Individuals with disabilities who need to request accommodations should contact the Disability Services Coordinator, Student Center 214, 978-466-5445, disabilityservices@mail.clayton.edu.

Course Description

BIOL 4450 (CRN 50409) - Immunology - 3.0 semester credit hours. This course will include a comprehensive overview of the immune system and its functions within the context of cell to cell interaction and communication.

Prerequisites:
Biol 3200 or Biol 3250 with a minimum US grade of D

Notebook Computer Requirement:
Each CSU student is required to have ready access throughout the semester to a notebook computer that meets faculty-approved hardware and software requirements for the student's academic program. Students will sign a statement attesting to such access. For further information on CSU's Official Notebook Computer Policy, please go to http://itpchoice.clayton.edu/policy.htm.

Computer Skill Prerequisites:
• Able to use the WindowsTM operating system.
• Able to use the Microsoft WordTM word processing program.
• Able to send and receive e-mail using the OutlookTM or Outlook ExpressTM program.
• Able to use a Web browser.

In-class Use of Student Notebook Computers:
Student notebook computers will be used in this class. We may have some in class projects when you will be required to bring your computer to class. In addition, computers will be required to access course materials, to
communicate with your instructor and to access science articles in the literature relating to immunology. At other times, you will not be allowed to use your computers (see below).

The instructor will post extra materials for the class on DESIRE2LEARN.

**Course Objectives:**
- To develop an awareness of experimental design and scientific method.
- To acquire a working vocabulary in immunology.
- To understand and discuss the development and evolution of the immune system.
- To gain an understanding of the key cells involved in the immune response.
- To understand the relationship of antigen, antibody, and antigen receptor molecules.
- To gain a basic knowledge of the generation of diversity involved in antibodies and T-cell antigen receptors.
- To distinguish and understand the humoral and cell-mediated immune responses.
- To gain a basic understanding of the current theories on the regulation of the immune response.
- To discuss the host's ability to mount an immune response to invading microorganisms.
- To gain a basic understanding of tumor immunology, immunodeficiency, autoimmunity, hypersensitivities, and transplantation rejection.

**Student Learning Outcomes:**

- Knowledge of the basic principles of major fields of biology particularly as they relate to the immune system.
- Mastery of a broad range of basic lab skills applicable to biology.
- Knowledge of physical science, mathematics, and statistics required to support an understanding of biology.
- Ability to communicate orally and in writing in a clear, concise manner.
- Ability to collect, evaluate and interpret scientific data, and employ critical thinking to solve problems in biological science and supporting fields.
- Ability to function effectively on team-oriented projects.
- Appreciation for the impact of biological science on the environment and society.

TEACHER EDUCATION STANDARDS:

The mission of the Teacher Education Unit is to prepare professional educators who engage in reflective practice and who are competent, caring, committed, collaborative, culturally responsive, and prepared to teach diverse learners in an ever-changing society.

The content of this course syllabus correlates to education standards established by national and state education governing agencies, accrediting agencies and learned society/professional education associations. Please refer to the course correlation matrices located at the following web site: http://www.clayton.edu/teachered/standardsoutcomes

Instructor Information:

Section 1
Dr. Fran Norflus (CRN 50409)
Office: NBS, Room 153
Phone: (678) 466-4852
email: Fnorflus@clayton.edu
Internet address: http://faculty.clayton.edu/fnorflus/
Office Hours:
Mondays: 5:00 PM – 5:45 PM
Wednesday: 5:00 PM – 5:45 PM

Office hours will be held in NBS 153 or NBS 138A

Class Meetings:
Days: Mondays and Wednesdays
Times: 6:00 PM – 8:20 PM
Room: Lab 107
Instructor: Dr. Norflus
**Textbook Information:**
**Required:**

You will also need access to the ImmunoPortal. NOTE: The code for the IMMUNOPORTAL accompanies the book or purchase the e-book/BIOPORTAL from the link below. (WH Freeman Web site)


The online portion of our course is open for student registration. Follow these steps to get started. If you need additional guidance, consult the student [Get Started guide](http://courses.bfwpub.com/immunology7e.php), especially the [system requirements](http://courses.bfwpub.com/immunology7e.php) which list the recommended browsers.

To register for the course go to:


PLEASE bookmark the page to make it easy to return to.

You have three options to enroll in the course: you can purchase direct access, you can buy an access code, or you can get free 21 day access while deciding. [Your registration options are explained here](http://courses.bfwpub.com/immunology7e.php).

To navigate and start using LaunchPad please consult the [Get Started guide](http://courses.bfwpub.com/immunology7e.php) and/or [view this video](http://courses.bfwpub.com/immunology7e.php).

