

NNMD 5274: National Nanomedicine Seminar Series

Lead Instructors:

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COURSE OVERVIEW

This seminar series exposes students to research and innovation in the field of nanomedicine. Experts from hospitals, government, academia, and industry will provide weekly rotating talks on a wide range of nanomedicine technologies and their applications. Course participants are provided with the opportunity to directly interact with guest speakers (either in person or via live web interface) to further learn about emerging technologies, challenges, and opportunities in the field.

This is one of four courses offered through the Nanomedicine Academy, a joint partnership between Northeastern University, Morgan State University, University of Puerto Rico Mayaguez, Tuskegee University, and Florida International University supported by the National Science Foundation (NSF). This course will be lead by instructors at Northeastern University and will feature rotating talks by guest experts.

HOW THE COURSE IS STRUCTURED

This course features a variety of interactive classroom and online activities that will allow you to engage with classmates and faculty at multiple institutions. These include:

Interactive Lectures: You will attend live seminars led by Nanomedicine Academy faculty and guest experts hosted in your local classroom every other Thursday. Please note that attendance of these lectures is **mandatory** for all students enrolled in the ground-based courses at NU, UPRM, TU, FIU, and MSU. **We will be featuring high profile guest speakers starting promptly at 2:50pm EST, so please be sure to arrive on time.**

Guiding Questions

- What are the potential benefits and challenges of nanomedicine?
- How is nanomedicine currently being used to treat patients?
- How do researchers approach problem solving in the field of nanomedicine?
- How can researchers customize nanomedicine solutions for specific diseases? What types of resources and skills are needed?

Outcomes and Objectives

- Identify emerging technologies and trends in nanomedicine research
- Describe challenges and opportunities in nanomedicine research
- Prepare two 5-minute video talks about a recently published paper in the field of nanomedicine

Video Paper Review: You will record two 5-minute videos summarizing a recently published, groundbreaking, peer-reviewed paper in nanomedicine. The purpose of this activity is to keep you and your classmates up-to-date on the latest nanomedicine research as it is published. This presentation will be recorded on Blackboard using the integrated Webcam Recorder and posted to the Course Blog so that all students can view your work.

Online Blogs: You will receive 4 different writing prompts over the course of the semester. You will post your responses (up to 1 page each) to the Course Blogs found on Blackboard. These blogs are not open to the public but can be viewed by your classmates and instructors. The writing assignments are structured in such a way to help you learn about and brainstorm ideas for different challenges in nanomedicine.

GRADING

You will receive a grade based on assignments and participation. You will have 2 weeks to complete each assignment from the day it is posted. The grading is as follows.

Assignment	Description	Due Date	Grade
Video paper review	Two 5-minute video presentations of a recently published peer-reviewed paper of your choice	10/5 & 11/16	25%
Blogs	A short essay (~1 page) on the topic of the week	9/21, 10/19, 11/2, 11/30	25%
Attendance and participation	Attendance at twice-monthly in-class seminars and participation in group discussion	9/7, 9/14, 9/28, 10/12, 10/26, 11/9, 11/30	50%

Here are 4 ways to ensure you will get maximum points for your assignment and participation grades:

- **Add** new knowledge beyond the topics covered in class
- **Reframe** ideas presented in seminars and papers in a new, novel way
- **Extend** ideas by asking one or more focused questions
- **Include** direct references or sources (either citations or hyperlinks may be used)

COURSE POLICIES

1. Class attendance is mandatory. You are encouraged to also actively participate in this course by engaging instructors in discussion of course content and asking questions during seminars.
2. Talk titles, abstracts, and speaker bios will be posted before each talk on Blackboard. **Please be sure to view this content before coming to class!**
3. You are expected to check Blackboard regularly. All required assignments, course communications, and lecture notes/presentations will be posted on Blackboard.
4. You are expected to follow guidelines stated in the NEU Academic Integrity Policy (<http://www.northeastern.edu/osccr/academichonesty.html>)
5. The use of mobile devices and laptops during lectures is restricted to course activities only.

WEEKLY SCHEDULE

Seven in-class seminars will be held on the dates shown. This live content will be supplemented with several online learning activities that you can complete at your own convenience. You are only expected to come to class on weeks that we have live content.

9/7 Week One (LIVE): Introduction to the Seminar Series

9/14 Week Two (LIVE): Meni Wanunu PhD, Northeastern University

9/21 Week Three (BB only): Video Paper Review Assignment

9/28 Week Four (LIVE): Jelena M. Janjic, PhD, Duquesne University

10/5 Week Five (BB only): Comment on Video Paper Reviews

10/12 Week Six (LIVE): Guest Seminar, TBD

10/19 Week Seven (BB only): Online video assignment

10/26 Week Eight (LIVE): Madeline Torres-Lugo, Univ. of Puerto Rico Mayaguez

11/2 Week Nine: (BB only): Video Paper Review Assignment

11/9 Week Ten (LIVE): Brian D. Polizzotti, Harvard Medical School

11/16 Week Eleven (BB only): Comment on Video Paper Reviews

11/23 Week Twelve: Thanksgiving, NO CLASS

11/30 Week Thirteen (LIVE): Ambika Bajpayee, PhD, Northeastern University