MATH 451: Methods of Applied Mathematics II (Capstone II)
Spring 2024 Course Syllabus

NJIT Academic Integrity Code: All Students should be aware that the Department of Mathematical Sciences takes the University Code on Academic Integrity at NJIT very seriously and enforces it strictly. This means that there must not be any forms of plagiarism, i.e., copying of homework, class projects, or lab assignments, or any form of cheating in quizzes and exams. Under the University Code on Academic Integrity, students are obligated to report any such activities to the Instructor.

COURSE INFORMATION

Course Description: Small teams of students conduct research projects under the guidance of faculty members who perform applied research. Effective From: Spring 2009.

Number of Credits: 3

Prerequisites: Math 450H with a grade of C or better.

Course-Section and Instructors:

Course-Section	Instructor
Math 451-H02	Professor W. Choi

Office Hours for All Math Instructors: Spring 2024 Office Hours and Emails

Required Textbook: None. Textbook chapters and journal papers will be provided on Canvas.

University-wide Withdrawal Date: The last day to withdraw with a **W** is **Monday, April 1, 2024**. It will be strictly enforced.

POLICIES

DMS Course Policies: All DMS students must familiarize themselves with, and adhere to, the Department of Mathematical Sciences Course Policies, in addition to official university-wide policies. DMS takes these policies very seriously and enforces them strictly.

Grading Policy: The final grade in this course will be determined as follows:

Attendance and In-Class Participation	10%
Projects and Presentations	60%
Final Report and Presentation	30%

Your final letter grade will be based on the following tentative curve.

A	90-100	**C**	60-69
B+	85-89	**D**	50-59
B	75-84	**F**	0-49
C+	70-74		

Attendance Policy: Attendance at all classes will be recorded and is **mandatory**. Please make sure you read and fully understand the Math Department's Attendance Policy. This policy will be strictly enforced.

ADDITIONAL RESOURCES

Math Tutoring Center: Located in the Central King Building, Lower Level, Rm. G11 (See: Spring 2024 Hours)

Further Assistance: For further questions, students should contact their instructor. All instructors have regular office hours during the week. These office hours are listed on the Math Department's webpage for Instructor Office Hours and Emails.

Accommodation of Disabilities: The Office of Accessibility Resources and Services (OARS) offers long term and temporary accommodations for undergraduate, graduate and visiting students at NJIT.

If you are in need of accommodations due to a disability please If you need an accommodation due to a disability please contact the Office of Accessibility Resources and Services at oars@njit.edu. The office is located in Kupfrian Hall, Room 201. A Letter of Accommodation Eligibility from the Office of Accessibility Resources and Services office authorizing your accommodations will be required.

For further information regarding self identification, the submission of medical documentation and additional support services provided please visit the Office of Accessibility Resources and Services (OARS) website at:

https://www.njit.edu/accessibility/

Important Dates (See: Spring 2024 Academic Calendar, Registrar)

Date	Day	Event
January 16, 2024	Tuesday	First Day of Classes
January 22, 2024	Monday	Last Day to Add/Drop Classes
March 10, 2024	Sunday	Spring Recess Begins
March 16, 2024	Saturday	Spring Recess Ends
March 29, 2024	Friday	Good Friday - No Classes
April 1, 2024	Monday	Last Day to Withdraw
April 30, 2024	Tuesday	Friday Classes Meet

April 30, 2024	Tuesday	Last Day of Classes
May 1, 2024	Wednesday	Reading Day 1
May 2, 2024	Thursday	Reading Day 2
May 3 - May 9, 2024	Friday to Thursday	Final Exam Period

Course Outline

Week 1-2: Linear water waves
Week 3-4: Fourier series & pseudo-spectral method
Week 5: Code development for linear models
Week 6-7: Midterm project (presentation and report)
Week 8-9: Nonlinear water waves
Week 10: Code development for nonlinear models
Week 11-12: Laboratory experiment/data analysis
Week 13-14: Final project
Week 15: Final project presentation and report

Updated by W. Choi - 12/8/2023
Department of Mathematical Sciences Course Syllabus, Spring 2024