If you have problems registering, purchasing, or logging in, please contact Customer Support. You can reach a representative 24 hours a day, 7 days a week:

- through the [online form](http://courses.bfwpub.com/immunology7e.php)
- by [chat](http://courses.bfwpub.com/immunology7e.php)

Or from 9 a.m. to 3 a.m. EST, 7 days a week:

- by phone at (800) 936-6899
**Recommended:**

**Evaluation:**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>POINTS</th>
<th>% OF FINAL GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>100 points</td>
<td>25 %</td>
</tr>
<tr>
<td>Case study assignment 1 questions</td>
<td>50 points</td>
<td>12.5 %</td>
</tr>
<tr>
<td>Case study assignment 2 questions</td>
<td>50 points</td>
<td>12.5 %</td>
</tr>
<tr>
<td>Creative activity</td>
<td>50 points</td>
<td>12.5 %</td>
</tr>
<tr>
<td>Immunoportal/Learning Curves</td>
<td>50 points</td>
<td>12.5 %</td>
</tr>
<tr>
<td>Cumulative final exam</td>
<td>100 points</td>
<td>25 %</td>
</tr>
</tbody>
</table>

There will be a midterm examinations in this class. There will also be a cumulative final examination. Each will be worth 100 points.

There will Case study presentations given by graduate students and you will be required to answer questions based on these case studies at two different times. These questions will be posted in D2L, one week before they are due. Once you open the questions, you have two hours to complete them.

This class also involves one week where we will do a Western Blot in the laboratory. There are no points assigned for attendance but if you are not in class, there will be no other time for you to learn how to do this lab procedure.

**Creative Project**

There are a number of different ways you can complete this assignment.

a. Would you have presented a topic in a different way?
   Design a lesson that could be taught in an immunology class. Submit either a PowerPoint (which is different from Dr. Norflus’ and the textbook or website) or an interactive lesson. If you use a PowerPoint, it must have at least 10 slides. If your design is not very different from Dr. Norflus’ you might want to pick a different topic from what
was covered in class.

b. Design a BROCHURE on a disease relating to immunologic disease that might be read in a doctor’s office. This assignment should be 2-4 pages.
1. Find two articles relating to the topic from scientific journals (either review articles or primary literature) – 10 points.
2. Cite your references within the text – 12 points
3. Include a title – 6 points
4. Include introduction and background information such as what has the current research discovered and what parts of the body are affected – 12 points
5. How does someone become infected and how does the disease spread? – 12 points
6. What are symptoms of the disease? – 12 points
7. How does someone get diagnosed? – 12 points
8. What are treatment options? – 12 points
9. List your references at the end – 12 points.

*You may include pictures from the Internet but you must state where you found the pictures.

c. Find 20 web sites that have animations or videos on some relevant topic in immunology. Discuss how you would use each of these animations in a class. (2 points for each web site and discussion)

Immunoportal

You will need to complete the learning curve questions in the immunoportal. These are adaptive questions so that they become more difficult with each one that you answer. If you answer questions correctly the first time, you will finish sooner but if you continue to answer the questions until you get the 600 points assigned by the system, you will get full credit. I will give you 10 points for each chapter that you complete these questions.
All learning curve questions will need to be submitted by the due date which is Friday 11:55 PM of the week that it is due. This is a firm due date. No late assignments will be accepted. There is a lot of detail in the textbook and we will not go over all of the topics in class so you will have to carefully read the chapter to answer all of the questions or concentrate on the answers for the questions that you got incorrect. The questions will repeat themselves.

There will be 6 learning curve assignments. I will drop the lowest grade.

THERE WILL BE NO EXTRA CREDIT OFFERED IN THIS CLASS.

If you are not a good test taker, then spend extra time on the creative project and learning curves to help with your test scores.

Grading:

Your final grade will be determined as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90 - 100%</td>
</tr>
<tr>
<td>B</td>
<td>80 - 89%</td>
</tr>
<tr>
<td>C</td>
<td>70 - 79%</td>
</tr>
<tr>
<td>D</td>
<td>60 - 69%</td>
</tr>
<tr>
<td>F</td>
<td>below 60%</td>
</tr>
</tbody>
</table>

Mid-term Progress Report
The mid-term grade in this course will be issued by Friday, June 25, 2015. Based on this grade, students may choose to withdraw from the course and receive a grade of "W." Students pursuing this option must fill out an official withdrawal form, available in the Office of the Registrar, by mid-term, before June 25, 2015.

The Course Schedule will be posted on a separate page.

