GMU Department of Mathematical Sciences
Math 414: Modern Applied Mathematics II
Spring 2018
Syllabus

Instructor:
Prof. Maria Emelianenko
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Office: Room 4454, Exploratory Hall
Office Hours: TR 3-4pm and by appt

Time and Room:
TR 1:30-2:45pm Robinson A247
Course materials, assignments and announcements will be available on Blackboard.

Prerequisite: Grade of C or better in MATH 413.

Textbook:
1. M. Shearer, R. Levy, "Partial Differential Equations: an introduction to theory and applications", Princeton University Press, 2015
2. J. David Logan "Applied Mathematics", 4th edition, Wiley, 2013

Course Description:
Continuation of MATH 413, which involves a synthesis of pure mathematics and computational mathematics. Fourier analysis and its role in applied mathematics is developed (e.g., differential equations and approximations). Discrete and continuous aspects are emphasized in computational models.

We will learn how to formulate, analyze and solve real problems arising in the fields on science and engineering. Both analytical and computational assignments will be given and students will be expected to make 10-minute in-class presentations after completing a group project. Weekly homework problems will be given that will count towards the final grade. I will discuss solutions in class.

Grading policy:
Your grade in this course will depend on your performance on graded projects and one final exam. Tentative weight of assessment components:
- Projects and graded homework assignments: 30%
- Midterm exam (March 27, in class): 25%
- Final exam (take-home): 30%
- Participation: 15%

Academic Policies
All GMU policies regarding ethics and honorable behavior apply to this course. If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Resources at 703/993-2474. All academic accommodations must be arranged through that office.