

**APPLIED REAL ANALYSIS (LECTURE 01) – MAT 341:
FALL 2023**

Topics and Text:

We will study partial differential equations from mathematical physics: the heat equation; the wave equation; Laplace equations. Solutions to these equations combine various techniques (studied in Mat 303) for solving ordinary differential equations (such as separation of variables) with the theory of Fourier series. There is also the D'Alembert solution for the wave equation.

Our text for the course is *Boundary Value Problems and Partial Differential Equations*, edition 6, by David L Powers.

Teacher and Grader:

Teacher = Lowell Jones: office is in Math Tower room 2-111; email at lowell.jones@stonybrook.edu; phone at 632-8248; office hours are online 12pm-1:30pm on Tuesdays and Wednesdays.

Grader = Connor Lehmacher: contact at connor.lehmacher@stonybrook.edu office in Math Tower S-240A; 3-106; office hours are online 9:30am-10:30am on Wednesdays; MLC hours are in person 2pm-4pm on Wednesdays.

Homework

Homework will be assigned for each week for this course; to find a homework assignment go to “Assignments” on the Brightspace website for this course. Homework assigned for any given week is due by Wednesday at 5pm of the following week; to submit a homework upload a pdf file containing your solutions onto the Brightspace website for this course.

Exams There will be one inclass midterm and a final exam in this course, scheduled as follows:

Midterm: This will be an in class test. Please go to your usual lecture room at the usual class time on Thursday 10/12/23 to take the midterm.

Final exam: This is scheduled for Thursday 12/21/23 from 8:15am to 10:45am. The room assignment for the final exam will be announced on this website towards the end of the semester.

If you continue with this course it is with the understanding that you are able to take all of the exams at the scheduled times. If you miss an exam for reasons beyond your control, then discuss this as soon as possible with your teacher. Scheduling problems – such as another exam scheduled at the same time as your Mat 211 exam, or travel plans – are not considered an acceptable reason for missing an exam.

Grading Policy

Homework=30%,
Midterm=30%,
Final exam=40%.

Disability Support Services (DSS) Statement

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

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 instance of academic dishonesty to the Academic Judiciary. 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, and/or inhibits students' ability to learn.

Weekly Schedule

week of 8/28-9/1: sections 1.1-1.2.

week of 9/4-9/8: 1.3-1.4.

week of 9/11-9/15: 1.5,2.1

week of 9/18-9/22: sections 2.2-2.3.

week of 9/25-9/29: sections 2.4-2.5.

week of 10/2-10/6: sections 2.6-2.7.

week of 10/9-10/13: midterm on 10/12 (no class on 10/10, Fall Break)

week of 10/16-10/20: sections 2.8-2.9.

week of 10/23-10/27: sections 1.9,2.10.

week of 10/30-11/3: sections 3.1-3.2.

week of 11/6-11/10: sections 3.3-3.4.

week of 11/13-11/17: sections 4.1-4.2.

week of 11/20-11/24: sections 4.3 ; no class on Thursday (Thanksgiving break).

week of 11/27-12/1: sections 4.4-4.5

week of 12/4-12/8: catchup and review.