

Time: Wednesdays, 4:55PM-7:15PM

Location: SILVER 408

Instructor: Dr. Nataliya Galifianakis
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Office hours: Mondays 2:00-3:00pm, Brown building, Room 759.

Course Overview

During the semester, we will discuss how normal physiological processes of the human body are disrupted by disease. We will cover the cellular and molecular basis of physiological disorders such as the triad of metabolic syndrome (obesity, hypertension, and diabetes), and discuss how diseases such as cancer affect and interact with physiological systems. Class time will be a combination of lecture, discussion, and recitation.

Prerequisites

This is an advanced course. Required prerequisites are an undergraduate level physiology course or instructor's permission.

Recommended textbooks:

There is no required textbook assigned for this course; review articles covering the topics of the lectures will be posted in Resources folder on NYU Classes.

Schedule:

| DATE | TOPIC | READINGS |
|---------------|--|----------|
| Sep 5 | Regulation of Metabolism | ----- |
| Sept 12 | Metabolic Syndrome: Obesity, insulin resistance and diabetes | Paper 1 |
| Sept 19 | Metabolic Syndrome: The Role of Microbiome | Paper 2 |
| Sept 26 | Metabolic Syndrome: Hypertension and vascular disease | Paper 3 |
| Oct 3 | Metabolic Syndrome: Circadian Rhythms / Review | |
| Oct 10 | MIDTERM EXAM | |
| Oct 17 | Cancer Hallmarks | ----- |
| Oct 24 | Cancer Metabolism | Paper 4 |
| Oct 31 | Cancer Immunotherapy Part 1 | Paper 5 |
| Nov 7 | Cancer Immunotherapy Part 2 | Paper 6 |
| Nov 14 | Cancer Stem Cell Metabolism / Review | |
| Nov 21 | Thanksgiving Recess - No class | |
| Nov 28 | Project Presentations | |
| Dec 5 | Project Presentations | |
| Dec 12 | FINAL EXAM | |

Research paper readings

There will be primary research papers from the recent scientific literature posted on NYU Classes website through the semester. The papers will be discussed in the class. Your participation in the discussion is required and will be assessed qualitatively and quantitatively.

Projects.

The class will be divided into groups and each group will design and complete a project that investigates a topic related to the course. The topic of the project with justification would have to be submitted for approval in writing electronically through NYU Classes by **12 pm, noon on October 17th**. The groups' findings will be presented at the end of the semester. The entire team will have to participate in preparing the presentation as well as in presentation itself. The project participation of each group member will be peer-reviewed by the rest of the group. The presentations will be assessed by the instructor as well as peer-reviewed by the class.

Assignments

Before each meeting that discusses a research paper, you will write its short (300 words) summary and submit it online through NYU Classes. The deadline for the assignment submission will always be at 12pm, noon on the day of the discussion. The assigned papers will be posted in advance and early assignment submissions are encouraged. Late assignments will not be accepted under any circumstances.

Participation.

Participation in the discussions and attendance is expected and required. Missing a class would be a lost opportunity for participation and will result in a loss of a participation grade. If the absence is inevitable, you must request to be excused in advance and provide a proper documentation next time you are in the class.

Exams.

There will be two exams. Each of the exams will be based on the material of the lectures and the assigned research papers. The topic of the midterm exam will be metabolic syndrome; the topic of the final exam will be cancer. Careful reading and comprehension of assigned through the semester papers will be essential to do well on the exam. Both exams will be a closed book, no notes. You will have 2 hours to complete the exam. There will be no make-ups. Please, note all exam dates and arrange your travel plans accordingly. In case of serious illness or personal crisis rescheduling of the exam will require presenting supporting evidence (detailed doctor's note, hospital admission documents, etc.). If the absence is documented, the make-up exam will be administered at the discretion of the instructor.

Grading.

Midterm exam –30%
 Final exam – 30%
 Research papers discussion and assignments – 20%
 Project presentation and participation in peer review – 20%

Final grade distribution:

A 93% and higher
A- 90-92.9%
B+ 87-89.9%
B 83-86.9%
B- 80-82.9%
C+ 77-79.9%
C 73-76.9%
C- 70-72.9%
D 60-69.9%

Syllabus change policy.

Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice. Any change will be posted on NYU Classes website and the announcement will be made in class (where possible).

Statement on academic integrity.

NYU regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining an unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The Graduate School of Arts & Science is committed to enforcing the NYU Policy of Academic Integrity and will pursue cases of academic dishonesty according to the Graduate School of Arts & Science Academic Integrity Procedures.

Any deliberate borrowing of the ideas, terms, statements, or knowledge of others without clear and specific acknowledgment of the source is intellectual theft and is called plagiarism.

It is not plagiarism to borrow the ideas, terms and statements, or knowledge of others if the source is clearly and specifically acknowledged. Students who consult such critical material and wish to include some of the insights, terms or statement encountered must produce full citations in an appropriate form.

The Graduate School of Arts & Science guidelines and Honor Code are available online at

<http://gsas.nyu.edu/content/nyu-as/gsas/about-gsas/policies-and-procedures/gsas-statement-on-academic-integrity.html>