

FLORIDA ATLANTIC UNIVERSITY™

Graduate Programs—NEW COURSE PROPOSAL¹

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

DEPARTMENT: BIOMEDICAL SCIENCE

COLLEGE: COLLEGE OF MEDICINE

RECOMMENDED COURSE IDENTIFICATION:

PREFIX PCB COURSE NUMBER 6063 LAB CODE (L or C) No Lab

(TO OBTAIN A COURSE NUMBER, CONTACT [MJENNING@FAU.EDU](mailto:mjenning@fau.edu))

COMPLETE COURSE TITLE: ADVANCED MOLECULAR AND CELLULAR BIOLOGY

EFFECTIVE DATE

(FIRST TERM COURSE WILL BE OFFERED)

SPRING 2015

CREDITS²: 3

TEXTBOOK INFORMATION: Molecular Biology of the Cell, Fifth Edition: The Problems Book
 By Bruce Alberts, Alexander Johnson, Julian Lewis, Martin Raff, Keith Roberts,
 Peter Walter

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

COURSE DESCRIPTION, NO MORE THAN THREE LINES: MCB is a course designed to provide students with a basic background and advanced topics in cell and molecular biology. Emphasis will be placed on human physiology and disease. Although some review level introductory information will be presented, this is a graduate course and it is strongly recommended that students complete undergraduate Organic Chemistry, Cell Biology, and Biochemistry as prerequisites for this course.

PREREQUISITES*:

ORGANIC CHEMISTRY 1
 CELL BIOLOGY
 BIOCHEMISTRY

COREQUISITES*:

REGISTRATION CONTROLS (MAJOR, COLLEGE, LEVEL)*:

INSTRUCTOR PERMISSION REQUIRED

* PREREQUISITES, COREQUISITES AND REGISTRATION CONTROLS WILL BE ENFORCED FOR ALL COURSE SECTIONS.

MINIMUM QUALIFICATIONS NEEDED TO TEACH THIS COURSE: BIOMEDICAL FACULTY OR COM FACULTY

Faculty contact, email and complete phone number:

Dr. Andrew Oleinikov
aoleinikov@fau.edu
 561-297-4424

Please consult and list departments that might be affected by the new course and attach comments.³
 None

Approved by:

Department Chair: [Signature]
 College Curriculum Chair: [Signature]
 College Dean: [Signature]
 UGPC Chair: _____
 Graduate College Dean: _____
 UFS President: _____
 Provost: _____

Date:

8/26/14

8/27/14

1. Syllabus must be attached; see guidelines for requirements: www.fau.edu/provost/files/course_syllabus.2011.pdf
2. Review Provost Memorandum: **Definition of a Credit Hour** www.fau.edu/provost/files/Definition_Credit_Hour_Memo_2012.pdf
3. Consent from affected departments (attach if necessary)

Email this form and syllabus to 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.

ADVANCED MOLECULAR AND CELLULAR BIOLOGY-SPRING 2015

Course # PCB ⁶⁰⁶³ (~~TBD~~) - 3 credits
Course Registration: Instructor Permission
Course hour: T R 11- 12:20 (to be confirmed)
Place: TBD
Course Pre-requisites: Organic Chemistry 1
Cell Biology
Biochemistry

Course Instructor: Dr. Andrew Oleinikov
Office 310, Lab 305
297-4424 office /297-0201 lab
Office hours-Fridays 2-4:30 or by appointment

Required Textbook: Molecular Biology of the Cell, Fifth Edition: The Problems Book

By Bruce Alberts, Alexander Johnson, Julian Lewis, Martin Raff,
Keith Roberts, Peter Walter

Course Description:

MCB is a course designed to provide students with a basic background and advanced topics in cell and molecular biology. Emphasis will be placed on human physiology and disease. Although some review level introductory information will be presented, this is a graduate course and it is strongly recommended that students complete undergraduate Organic Chemistry, Cell Biology, and Biochemistry as prerequisites for this course. Students will be expected to give group presentations on topics presented in the course. Students will each prepare and submit 2 exams questions for their presentations. Students will be evaluated based on their cumulative performance on one mid-term and one final exam. Exams will be cumulative and will include material and questions presented by students. Slides used in lectures will be posted after the lectures are presented on blackboard. Attendance is not mandatory but students are responsible for knowing all information presented during lecture exceeding the information on posted slides. The instructor reserves the right to alter the schedule or content of the course at anytime.

Course Objectives:

1. Understanding physical-chemical basis of biological processes and cell functioning
2. Understanding effects of evolutionary forces on shaping molecular and cellular processes
3. Developing ability to work with current scientific literature, to simplify complex problems to basic components, and to relate knowledge of molecular biological processes to pathological states

Course Schedule:

January 2015

Tuesday 6 th :	Intro to the Course
Thursday 8 th :	Cells, Genes, and Information
Tuesday 13 th :	DNA Structure and Function
Thursday 15 th :	Cellular Genomes and Nuclear Structure
Tuesday 20 th :	Cellular and DNA Replication
Thursday 22 nd :	DNA Repair and Mutagenesis
Tuesday 27 th :	RNA Synthesis
Thursday 29 th :	RNA processing

February 2015

Tuesday 3 rd :	Regulation of Prokaryotic Gene Expression
Thursday 5 th :	Regulation of Eukaryotic Gene Expression
Tuesday 10 th :	Synthesis and Transport of Proteins
Thursday 12 th :	Exam Preparation Day

February 16-20: MIDTERM EXAM 1

Tuesday 17 th :	Technology II
Thursday 19 th :	Exam Preparation Day
Tuesday 24 th :	Technology 1
Thursday 26 th :	Technology 2

March 2015

Tuesday 3 rd :	SPRING BREAK
Thursday 5 th :	SPRING BREAK
Tuesday 10 th :	Cell Membrane Structure and Function
Thursday 12 th :	Cell Organization and Function
Tuesday 17 th :	Signal Transduction
Thursday 19 th :	Cell Biology of Cancer
Tuesday 24 th :	Cell Biology of Immunity

April 2015

Thursday 2 nd :	STUDENT PRESENTATIONS
Tuesday 7 th :	STUDENT PRESENTATIONS
Thursday 9 th :	STUDENT PRESENTATIONS
Tuesday 14 th :	STUDENT PRESENTATIONS
Thursday 16 th :	Exam Preparation Day
Tuesday 21 st :	In Class Review

APRIL 23-29: FINAL EXAM

Grading:

Student presentation:	10%
Midterm Exam:	40%
Final Exams:	50%

Supplemental Readings: Additional Research articles will be used in class as well as material from Dr. Pollack's book "Cells, gels, and the engines of life".

Course Policies: Makeup tests and late work are not allowed unless an approved physical problem or schedule conflicting with University-approved activities

Classroom etiquette: Please refer to the FAU Catalog and Student Handbook. Compliance with university rules and regulations is expected of all students.

Academic Honor Code: 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.

Students With Disabilities: In compliance with the American 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) – in Boca Raton, SU 133 ([561-297-3880](tel:561-297-3880)); in Davie, MOD 1 ([954-236-1222](tel:954-236-1222)); in Jupiter, SR 117 ([561-799-8585](tel:561-799-8585)); or at the Treasure Coast, CO 128 ([772-873-3305](tel:772-873-3305)) – and follow all OSD procedures.