AMS-501
Ordinary Differential Equations and Boundary Value Problems (Advanced Topics)

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Course web page:
http://www.ams.sunysb.edu/~rosamu/Teaching/AMS501/


Course description:
This course will give practical and self-contained presentation of the methods of asymptotics and perturbation theory and explain how to use these methods to obtain approximate analytical solutions to ordinary differential equations. These methods allow one to analyze ordinary differential equations arising in numerous application that may not be solvable in closed form and for which direct numerical methods may not be practical or even may fail to converge to useful solutions. The objective of this course is the teaching of insights and problem-solving skills that are most useful in solving ODE problems arising in the course of modern research. Intended for graduate students and advanced undergraduates, the course assumes some familiarity with differential equations and complex variables within a typical undergraduate ODE course. A brief overview of the background material - theory and methods for (systems of) ordinary differential equations will also be given.

Classes: Mondays and Wednesdays, 5:30 – 6:50 pm,
Physics P123

Attendance: Students are expected to attend all classes. Students are encouraged to ask questions during and after the class.

Office hours: Mondays and Wednesdays, 9:00 – 10:00 AM, or by appointment.

Grading: Homework assignments: 30%
Midterm exam (in class): 25%
Final Exam (in class): 45%
Disability Support Services (DSS):

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room 128, (631) 632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.

[In addition, this statement on emergency evacuation is often included, but not required:
Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to the following website: http://www.stonybrook.edu/ehs/fire/disabilities ]

Academic Integrity:

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at http://www.stonybrook.edu/commcms/academic_integrity/index.html

Critical Incident Management:

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures.