### Graduate Programs—NEW COURSE PROPOSAL

**Department Name:** Basic Science  
**College Of:** Charles E. Schmidt College of Biomedical Science

**Recommended Course Identification:**  
Prefix PCB  
Course Number 6238  
Lab Code (L or C) ___  
*(To obtain a course number, contact erudolph@fau.edu)*

**Complete Course Title:** Problem-based Immunology

**Effective Date:**  
(first term course will be offered) Summer 2010

**Credits:** 3  
**Textbook Information:**  
- *Immunology for Medical Students* by Foderick Naim and Matthew Helbert. Mosby Elsevier  
  ISBN 13 978-0-323-04331-1 - Required  
- *The Immune System* by Peter Parham. Garland Science SBN 978-0-8153-4146-8 - Recommended

**Grading (Select Only One Grading Option):** Regular X  
Pass/Fail  
Satisfactory/Unsatisfactory

**Course Description, No More Than 3 Lines:** This course provides an up-to-date understanding of basic science of immunology and how that science applies to the realities of patient care. The fundamental mechanisms of immunity are illustrated by cases of genetic defects in the immune system, immune complex diseases, immune mediated hyper sensitivity reactions and autoimmune and alloimmune diseases.

**Prerequisites With/Minimum Grade:**  
PCB 4233 or equivalent  
Minimum grade: B-

**Corequisites:**

**Other Registration Controls (Major, College, Level):**  
Graduate Students Only

**Minimum Qualifications Needed To Teach This Course:**  
Ph.D.

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.  
Department of Biology

Mahyar Nouri-Shirazi, Ph.D., mnourish@fau.edu, tel: 297-0935  
Faculty Contact, Email, Complete Phone Number

### Signatures

**Approved by:**

**Department Chair:**

**College Curriculum Chair:**

**College Dean:**

**UGPC Chair:**

**Dean of the Graduate College:**

**Date:** 3/16/10  
3/16/10  
3/16/10

**Supporting Materials**

- **Syllabus**—must include all details as shown in the UGPC Guidelines.  
- **Written Consent**—required from all departments affected.  
  Go to: [http://graduate.fau.edu/ugpc/](http://graduate.fau.edu/ugpc/) to download this form and guidelines to fill out the form.

**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.

*FAUnewcrseGrad—Revised January 2010*
Problem-Based Immunology (PBI)

Course Number: PCB 6238

Prerequisites: PCB 4233

Corequisites: None

Course Director: Mahyar Nouri-Shirazi, D.V.M., Ph.D.

Room number: 326  Office Phone: (561)-297-0935

Email address: Mahyar.shirazi@fau.edu

Office hours: After the lecture hours on Thursdays

Lecture hours: Tuesdays and Thursdays, 9:00 AM – 12:10 PM

Lecture room: 130

Textbooks:


Note: It is advised that all students read the first section (Introduction) of the textbook prior to the first lecture. This is especially important for students who have not recently had a formal course in immunology.

Bibliography:

TEXTBOOKS


REVIEW ARTICLES

Topic 1: Immunodeficiency Disorders


Topic 2: Tumor Immunology


Topic 3: Hypersensitivity


Topic 4: Autoimmunity


**Topic 5: Transplantation**


**Topic 6: Immunization**


**Course Description:** In this course, the fundamental mechanisms of immunity are illustrated by cases of genetic defects in the immune system, immune complex diseases, immune mediated hypersensitivity reactions and autoimmune and alloimmune diseases. The clinical cases for this course are chosen for two purposes: 1) to illustrate in a clinical context essential points about the mechanisms of immunity; and 2) to describe and explain some of the immunological problems often seen in the clinic. The course is a three-credit course.

**Method of Instruction:** Each case is presented in the following format. The case history is preceded by basic scientific facts that are needed to understand the case history (Introduction). The case history is followed by a summary of the disease under study (Clinical Case). The clinical case is followed by several questions and discussion points to identify the learning objectives of the case (Group Discussion). Finally students
are assigned to report on the lessons learned from the case to the group (Group presentation).

**Course Objectives:** The study of immunology provides a rare opportunity in medicine to relate the findings of basic scientific investigation to clinical problems. The overall objective of the course is to supply the graduate students who are pursuing the Master’s Degree in Biomedical Science and the Ph.D. in Integrative Biology programs with an up-to-date understanding of basic science of immunology and how that science applies to the realities of patient care.

By the end of the course in Problem-based Immunology, each student will be able to:

- Explain the immunodeficiency disorders in terms of whether they are inherited (primary) or acquired (secondary), and whether they affect the innate immune system or the adaptive immune system.
- Explain the immediate reactivity (type I) brought about by signaling following direct cross-linking of IgE on the cell surface to the more subtle reactions that follow the development of sustained T cell mediated immunity (type IV).
- Describe the most important characteristics of the mature immune system, the capacity for self vs. non-self discrimination.
- Describe the important role for the immune system in response to autologous tumors and explain major advances in our understanding of how to manipulate the immune system in patients with cancer.
- Explain the major problems associated with transplantation medicine and how we can manipulate the immune system to accept a foreign graft as self.
- Describe the current concepts in immunization and recognize our growing need to develop vaccines for the so-called emerging infectious diseases.
- Describe the genetic and environmental factors that govern changes in immune cells and tissues and recognize the salient features of abnormal immune cells.
- Demonstrate knowledge of the etiology, pathogenesis, diagnosis and therapy of diseases such as immunodeficiency disorders, autoimmunity, transplantation, cancer, and allergy.
- Interpret medical measures of health status in the context of clinical cases.
- Demonstrate an ability to utilize knowledge of immunology to solve clinically-based problems.
- Develop a vocabulary with which to communicate the knowledge of immunology to other professionals as well as the lay public.

