



Immunology

INDIAN RIVER STATE COLLEGE COURSE SYLLABUS

COURSE NUMBER: PCB 4233

Online, Summer 2022

Week of	TENTATIVE SCHEDULE - subject to change!!!	Reading
May 4 th	Overview of Immune System	Ch. 1
May 9 th	Cell and Organs, Recognition and Response	Ch. 2, 3
May 16 th	Innate Immunity, Complement	Ch. 4, 5
	UNIT 1 EXAM I (Ch 1-5), May 18th - 20th	
May 23 rd	May 24th - paper topic and 2 primary sources due Organization and Expression of Ig Genes	Ch. 6
May 30 th	MHC, B Cell Development	Ch. 7, 8
June 6 th	T Cell Development, T and B Cell Activation	Ch. 9, 10, 11
June 13 th	EXAM II - MIDTERM (Ch 1-11), June 15th - 17th Effector Responses	Ch. 12
June 20 th	Barrier Immunity, Immune Responses in Space and Time	Ch. 13, 14
June 27 th	Hypersensitivity Reactions	Ch. 15
July 4 th	UNIT 3 Exam III (Ch 12,13,14,15), July 6th - 8th Autoimmunity and Transplants	Ch. 16
July 11 th	Immunodeficiency Final Paper Due - July 11th	Ch. 18
July 18 th	Cancer, Experimental Systems	Ch. 19, 20
July 25 th	Final Exam (UNITS 3 and 4) - July 25th - 28th	

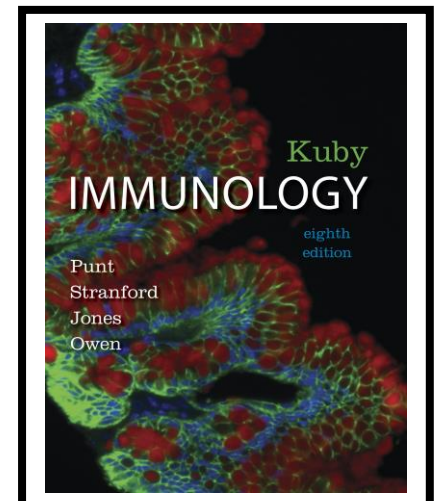
INSTRUCTOR: Dr. Jennifer Capers
OFFICE: N-114, Main Campus (we are working remotely at the moment)

PHONE: 772.462.7556
EMAIL: jcapers@irsc.edu

TEXT: *Kuby Immunology*, 8th edition, Kindt&Goldsby&Osborne

COMPANION WEBSITES: Blackboard course website
www.jcapers-irsc.weebly.com

COURSE DESCRIPTION: This course examines the tissues, cells, and biochemical components of the immune system and the role of immune responses in diagnosis and prevention of disease.



My name is Dr. Capers and I will be your instructor for the semester. I have a passion for science and am a full science nerd ☺ I earned my Bachelor Degree in Biology from Central Michigan University (I'm originally from Michigan). I earned my PhD in Biology (emphasis marine studies and immunology) from the University of Southern Mississippi. My husband and I moved from Mississippi to Florida in 2006 and we now have 2 wonderful children, Ella and Jameson. I have been an instructor at IRSC since 2008. I truly hope you enjoy this class. I am here to help you in any way. However, I will be honest and tell you that it will take a lot of work on your part - this class has a lot of information and taking it online will require a lot of time. But it can be done and students are successful when they put in the time and the work ☺



ACADEMIC HONESTY STATEMENT

As we all know, the Covid 19 pandemic brought about more online courses and students are still choosing to take online courses. To maintain education rigor and integrity, it is important for you as a student to maintain academic honesty. It is important for you to do the work for the course (not someone else) and for you to study beforehand for an exam, not Google answers. Why? - Because you are taking this course for a reason - to learn! You need the knowledge to succeed in other courses, to take certifying exams, etc. Knowledge is power! A quality education can change your life and the lives of those around you. You must approach online learning with the same rigor and work as face-to-face classes. Otherwise, it will hurt you in the end. So please keep the following in mind:

- YOU must be the one to complete all assignments and exams (no friends, no family member, no paying anyone). All assignments should be your work.
- You should take all exams as if an instructor is standing in front of you.

Cheating, including plagiarism, of ANY kind will not be tolerated by this department. Any student caught cheating will receive an immediate F on the assignment and possibly in the course (no withdrawal allowed).

It is your responsibility to maintain a secure and honest environment while you are taking an exam. Your instructor will randomly be checking Honorlock recordings, even if your recording is not flagged for possible violations (your instructor has until final grades to observe Honorlock recordings and change the grade if necessary). If I observe that you did not maintain a secure environment, it could result in deducted points (possibly a zero on the exam). Examples of NOT maintaining a secure and honest test environment include but are not limited to:

- Taking the exam anywhere other than a cleared off table/desk (i.e. do not take the exam in your bed).
- Not doing a proper room scan.
- Having your phone near you for any reason.
- Not showing your entire face during the exam (I must be able to see from your shoulder to your forehead).
- Reading the questions out loud.
- Constantly looking to the right, left, or down (your eyes should remain looking at the questions majority of the time).
- Taking the exam in poor lighting (I must be able to see your face and see your eyes).
- If you are wearing ear buds or head phones.

