Class Meetings:  T Th 11:00-12:15 in DU 428

Professor Hamid Bellout  Office:  Watson 368
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http://www.math.niu.edu/~bellout/  Office hours:  T 12:30-1:00, 3:30-4:00
                                          Th 10:30-11:00, 1:30-2:00
                                          and by appointment.


This course provides an introduction to some fundamental techniques of computational mathematics and the analysis of these techniques. Topics to be covered include:

- Computer arithmetic (Text: Chapter 2)
- Solving nonlinear equations (Chapter 3)
- Linear systems of equations and matrix factorizations (Chapter 4)
- Polynomial interpolation and Approximation of Functions (Chapter 6)
- Numerical integration (Chapter 7)
- Numerical solution of ordinary differential equations (Chapter 8) if time permits.

We will generally not cover all of the chapters of the text mentioned above. We will also deviate from the text’s content at times, so if you must miss a class you should get a copy of the class notes from another student.

The student is assumed to have knowledge of advanced calculus, linear algebra, and programming in FORTRAN, C, or another high-level scientific programming language. We will use the interactive software package MATLAB\(^1\) for much, if not all, of our programming work in this class.

The final grade in the course will be based on written and computer-related homework assignments (40%), a midterm exam (30%), a final exam (30%).

Graded homework assignments are assumed to reflect the students work. If you received assistance for your graded assignment you must indicate that on your assignment.

\(^1\)Students who wish to have MATLAB on their own personal computers can purchase MATLAB & Simulink Student Version for around $99 from either of the following: Many on-campus book and computer stores www.mathworks.com/store
**DRC Statement:** If you have specific physical, psychiatric, or learning disabilities and require accommodations, please let your instructor know early in the semester so that your learning needs may be appropriately met. You will need to provide documentation of your disability to the DRC (Disability Resource Center) located in the Health Services Building, 4th floor. Final Exam **December 8, 2015 10:00-12:00**

There will be a 50% penalty for late homework, provided it is not more than one week late. Homework more than one week late will not be accepted.