**Tentative Class Schedule:**
Topic 1: Immunodeficiency Disorders
Jun 29: Introduction / Clinical Case 1 / Group Discussion / Group Assignment
Jul 01: Group presentation / Summary

Topic 2: Tumor Immunology
Jul 06: Introduction / Clinical Case 2 / Group Discussion / Group Assignment
Jul 08: Group presentation / Summary

Topic 3: Hypersensitivity
Jul 13: Introduction / Clinical Case 3 / Group Discussion / Group Assignment
Jul 15: Group presentation / Summary

Topic 4: Autoimmunity
Jul 20: Introduction / Clinical Case 4 / Group Discussion / Group Assignment
Jul 22: Group presentation / Summary

Topic 5: Transplantation
Jul 27: Introduction / Clinical Case 5 / Group Discussion / Group Assignment
Jul 29: Group presentation / Summary

Topic 6: Immunization
Aug 03: Introduction / Clinical Case 6 / Group Discussion / Summary
Aug 05: Exam

Course policies:

Lecture attendance is mandatory. Students are expected to be present at the start of each lecture. Missing classes will be detrimental to student’s grade.

Any student who fails to show up on the exam date without prior notice and excuse will be given an F grade.

There will be no make up exam for the course. However, students missing exam for legitimate reasons should schedule a make up exam within 3 working days after the examination by contacting the course director.

Assessment procedures:
Quizzes will be given in class during group discussion sessions to allow students to interact with each other and demonstrate an ability to interpret and apply basic information to a clinical problem.

There will be one exam consisting of multiple choice questions (covering clinical cases) and short essays (covering major principles and concepts) on the date indicated below.

Attendance, fund of knowledge, group presentation and professionalism in the lecture will be used to decide final grades. The final grade will be determined according to the grade range A through F given below.

**Grading criteria:**

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<thead>
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<td>84-87</td>
<td>B+</td>
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<td>80-83</td>
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<td>&lt;65</td>
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**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); in Davie, MOD 1 (954-236-1222); in Jupiter, SR 117 (561-799-8585); or at the Treasure Coast, CO 128 (772-873-3305) – and follow all OSD procedures.
Good morning,

I circulated the syllabi for the new courses listed in your e-mail (see below) to the faculty who could make comments. I did not receive any responses that raised questions or noted a significant overlap with any of our graduate courses. Please let me know if you have any questions.

I hope this is helpful and good luck with the remainder of the process toward approval of the courses.

Regards,
David

David M. Binninger, Ph.D.
Associate Professor and Associate Chair
Department of Biological Science
and
Center for Molecular Biology and Biotechnology
Florida Atlantic University
777 Glades Road
Boca Raton, FL 33431 USA
Phone: (561) 297-3323
FAX: (561) 297-2749

Begin forwarded message:

From: Julie Sivigny <jsivigny@fau.edu>
Date: March 15, 2010 1:38:27 PM EDT
To: 'David Binninger' <binninge@fau.edu>
Subject: Biomedical Science New Course Proposals

Dear Dr. Binninger,
Thank you for your assistance with this process. We are submitting a total of 10 new course proposals and 2 changes. All syllabi were forwarded to Dr. Murphey but in multiple batches so if you are missing any please let me know and I'll send to you immediately.

Biomedical Science New Course Proposals:
Host Defense & Inflammation – Dr. Yoshimi Shibata
Molecular Neuropsychopharmacology – Drs. Isgor and Tao
Macromolecules and Human Disease – Drs. Brew and Li
Adult Neurogenesis – Dr. Jianing Wei
Molecular Basis of Disease & Therapy – Dr. Caputl
Tumor Immunology – Dr. Vijaya Iragavarapu
Molecular Genetics of the Cell – Dr. Kantorow
Molecular Basis of Human Cancer – Dr. Lu
Problem-based Immunology – Dr. Nouri-Shirazi
Fundamentals of General Pathology – Dr. Levitt

The integrated morphology courses will be processed as changes. We previously offered two 3-credit courses: Human Gross Anatomy – Trunk and Human Gross Anatomy – Extremities. We are changing these to 4-credit courses with the titles Integrated Morphology I and II taught by Drs. Willis Paull, Rainald Shmidt-Kastner and Deborah Cunningham.

The graduate college submission deadline is Wednesday March 17th at noon. I apologize for the lateness of some of these requests and appreciate your effort to assist us.

Please let me know if I can provide any additional information.
Thank you.
Julie

Julie A. Sivigny
Academic Program Specialist
Charles E. Schmidt College of Biomedical Science
Florida Atlantic University
(561) 297-2216

From: David Binninger [mailto:binninge@fau.edu]
Sent: Monday, March 15, 2010 11:16 AM
To: Julie Sivigny
Cc: Rodney Murphey; Jay Lyons
Subject: Fwd: Biomedical Science New Course Proposal - Macromolecules & Human Disease

Good morning Julie,

I forwarded the syllabi for the new courses to the appropriate faculty last week. It's my opinion that there will not be any issues or conflicts. So far, I have had only one response and that was that there were no concerns. Please confirm the full list of new courses and when you need a statement from me.

I hope this is helpful and please let me know if you have any questions.

Regards,
David

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3/17/2010