MAE 2360 Numerical Analysis Sections 001/002
Spring 2015 Syllabus

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Graduate Teaching Assistant: Abhishek Guhe
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Class Meetings: Lecture: Tuesday and Thursday 2 PM - 2:50 PM in NH 109
Lab: Thursday 11:00AM-1:50 PM in Woolf Hall 406

Required Textbook and other course materials: No Textbook. Most material covered at omega.uta.edu/~haystang, **Let Us C** by Kanetkar for general C programming reference.

Websites: Blackboard at elearn.uta.edu and omega.uta.edu/~haystang/MAE2360

Description of Course Content: Two hours of lecture plus three hours of lab. Utilization of digital computers in mechanical and aerospace engineering. Computational algorithums and their representation in C, Matlab, and Fortran. Introduction to linear algebra and numerical methods.

Expected Student Learning Outcomes:
1. Working knowledge of scientific computer programming (C, Matlab, FORTRAN)
2. Mastery of numerical analysis

Prerequisite: A "C" or better in MATH 2425 Calculus II or concurrent enrollment

Exams: Midterm exam plus a final exam. All exams are closed book, closed note. To request a makeup exam, a doctor's note (for a major illness) or equivalent is required. Please inform me in advance if there is a condition that would prevent you from taking an exam.
Homework: As posted on the websites. Submit hard (paper) copy of code, example run, and comments at the beginning of lecture/class as specified. No late homework.

Grading Policy: Each of the four components below will be graded on a scale from 0 to 100 points. For each student, their final numerical grade will be computed as an average of the four components by using the weighting factors shown below.

Homework and Lab reports:	35%
Midterm	30%
Final Exam:	30%
Attendance:	5%

Letter Grade/Final Average Number Grade correlation:

A (90-100), B (80-89), C (70-79), D (60-69), F (less than 60, fail class)

Attendance: Students are expected to attend all classes and to be on time. Physical and mental attendance will be verified by short quizzes over lecture topic given at the end of lectures.

Course Schedule:

Part I	**Part II**
Programming Introduction to Unix C language ***Midterm***	Numerical analysis Roots of equations Numerical differentiation /integration MATLAB Matrix manipulation Simultaneous equations Differential equations FORTRAN ***Final Exam***

As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course. – Kathy J. Hays-Stang

Woolf Hall 406 Computer Teaching Lab Policies:

1. WH 406 must be officially reserved for all events including classroom instructions due to the limited classroom space equipped with computers and scheduling logistics. Please see Lanie or Janet for reservation.
2. WH 406 is a computer teaching lab. Faculty and Instructors must be present while students occupy this room. When an instructor leaves the room, students are to leave WH 406 as well. Instructors should encourage students to use WH 320 if needed after class is over. The computer lab in WH 320 is available for MAE student access 24/7.
3. WH 406 doors are not to be propped open. Propped doors are considered a security breach by the UTA Police Department and a hazard violation by the Fire Inspector.
4. Food, drink, and tobacco products are prohibited in WH 406.

Notes to Student: You (or someone else on your behalf) are paying the university to teach you programming and numerical analysis; payment to this university does not guarantee you credit in any course, nor a degree. For each hour spent in lecture, at least 3 hours of independent work outside of class should be expected. Copying work required for course credit from any source rarely increases your knowledge of the subject being studied and is discouraged by penalties that can include a zero for the work turned in, an F in the course, or suspension/dismissal from the university.

Academic Integrity: All students enrolled in this course are expected to adhere to the UT Arlington Honor Code:

> I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.
>
> I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

Instructors may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System Regents' Rule 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. Students will not be automatically dropped for non-attendance. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (http://wweb.uta.edu/ses/fao).

Americans with Disabilities Act: The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the Americans with Disabilities Act (ADA). All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at www.uta.edu/resources.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at http://www.uta.edu/oit/cs/email/mavmail.php.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as lecture, seminar, or laboratory shall be directed to complete a Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student’s feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit http://www.uta.edu/sfs.

Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week unless specified in the class syllabus. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.