Math 414 – Modern Applied Math II –Spring 2019

Dates/Times TR 1:30-2:45
Location Peterson Hall 1109
Textbook There is no textbook assigned for this course. We will use a variety of materials. For Fourier Series, we will reference the textbook of Peter Olver: An Introduction to Partial Differential Equations which is available online through the Mason Library.
Instructor Matt Holzer, Exploratory Hall 4458
Email mholzer@gmu.edu
Office Hours T: 3:00-4:00, R 12:00-1:00, F 10:00-11:00 (others by appointment)
Course Description We will cover topics in applied mathematics. This will include discrete and continuous Fourier Series, calculus of variations, Sturm-Liouville Theory and Green's function. Other topics will be included if time permits.
Prerequisites C or better in Math 413
Important Dates

Thursday March 7th : Exam #1
March 11th-15th: Spring Break
Thursday May 2: Exam #2

Attendance Attendance is not an explicit requirement for this course, but as you will see below it is an implicit requirement.
Recaps Before each class, you must turn in a one-page recap of what was covered in class the previous day.

Each day one student will be required to give a brief presentation of important topics from the previous days lecture or a brief summary of the homework problem that they solved. Presenters will be determined randomly – failure to be prepared for the presentation or unexcused absences will result in a loss of points.

Each recap is worth one point and the presentation is worth three. You be allowed to drop two recap grades at the end of the semester. You may opt out of one recap presentation.
Homework Homework will be assigned weekly, collected and graded. You may discuss homework problems with other students (in fact it is encouraged!), but you must write up your solutions individually. Homework is graded using a check/rewrite/zero scoring system.

- Check – work is sufficient and will be scored one point
- Rewrite – work is insufficient, but a rewrite will be accepted the following week. Zero points are awarded until the work is correct, at which point one point is scored
- Zero – work is either not turned in, or turned in with insufficent progress made to award a rewrite. A score of zero is recorded and no rewrites are accepted.

Additional Exercises Periodically, we will do in class exercises or group work that will be graded and count towards the homework total. Also, class participation may be required and will contribute to the homework grade.
Grade Your final grade will be computed giving 40% weight to homework, 20% each to the midterm exams and 20% for the paper presentation. Final grades will be given according to the standard breakdown (94 for an A, 90 for an A-, 87 for a B+, etc). I reserve the right to shift these gradelines lower, but they will not be raised.
Paper Presentation You will be required to read an academic research paper or book section on a topic in applied mathematics. In lieu of a final, you will be required to make a 15 minute presentation to me at the end of the semester about your project. Topic proposals will be due in the first half of the semester at a time TBD.
Academic Integrity You are bound by the Mason Honor Code and its policies related to Academic Integrity. Violations will be taken seriously.
Disability Services Students may be eligible for accommodations through the Office of Disability Services
Communication All email communication is to take place through your gmu email account.