.

In emergent situations or other instances in which an appropriate referral is not available, a student can seek the care of any faculty member or resident. In this circumstance as well, the physician must discuss with the student the potential for a dual relationship and recuse him or herself from any situation in which a formal evaluation is required.

At the beginning of each course or clerkship, the Curriculum Office provides students and clinical faculty with small group assignments as a routine part of the scheduling process. The Office will notify the students and faculty that they should report any potential conflict of interest with each other that might necessitate a change in small group

assignments. The type of conflict will generally not be disclosed, in the interest of privacy. The course administrator(s) will be instructed to facilitate such requests without inquiring as to the nature of the conflict of interest.

Regarding the psychiatry clerkship, information about potential teacher/physician dual relationship will be provided to the medical students on the first day. Students are told that if they have seen a clinician at the facility as a patient, they should notify the curriculum coordinator who will modify the schedule to avoid activities with the clinician in question, without alerting the site director as to the purpose of the schedule change.

### Religious Observance (Adapted from the FAU Policy)

The College of Medicine recognizes that students, faculty and staff observe a variety of religious faiths and practices. Although many religious holidays are observed with time off, a few of the religious days of observance may be part of the academic calendar. The College respects the religious beliefs and practices of its students and seeks to accommodate them within the requirements of the academic schedule. As a result, a student who must be absent from a class requirement will not be penalized. Students who anticipate absence should notify the OSA and the supervising faculty in advance. The instructor will provide a reasonable opportunity to make up such excused absences. Any student who feels aggrieved regarding religious accommodations may present a grievance to the Director of Equal Opportunity Programs. Any such grievances will follow Florida Atlantic University's established grievance procedure regarding alleged discrimination. The College will follow the established FAU policy regarding absences due to personal observances of religious holidays.

To review the policy, access the Leave of Absence Policy: [http://www.fau.edu/policies/files/PM76\\_OCR.pdf](http://www.fau.edu/policies/files/PM76_OCR.pdf)

### Disability Support Services

In compliance with the Americans with Disabilities Act (ADA), students who require special accommodations due to a disability to properly execute coursework must register with the Office for Students with Disabilities (OSD) located in Boca Raton – SU133 (561-297-3880 and follow all OSD procedures.

### Honor Code

Students at Florida Atlantic University are expected to maintain the highest ethical standards.

Academic dishonesty, including cheating and plagiarism, 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.

Harsh penalties are associated with academic dishonesty. For more information, see:

1. *The Policy on Academic, Professional and Behavioral Requirements and Standards governing the College of Medicine*
2. *Oath of Academic and Professional Conduct for Students in the College of Medicine*
3. <http://www.fau.edu/regulations/chapter4/4.001> Honor Code.pdf.

## **REQUIRED TEXT/READINGS**

Title	Author(s)	Publisher
Basic and Clinical Pharmacology 11th edition (2009)	Katzung	McGraw-Hill Companies
Lippincott's Illustrated Reviews 4th Edition, 5th Edition (2010)	Champe, Harvey and Ferrier,	Lippincott Williams and Wilkins
Medical Microbiology 6th Edition; Chapter 19, 22, 23 and 31	Murray, Rosenthal, Kobayashi & Pfaller	Elsevier
The Immune System 3rd Edition: Chapters 1-3, 6-9	Parham	Garland Science
Genetics and Medicine, 7th Edition; Chapter 5, p. 56-57 Chapter 7, p. 106	Thompson & Thompson	Saunders
Robbins & Cotran Pathologic Basis of Disease; 8th Edition (2010)	Kumar, Abbas and Fausto	Saunders
Medical Physiology; 2nd Edition (2008)	Boron and Boulpaep	Elsevier
Essential Clinical Anatomy; 4th Edition (2010)	Moore, Agur and Dalley	Lippincott Williams and Wilkins
Histology: A Text and Atlas; 6th Edition (2010)	Ross and Pawlina	Lippincott Williams and Wilkins

## **INSTRUCTORS INFORMATION**

Dr. Ana Maria Azzarolo, Rm 337, 7-0207, [aazzarol@fau.edu](mailto:aazzarol@fau.edu)  
Dr. Lawrence Brickman, Rm RP 112, 7-4336, [brickmal@fau.edu](mailto:brickmal@fau.edu)  
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Dr. Vijaya Iragavarapu, Rm 309, 7-3304, [iragavar@fau.edu](mailto:iragavar@fau.edu)  
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## **PBL FACILITATORS INFORMATION**

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