

PHYSICS 39907 Fall 2024 (MR417S) TTh 11:00-12:15

Current version: syllabus.pdf Professor: Mark Shattuck (markdshattuck@gmail.com) Office: Steinman Hall T1M-16 x8161, (MR419) Office Hours: Th 4:00-6:00 (MR419) (or by App.) Website: https://gibbs.ccnycunycun.edu/teaching/	Textbook: Numerical Recipes: The Art of Scientific Computing , William H. Press, Saul A. Teukolsky, William T. Vetterling and Brian P. Flannery. (Free online) http://numerical.recipes/book.html
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8/29(Th)	Introduction to Computing, LaTeX, overleaf	
9/3, 9/5	Algorithms and Programming, Introduction to Matlab	
9/10, 9/12	Data visualization	
9/17*, 9/19*	Finite difference and summation	
9/23, 9/28	Molecular Dynamics	
10/1(T)	Solving Linear Equations	
10/8, 10/10	Minimization, Root finding, Optimization	
10/17(Th)	Boundary value ordinary differential equations	
10/22, 10/24	Partial differential equations	
10/29, 11/31	Random processes	
11/5, 11/7	Random numbers, Probability and statistics	
11/12, 11/14	Monte Carlo	
11/19, 11/21	Spectral Methods	
11/26(T)	Finite Element	
12/3*, 12/5*	Finite Element	
12/10*, 12/12*	Genetic/Annealing/Machine Learning	
Final Project		
No Class	10/3, 10/15 (Mon Schedule), 11/28 (Thanksgiving)	
Special Class*	9/17, 9/19, 12/3, 12/5, 12/10, 12/12 (Class online)	

General Information

Attendance: 5% of grade from class participation.

Reading Assignment: Reading assignments should be completed before class.

Grades: Grade will be based on class participation (5%), weekly problem sets (50%), final project (25%), and take-home final exam (20%). The problem set can be legibly handwritten or typed, but **must** be **submitted electronically as a PDF on Blackboard**.

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