MASK POLICY STATEMENT

In order to maintain a safe environment for students, faculty, staff and the community during the Covid-19 pandemic, IRSC is abiding by CDC guidelines. If infection numbers are high in our area, please wear a mask.

GRADING - Total 640 points

EXAMS - There are 4 Units.

Exam 1 (100pts) - covers Unit 1 and will be taken on Blackboard.

Midterm (200pts) - covers Units 1 and 2 and will be proctored using Honorlock.

Exam 3 (100pts) - covers Unit 3 and will be taken on Blackboard.

Final (200pts) - covers Units 3 and 4 and will be proctored using Honorlock.

Midterm and Final:

- Proctored using Honorlock which is an online proctoring system (I will provide instructions).
- It will be important for you to study for all of the exams as if they were proctored so that you can be successful on the comprehensive final.
- You will need a computer with Wi-Fi, a camera, a microphone and you will need a valid government issued ID, no exceptions!!!

WORKSHEETS - 40 points, set of worksheets for each unit (due 4 days before the first day of the exam for that unit, no late work accepted!). Worksheets must be printed and answers must be hand written.

RESEARCH REVIEW PAPER - 100 points, A research paper is required and will have several deadlines to help maintain progress on the paper, as follows (paper grade cannot be dropped, either - only one of the unit exams):

- **Topic and two of five primary literature sources - Due May 24th**
- **Final Paper - Due July 11th**
- **There will be points removed from final paper for late submission for any of these dates.**

A handout will cover details of paper format and grading rubric. Missed deadlines will result in a five point deduction per day.

All exams will be taken at your home on Blackboard during the COVID-19 crisis. Exams will be timed and will have a mixture of multiple choice, matching, short answer and essay questions.

Grades will be posted in Blackboard. However, it is up to the student to keep up with his/her grades that were given for each exam/assignment. Mistakes or miscalculations can happen in Blackboard and might have to be modified during the semester due to Blackboard error or user error.

MAKE-UP POLICY

If an assignment or exam is missed, it can be taken late but there will be an automatic reduction in points.

WITHDRAW AND INCOMPLETES

Withdraw (W) - deadline is June 27th ; please come and see me BEFORE you withdraw.

Incomplete (I) - ONLY if you are passing but emergency prevents taking one exam.

EXTRA CREDIT

No extra credit is given. Students need to spend their time on required material.

ATTENDANCE

Students are expected to review all material and watch lectures in order to be successful in the course. Students are also required to keep up with due dates and turn in work on time.

LEARNING OUTCOMES FOR IMMUNOLOGY (PCB 4233)

1. Students will be able to identify/describe/draw the cells and organs of the immune system, as well as key molecules.
2. Students will be able to describe and evaluate how the immune system recognizes and responds to pathogens.
3. Students will be able to describe and identify key components of the innate immune system and evaluate how the innate and adaptive immune systems are linked in vertebrate animals.
4. Students will be able to explain the organization and expression of lymphocyte receptor genes.
5. Students will be able to describe the major histocompatibility complex and antigen presentation.
6. Students will be able to describe B and T cell development/activation/differentiation and analyze/evaluate data indicating stages of proper development.
7. Students will describe the effector responses of antibody and cell-mediated immunity.
8. Students will identify and describe immunological components of the mucosal areas of the body and skin.
9. Students will be able to describe and analyze/evaluate the causes and implications of immune dysfunction: hypersensitivities, chronic inflammation, autoimmunity and immunodeficiencies.
10. Students will be able to describe the immune system's role in preventing cancer and will investigate available immunotherapies used in the treatment of cancers.
11. Students will be able to describe the process of infectious disease and the function vaccines play in allowing the immune system to upregulate against the pathogen before exposure.
12. Students will be able to evaluate primary literature in the field of immunology and dissect this literature through written and oral discussions.

Assessment Plan for Learning Outcomes - Immunology

Course Assessment	LO1	LO2	LO3	LO4	LO5	LO6	LO7	LO8	LO9	LO10	LO11	LO12
Exam 1	x	x	X				X				x	
Exam 2				x	x	X						
Exam 3			x				x	x	X	x	x	
Paper												X
Worksheets	x	x	x	x	x	x	x	x	x	x	x	X
Final Exam	x	x	x	x	x	x	x	x	x	x	X	

Program Learning Outcomes (PLOs) - Biology

- Apply sound research principles.
- Demonstrate ethical responsibility.
- Demonstrate knowledge of the scientific method.
- Develop life science knowledge and skills.
- Exhibit leadership in research setting.
- Integrate technology into the decision making process.

STUDENT ACCESSIBILITY SERVICES

Indian River State College provides reasonable accommodations to students with documented disabilities through the Student Accessibility Services (SAS) Office. The rights of students with disabilities which pertain to post-secondary education are provided under Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990. Students who wish to request an accommodation for a documented disability may contact Student Accessibility Services at 772-462-7808, 772-462-7782 or e-mail accessibilityservices@irsc.edu.

It is the student's responsibility to inform the instructor of any accommodations in enough time to prep for such accommodations for any assignment or exam. I must have advanced notice if you plan to use accommodations (if you do not give me enough time, I may not be able to provide the accommodations).

DISCRIMINATION POLICY

Indian River State College does not discriminate on the basis of race, color, national origin, ethnicity, sex, religion, age, disability, sexual orientation, marital status, veteran status or genetic information in its programs and activities.