NJIT BIOLOGY

Course Syllabus

Fall 2025

Biology 423: Physiological Mechanisms

INSTRUCTOR:	Dr. John Yarotsky, PhD	**EMAIL:**	yarotsky@njit.edu
OFFICE:	CKB 340C	**OFFICE HOURS:**	Mon 3-6
COURSE SCHEDULE:	Mon & Thurs 1-2:30 CKB 222	**COURSE WEBSITE:**	NJIT Canvas Page

COURSE DESCRIPTION: This course will utilize clinical (pathological) case studies to reinforce and extend physiological knowledge, providing students a strong basis for future studies in biomedical and health related fields.

OBJECTIVES: (1) To provide the student with the ability to apply their knowledge of human physiology to complex pathological scenarios. (2) To improve the ability of students to apply basic science knowledge to real word situations. (3) To improve students critical thinking and presentation skills.

PREREQUISITES: Mammalian Physiology (BIOL 340), or may be taken concurrently with permission of instructor.

INSTRUCTIONAL MATERIALS: There is no textbook for this course. If you need a resource to reference the relevant physiology, I would suggest using your textbook from Biol340 or purchasing a shorter physiology text such as the Pocket Companion to Guyton & Hall's Medical Physiology or something similar. You should also procure a 1" 3-ring binder for the in class assignments and case studies.

SUPPLEMENTAL MATERIALS: Any additional materials required for class (case study's, primary literature, etc) would either be provided through Canvas (UCID required), handed out in class, or via web link.

CODE OF STUDENT CONDUCT: Be aware of the rules set forth in the University Code on Academic Integrity. In brief, the instructor will not allow cheating or plagiarism.

REASONABLE ACCOMMODATION: If you have a special need that may require an accommodation or assistance, please inform me of that fact as soon as possible and no later than the end of the second class meeting. Students with disabilities who require accommodations must contact Dr. Phyllis Bolling, Center for Counseling and Psychological Services (C-CAPS), Campbell Hall, (entry level), room 205, (973) 596-3420.

COURSE REQUIREMENTS, EVALUATION PROCEDURES, AND POLICIES:

GRADING	POINTS
Assignments and Homework	100pts
Attendance & Participation	100pts
Case Study Write Up	100pts
Case Study Presentation	100pts
TOTAL	**400pts**

GRADING SCALE			
A	90-100	C	70-74
B+	85-89	D	65-69
C+	75-79		

Biology 423: Physiological Mechanisms

CLASS ATTENDANCE IS REQUIRED: Attendance will be taken, and attendance is included in the course grade. This class is not a traditional lecture-based course. In class discussions of clinical studies & primary research articles contribute a significant portion of your grade.

MAKE-UP POLICY:

- **Assignments:** There are no make-ups for in class assignments **EXCEPT** for a written excused absence. Homework assignments will be posted on Canvas, and are a student's responsibility to check for. In order for an absence to be excused, students must contact the Office of the Dean of Student Affairs as soon as possible, following their knowing that they will be missing a class. For example: This means if you wake up in the morning and are too ill to come to class, you should email them immediately. Arrangements can then be made by that office. Documentation of your absence should then be provided to the Office of the Dean of Student Affairs (Doctors note, court notice etc...). Under no circumstances are you to contact the instructor or provide them with details of the reason you missed class or an assignment. It is your right to keep that information private and should only be detailed to the Office of the Dean of Student Affairs.
- **Late Work:** Assignments are due at the beginning of the class as outlined in their descriptions syllabus. If you must be absent on the day work is due, it is your responsibility to turn it in early or make arrangements for someone else to turn it in on the due date. Other possibilities include submitting electronically version via email. Unexcused late work will receive a 10% penalty for every day late.

HINTS/TIPS:

- **We will generally be doing discussions and problem sets in class (during which your participation will be noted) –so it may be helpful if you have actually read what we are discussing.**
- **If you don't understand something, ask (more than a couple hours ahead of due date/exam please).**
- **DO NOT Procrastinate.**
- **DO NOT Plagiarize.**

Biology 423: Physiological Mechanisms

SCHEDULE AND TENTATIVE COURSE OUTLINE:

WEEK #: DATE	LECTURE / RECITATION TOPIC	GENERAL PLAN & TEXTBOOK READINGS
Week 1: Sep 4	Introduction/ Featured Case Studies	
Week 2: Sep 8 & 11	Featured Case Studies	
Week 3: Sep 15 & 18	Featured Case Studies	
Week 4: Sep 22 & 25	Skeletal/Connective Tissue	Student Presentations/Homework Discussions
Week 5: Sep 29	Muscle	Student Presentations/Homework Discussions
Week 6: Oct 6 & 9	Muscle	Student Presentations/Homework Discussions
Week 7: Oct 13 & 16	Vasculature	Student Presentations/Homework Discussions
Week 8: Oct 20 & 23	Circulatory	Student Presentations/Homework Discussions
Week 9: Oct 27 1 & Oct 30	Nervous System	Student Presentations/Homework Discussions
Week 10: Nov 3 & 6	Circulatory / Respiratory System	Student Presentations/Homework Discussions
Week 11: Nov 10 & 13	Respiratory	Student Presentations/Homework Discussions
Week 12: Nov 17 & Nov 20	GI	Student Presentations/Homework Discussions
Week 13 Nov 24 & Nov 25	Reproductive	Student Presentations/Homework Discussions
Week 14: Dec 1 & Dec 4	Endocrine	Student Presentations/Homework Discussions
Week 15: Dec 8 & Dec 11	Endocrine	Student Presentations/Homework Discussions
FINAL EXAM WEEK:		

Academic Dishonesty: The course has a zero tolerance policy for academic dishonesty, including plagiarism and cheating. Instances of dishonesty will be punished by a zero on the assignment and consultation with the office of the Dean of Students to determine if further action is required. If you have any questions about what constitutes plagiarism or cheating, please ask us or refer to the academic integrity code: www.njit.edu/academics/integrity.php.