MATH 4257/5257 Numerical Analysis
Fall Semester 2011

Instructor:
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>   Office hours: M, W: 9:00 – 10:00 and other times by appointment.

Meeting Place & Time:
>   M, W 1:40-3:00 Gilbreath, Rm. 205.

Course Description:
>   Floating point arithmetic and error propagation, numerical solution to functions of a single variable and functional approximation, numerical differentiation and integration, program design, coding, debugging, and execution of numerical procedures.

Textbook:
>   Moler, *Numerical Computing with Matlab*, SIAM, 2004. (The chapters of this book can be found online at http://www.mathworks.com/moler/chapters.html, so you do not need to buy a hard copy unless you want.)
>
>   Chapra, *Applied Numerical Methods with Matlab,* McGraw-Hill, 2008.

Software:
>   MATLAB. A student version of Matlab is available in the bookstore. MATLAB is also available in Gilbreath 205; however, this room is only open at set times. It *may* be able to be accessed from elsewhere on campus, but it is up to you to make sure you have access to Matlab. It will be used for most assignments.

Prerequisites:
>   Math 1920 (Calculus II) and MATH 2010 (Linear Algebra). This means you have satisfactorily passed the course AND have a retained working knowledge of the key concepts.

Requirements and Grading:

- **Exams:** There will be a Midterm and a Final Exam (most likely there will be an in-class portion and a take-home portion to the test):
  >   Midterm: Monday, October 24
  >   Final Exam: Monday, December 12, 1:20-3:20

- **Projects:** There will be numerous projects assigned throughout the semester which will make up 60% of your grade. MATH 5257 students will have an additional project which will be more research based and involve a presentation at the end of the semester (this will be a longer project which will be done throughout the semester while still doing the regular assignments). In addition, there may be additional exercises on each project.
  - ! Projects are due on the due date! Most will be turned in via the drop box in D2L and will be due by midnight on the assigned due date. If homework is handed in late, the following penalties will occur:
    - o Turned in within 24 hours of the due date – 25% off
    - o Turned in within 48 hours of due date – 50% off
    - o No homework will be accepted after 48 hours past the due date – you will receive a 0 on the homework!!

- **Grading:** My grading scale is straightforward.
  - ▪ Projects: 60% (Math 5257: 55%)
  - ▪ Midterm: 20%
  - ▪ Final Exam: 20%
  - ▪ (Math 5257 – end of the semester presentation: 5%)

  The final letter grade will be determined by the following scale:
  A (93 and above), A- (90-92), B+ (87-89), B (83-86), B- (80-82), C+ (77-79), C (73-76),
  C- (70-72), D+ (67-69), D (60-66), F (below 60).

MATH 5257 students earning below a 73 will receive an F

Make-ups:
It is expected that you take each test on the scheduled date at the time of your class. Make-up tests will only be given at my discretion. I understand that there will be instances in which "life happens". In these rare cases, you must notify me **before** the test time (if possible) and **have a documented excuse**. By the way, "I am not ready" is NOT a valid excuse.   Projects are due on the assigned day with the penalties above for any late assignments.

Attendance Policy:
Students are expected to attend every class. I do not penalize your grade if you do not attend; however, I will take attendance each class period. At the end of the semester, I will use the attendance records to determine those "borderline" grades.

University Withdrawal:
The last day to withdraw with a grade of W is October 24, 2011. The grade of W may affect your scholarship or financial aid, so make sure to check on this before withdrawing.

Disabilities:
Any student with a special need for an accommodation in course activities should make arrangements with me. In addition, the student must register with Disability Services in the D.C. Culp Center, telephone 439-8346.

Academic Misconduct:
Academic misconduct will not be tolerated. Any student caught in academic misconduct will receive an F for the assignment or test.

Classroom Etiquette and Additional Information:
- Turn off all cell phones and beepers.
- Arrive to class on time.
- Do not use computers during class, unless the class as a whole is participating in computer work.
- Do not carry on a conversation with fellow students during class unless working on an in-class project as it disrupts everyone's ability to learn.
- Please ask questions. Feel free to stop me during the lecture if you do not understand something. I will gladly go back over the concept or allow another student to explain the material in a way that may make more sense to you.
- I am happy to answer any emails; however, it is ETSU policy that faculty are only allowed to respond to student emails which come from ETSU goldmail.
- This class moves quickly. Do not get behind. Please come see me at the start of any difficulty.