MATH 455 (x-listed CMPSC 455) Introduction to Numerical Analysis I, Fall 2015

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Office hours: Tuesday 3-5 PM

Time and Place: MWF 1.25-2.15, 014 Henderson

Prerequisites: CMPSC 201, CMPSC 202, or CMPSC1221, MATH 220, MATH 230 or MATH 231.


Topics: Floating point computation, numerical rootfinding, interpolation, numerical quadrature, direct methods for linear systems. Students may take only one course for credit from MATH 451 and MATH 455. These topics are more or less chapters 0-3 and 5 of the texts.

Homeworks: I will post the HW set and due date in Angel. I am expecting to give out about 7 homework sets that will be collected approximately every 2 weeks in the beginning of the class. Late homework up to 1 week will be accepted with the following deductions: 25% for late by 2 days, 50% for late by 4 days, and 75% for late by 7 days. The deduction is with respect to the grade. For e.g., if you are late by 1 day and score 80 out of 100 points, then your grade will be $80 \times 75\% = 60$ points.

Computing: It is your responsibility to become familiar with PSU computing environment. I encourage you to do your computing in MATLAB since it is more convenient relative to Fortran and C. Also, the text comes with a companion website: http://www.pearsonhighered.com/sauer that contains MATLAB programs from the text. If you are new with MATLAB, you may read Appendix B of the text to get started and consult [1] for a good introduction to MATLAB.

Mid-term exam: Your in-class mid-term exam is on Oct 9th. All exams are done individually and you must bring your University ID card to all exams. It is my understanding that your signature on a test means that you neither have nor received unauthorized aid.

Missed Exams: I will only provide a maximum of one makeup exam for each student with a medical excuse or prior to my approval. The makeup test will be fair but comprehensive and challenging. Tests missed with certified medical excuses or prior to instructor approval will be dealt with individually. Note: If you show up to take the test, you must take the grade. You cannot decide midway through to walk out and take the makeup exam.

Final Exam: A comprehensive final exam will be given during the week of May 5-9, 2014. You must bring your University ID card to all exams. The final exam may be scheduled on any day during the final exam period. DO NOT LEAVE University Park before May 10, 2014. Students may access their final exam schedule through their elion account. Notice of conflicts is given on that final exam schedule. There are 2 types of conflict: direct and overload. Direct conflicts are 2 exams scheduled at the same time. Overload conflicts are 3 or more exams scheduled within 15 hours. For either conflict case, students may request a conflict final by filing through elion in the given time window. Conflict finals cannot be scheduled through your instructor. No Make-up Finals are offered.

Grades: Homeworks (35%), mid-term exam (25%), and final (40%). Your total will be translated into a grade as follows: A: 90-100%, A-: 87-89%, B+: 84-86%, B: 80-83%, B-: 77-79%, C+: 74-76%, C: 70-73%, D: 60-69%, and F: 0-59%. There will be NO extra credit work.

Academic Integrities: All Penn State Policies apply to this course, including Academic Integrity. See the following website for these policies. http://www.psu.edu/ufs/policies/ and
Students with Disabilities: Penn State welcomes students with disabilities into the University’s educational programs. If you have a disability-related need for modifications or reasonable accommodations in this course, contact the Office for Disability Services, ODS is located in room 116 Boucke Building. For further information regarding ODS, please visit their website at http://www.equity.psu.edu/ods/

References