MAT 303: CALCULUS IV WITH APPLICATIONS
FALL 2016

GENERAL INFORMATION

Instructor. Raluca Tanase
Email: raluca.tanase@stonybrook.edu
Office: Math Tower 4-120
Office hours: M 1-2pm in MLC, W 1-2:30pm and Th 1:30-2:30pm in Math Tower 4-120

Lecture and Recitations.

LEC 01	MWF	12:00pm-12:53pm	Harriman Hall 137	Raluca Tanase
R01	W	10:00am-10:53am	Library W4535	Dyi-Shing Ou
R02	F	1:00pm- 1:53pm	Library E4330	Timothy Ryan
R03	Tu	5:30pm- 6:23pm	Library W4525	Timothy Ryan
R04	W	7:00pm- 7:53pm	Library W4525	Alexandra Viktorova
R05	M	5:30pm- 6:23pm	Lgt Engr Lab 152	Jiasheng Teh

TA office hours. Office hours could change during the semester, please check the course website for updates. The office hours held in the Math Learning Center (MLC) can be found at http://www.math.stonybrook.edu/mlc/center-hours.php

- Dyi-Shing Ou:
  W 9 - 10am in Math Tower 3-118
  W 11am - 12pm in MLC
  Th 5 - 6pm in MLC
- Alexandra Viktorova:
  M 1 - 2pm in MLC
  F 10am - 12pm in MLC
- Jiasheng Teh:
  M 1 - 2pm in MLC
  Tu 4 - 5pm in MLC
  F 11am - 12pm in MLC
- Timothy Ryan:
  M 2:30 - 4:30pm in MLC
  W 1 - 2pm in MLC

Blackboard. Some course administration will take place on Blackboard. Homework and exam grades, course announcements will be posted on Blackboard. Please log in using your NetID at http://blackboard.stonybrook.edu.

We will maintain a front-end webpage for the course, with the tentative weekly schedule and homework sets: http://math.stonybrook.edu/~rtanase/calc303/

Courses Description. Homogeneous and inhomogeneous linear differential equations; systems of linear differential equations; Laplace transforms; Fourier series, use of computers. We study standard techniques for solving ordinary differential equations, including numerical methods, and their applications to engineering, physics, biology, chemistry, economics, social sciences, etc. May not be taken for credit in addition to AMS 361, MAT 305, or MAT 308.

Prerequisites. C or higher in MAT 127 or 132 or 142 or AMS 161 or level 9 on the mathematics placement examination

Textbook. Edwards, Penney, Calvis, *Differential Equations and Boundary Value Problems: Computing and Modeling*, 5th edition, Pearson Prentice Hall.

Software. No previous experience with computers is needed. To visualize solutions for some differential equations, we will use *Mathematica*, which is a computational software program developed by Wolfram Research and used in many scientific, engineering, mathematical and

computing fields, based on symbolic mathematics. *Mathematica* has a comprehensive documentation, also available online at http://reference.wolfram.com/language/.

Stony Brook students can download the Windows/Mac/Linux version of *Mathematica 10.3* from Softweb: http://softweb.cc.stonybrook.edu/. You need your Stony Brook netID and netID password to log in to Softweb. To obtain an Activation Key for *Mathematica* you must visit the Wolfram User Portal https://user.wolfram.com/portal/login.html. If it's your first time visiting the Wolfram User Portal, you must create a Wolfram ID and follow the steps in there to request an Activation Key.

In addition, you can use any of the campus SINC sites, or you can access the Virtual SINC site at http://it.stonybrook.edu/services/virtual-sinc-site.

Exams. There will be two midterms and a final exam, scheduled as follows:

- Midterm 1 – Wednesday, October 5, 12:00pm-12:53pm, Harriman Hall 137
- Midterm 2 – Wednesday, November 16, 12:00pm-12:53pm, Harriman Hall 137
- Final Exam – Thursday, December 15, 5:30pm-8:00pm, TBA

Grading policy. Grades will be computed using the following scheme:

- Midterms – 20% each
- Homework – 20%
- Final – 40%

Homework. Students are expected to attend class regularly and to keep up with the material presented in the lecture and the assigned reading. Each week, you will be given a set of problems, due on the next **Friday**, in class. Do all of the assigned problems, as well as additional ones to study. Most of the homework problems will be analytic exercises, whose solutions will require only pen and paper. A few of them (clearly marked) will require the use of a computer program like *Mathematica*. No late homework will be accepted!

Extra Help. You are welcome to attend the office hours and ask questions about the lectures and about the homework. In addition, math tutors are available at the Math Learning Center (MLC): http://www.math.stonybrook.edu/MLC.

Information for students with disabilities. 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, or at the following website http://studentaffairs.stonybrook.edu/dss/index.shtml. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.

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 is 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/uaa/academicjudiciary.

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 University Community Standards 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. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.