

CE 2152 – Computer Tools – Mathcad
Sections 001 and 002
Course Syllabus
Spring 2015

Instructor: Dr. James Leininger
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Website: <http://ce2152.utace.net>
Office Hours: MT 10:30 am – 11:30 am
or by appointment

Class Meeting: 001 – Th 10:00 – 11:50 am
002 – F 10:00 – 11:50 am
239 Nedderman Hall
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Office Hours: M 9:00 am – 10:30 am
T 1:00 pm – 2:30 pm

Faculty Profile: <https://www.uta.edu/mentis/profile/?3463>

Description of Course Content: Introduction to computer aided mathematics, using Mathcad. Solution of engineering problems involving systems of simultaneous linear and nonlinear equations and elementary calculus, use of the tools for visualization.

Student Learning Outcomes: Formulate and solve engineering problems utilizing the computer tool Mathcad and present the problem solutions in a standardized form.

ABET learning outcomes:

- (e) an ability to identify, formulate, and solve engineering problems
- (k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Techniques, Skills, and Modern Engineering Tools Used in this Course: The computer aided mathematics tool Mathcad is the focus of this course.

Required Textbook: **Essential PTC Mathcad Prime 3.0**; Brent Maxfield, P.E., Academic Press;
ISBN-13 978-0-12-410410-5

Policies: Normally, the class will be conducted in accordance with the policies given below. However, it is impossible to anticipate every possible circumstance. The instructor reserves the right to modify the given policies or to deviate from them in unforeseen or unusual circumstances. If there is a policy that you anticipate will affect you in a way that seems unfair, please bring it to the attention of the instructor before the end of the second week of class. After that, the reason for a student initiated change in policy must be compelling.

Assignments: Homework problems will be assigned, submitted, and returned in electronic form in a manner described in a separate document. Students are encouraged to work together and assist one another while completing the homework problems. However, submitted homework must be the work of the individual student. The required presentation format for problems solved in homework and examinations will be covered in class.

Major Assignments and Examinations: This class has no major assignments. There will be two midterm examinations and a comprehensive final examination. The dates of all the examinations are given below. There is always a small chance that a midterm examination will be rescheduled. Notice of such a change will be provided as soon as possible. The time of the final exam is set in the UTA final examination schedule.

	001	002
Exam 1	Thursday, February 26	Friday, February 27
Exam 2	Thursday, April 16	Friday, April 17
Final Exam	Tuesday, May 12, 11:00 am	Monday, May 11, 8:00 am

Attendance: At The University of Texas at Arlington, taking attendance is not required. (New university policy requires that attendance be taken through January 26.) Rather, each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, I expect regular and punctual attendance of students enrolled in this class. Absences may indirectly affect one's grade. The student is responsible for determining what was covered during missed classes.

Other Requirements:

Prerequisites: Grade of C or better in PHYS 1443 – General Technical Physics I

Grading:

Component	Weight	Total (T)	Grade
Homework	10%	$90 \leq T \leq 100$	A
Examination 1	25%	$80 \leq T < 90$	B
Examination 2	25%	$70 \leq T < 80$	C
Final Examination	40%	$60 \leq T < 70$	D
		$0 \leq T < 60$	F

Make-up Examinations: Makeup lecture examinations are not given unless required by UTA policy. For university authorized absences, the student is required to follow the university policy as described at: http://web.uta.edu/catalog/content/general/academic_regulations.aspx#9 and in the following section. If an examination is missed as a result of an illness, the following policy applies. It is the responsibility of the student to provide acceptable, written documentation from a recognized medical professional stating that the health of the student or his classmates would have been jeopardized by the student's attendance at the examination. The documentation must be presented within one week of the student's return to class. For excused absences, unless a makeup examination is required by university policy, the score on the final exam will be used to replace the first missed lecture exam. If arrangements are made well in advance, a lecture examination can usually be taken before the scheduled time and a more lenient excuse policy is applied. The treatment of missed examinations, not covered by this policy, will be determined on a case by case basis.

Grade Grievances: Any appeal of a grade in this course must follow the procedures and deadlines for grade-related grievances as published in the current undergraduate catalog. See <http://catalog.uta.edu/academicregulations/grades/#undergraduatetext>.

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. For Engineering students, added classes must be on the list approved by the academic advisor. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students and Freshmen 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 (Friday, April 3, 2015). 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://web.uta.edu/ao/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.

Title IX: The University of Texas at Arlington is committed to upholding U.S. Federal Law “Title IX” such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit www.uta.edu/titleIX.

Academic Integrity: 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.

UT Arlington faculty members 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.

Electronic Communication Policy: 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>.

In addition, the class has an internet website – <http://CE2152.utace.net>. The website includes the class schedule, an examination solutions, and other resources.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as “lecture,” “seminar,” or “laboratory” shall be directed to complete an online 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.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, which is located south of the main elevators. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist handicapped individuals.

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.

Writing Center: : [Optional.] The Writing Center, 411 Central Library, offers individual 40 minute sessions to review assignments, Quick Hits (5-10 minute quick answers to questions), and workshops on grammar and specific writing projects. Visit <https://uta.mywconline.com/> to register and make appointments. For hours, information about the writing workshops we offer, scheduling a classroom visit, and descriptions of the services we offer undergraduates, graduate students, and faculty members, please visit our website at www.uta.edu/owl/.

Librarian to Contact: Sylvia George-Williams, 817-272-7519, sylvia@uta.edu.

Course Schedule:

A course schedule is provided on the class website. This schedule will include a reading assignment, the topic of each class, and a link to class notes as they become available. The student should read the material to be covered before and after the specified class. The schedule below is generally correct, but the schedule on the website will contain the most up to date information.

Jan 22/23	Class Organization, Obtaining and Submitting Files
Jan 29/30	Problem organization ,Variables, Arithmetic, Predefined functions,
Feb 5/6	vectors and arrays, User defined functions
Feb 12/13	Simple graphing, using a solve block
Feb 19/20	Numerical differentiation and integration
Feb 26/27	Examination 1
Mar 5/6	Programming with parameters and using debugging tools
Mar 12/13	Spring Break
Mar 19/20	Programming with conditional statements
Mar 26/27	Programming with loops
Apr 2/3	Animation
Apr 9/10	Animation
Apr 16/17	Examination
Apr 23/24	Programming
Apr 30/May 1	Programming
May 7/8	Programming
May 12/11	Final Exam

I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course.