Consult your Desire2Learn page for any notes on the material or modifications of the course schedule. Because this class has not been taught before, there may be modifications to this schedule.

Course Policies:
Students must abide by policies in the Clayton State University Student Handbook, and the Basic Undergraduate Student Responsibilities

University Attendance Policy

Students are expected to attend and participate in every class meeting. Instructors establish specific policies relating to absences in their courses and communicate these policies to the students through the course syllabi. Individual instructors, based upon the nature of the course, determine what effect excused and unexcused absences have in determining grades and upon students’ ability to remain enrolled in their courses. The university reserves the right to determine that excessive absences, whether justified or not, are sufficient cause for institutional withdrawals or failing grade.

Course Attendance Policy

Attendance is expected for all class periods. Attendance is required for presentations and examination periods. Any absence must be accompanied by a written, typed excuse from a doctor or other competent authority.

Missed exams or assignments

Absences from EXAMS must be accompanied by a signed physician's or judge's excuse (there are no exceptions). Without an excuse provided within one week, a grade of zero points will be assigned for the missed exam. If the student does have a valid excuse the final exam will be doubled to make up for the missed exam. If the final exam has been missed, a makeup will be administered. A student may not miss more than one exam.

The creative project and learning curve assignments are due ON TIME. There is no late policy because if it is submitted late, a grade of 0 will be assigned. If you have an extraordinary issue, please discuss it with Dr. Norflus and you may be able to submit the assignment late. You will need to provide official documentation within one week of the missed assignment. Work and going on vacation are not considered legitimate excuses. These assignments are posted at the beginning of the semester so there is no reason to submit them late.

Other policies
Visitors (friends, children, etc.) are strictly prohibited from attending class without the permission of the instructor.

No smoking, eating or drinking is permitted at any time in the classroom.

Students may not use laptop computers for anything other than note taking during class. Students using laptop computers for anything else (including, but not limited to, instant messaging, sending or receiving email, playing games, or surfing the internet) will be asked to leave the class. Computers may not be used in class during any of the presentations.

**No form of disruptive behavior will be tolerated in this class.** While a variety of behaviors can be disruptive in a classroom setting, more serious examples include belligerent, abusive, profane, and/or threatening behavior. A student who fails to respond to reasonable faculty direction regarding classroom behavior and/or is found to be repeatedly disruptive while participating in classroom activities may be dismissed from class. A student who is dismissed is entitled to due process and will be afforded such rights as soon as possible following dismissal. If found in violation, a student may be administratively withdrawn and may receive a grade of WF. For more information, please refer to: [http://www.clayton.edu/Portals/5/DisruptiveClassroomBehavior.pdf](http://www.clayton.edu/Portals/5/DisruptiveClassroomBehavior.pdf)

Regular and punctual attendance is highly recommended. We will be covering material in class that may not be found in the textbook. Announcements concerning changes in test dates, and assignment due dates will be made during class. If you must be absent due to illness or other unforeseeable event, you are still responsible for any and all information given during class. This may include changes in test dates, assignment due dates, and the syllabus. If the instructor gives out any handouts during a class that you missed, you must contact ANOTHER STUDENT to get this information. The instructor will not be carrying around extra copies waiting for you to return to class.

Exams will generally be given at the start of class. You are expected to be in class at the beginning of the period. It is very disruptive of your other students if you show up late.

No form of academic dishonesty will be tolerated in this class. Any type of activity that is considered dishonest by reasonable standards may constitute academic misconduct. The most common forms of academic misconduct are
cheating and plagiarism. All instances of academic dishonesty will result in a MINIMUM penalty of a grade of zero for the work involved. All instances of academic dishonesty will be reported to the Office of Student Life/Judicial Affairs. Judicial procedures are described at http://adminservices.clayton.edu/judicial/.

**Writing Assistance**

The Writers’ Studio 224 is located in the A&S building, room 224. There you can talk with trained writing consultants about your writing projects. They are available to work with you at any stage of your paper, from generating ideas to organizing your paper to understanding how to format it correctly. The service is free; you may drop in and wait for a consultant or sign up for a regular appointment. But remember: you, not your consultant, are ultimately responsible for the quality and content of the papers you submit.

Aside from meeting with consultants one-with-one, you can also participate in consultant-led writing workshops. In these workshops, consultants will guide you in discussions and activities important to academic writing topics. Consultants and student-writers will collaborate on ways to apply writing concepts and strategies to specific writing situations. You will be identify, analyze, integrate, and synthesize writing principles through a series of writing exercises. Remember that we are here to collaborate with you as you develop your own experiences as a student-writer.

http://www.clayton.edu/arts-sciences/english/writersstudio

Last update: 05/16/15