

MATH 3380.001 – Algorithms in Applied Mathematics

Instructor Contact Information:

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Office: RBN 4012
Meeting Time: TR 2:00PM

Office Hours: TBA

Required Text: "Excursions in Algorithms and Mathematical Computing"

Prerequisites

You may enroll in MATH 3380 if you have successfully completed COSC 2308 and either MATH 2414 or MATH 4330.

Catalog Description of Course

Study of applications selected from descriptive statistics, combinatorics, numerical methods, and matrices utilizing the computer.

Grading: There will be a midterm exam as well as a final exam. Each will count one fifth of your final grade. There will be a final project which will count for one fifth of your final grade. The remaining two fifths of your grade will be based upon your programming assignments (homework).

Cell Phone Policy

Before class begins, you must turn your cell phone/PDA/pager/gizmo off or put it on silent mode. NOT VIBRATE - SILENT OR OFF! Cell phones cause a distraction to other students and disrupt the class.

Missed work: It is not expected that you will miss the midterm. If an emergency situation or university-sanctioned event forces your absence on the day of the midterm and if you have discussed the situation in advance with the instructor, your final exam grade will be used to replace your midterm. Lack of preparation on your part will not be considered an emergency by the instructor.

Student Academic Conduct: It is your responsibility to learn the material in this course for your own benefit. You should not let this discourage you from working together on your programming assignments (homework), but in the end what you turn in should reflect your understanding, not just be copied from someone else. *During the midterm exam and the final exam, a code of honor will apply under which students are to work alone and neither give help to others nor receive help from any sources.* Students are also expected to help enforce this code. Students are encouraged to obtain a copy of *A Student Guide to Conduct and Discipline at UT Tyler*, available in the Office of Student Affairs.

Blackboard

I will use Blackboard to contact you, post assignments and grades.

Classroom Policy

If you know you will be late for class or have to leave early, notify me ahead of time. Entering late and leaving early should be done quietly, quickly, and rarely.

Computers

This course will involve extensive use of computers. The instructor will use Matlab as the platform for all instruction and sample code.

Student Learning Outcomes

By the end of the course students should be able to:

- Implement and apply basic numerical algorithms (root finding, equation solving, etc).
- Implement and apply basic symbolic algorithms (polynomials, factoring, etc.).
- Be able to differentiate between deterministic and probabilistic algorithms, apply them in both symbolic and numerical contexts, and assess the benefits and drawbacks of applying each in various situations.
- Be comfortable enough using the computer to explore mathematics to select a topic of mathematical interest and complete a programming project on that topic.

Mathematics Learning Center (MLC)

The Department of Mathematics provides a free tutoring service for UT Tyler students taking lower level mathematics courses (Intermediate Algebra through Calculus II) in the Mathematics Learning Center located in RBN 4021. The MLC is generally open 8am-10pm Monday through Thursday and 8am-5pm on Fridays. During these hours students have access to free tutoring, access to computers for online homework and Mathematica labs, and have a place to work on homework. Upon entering the MLC students are asked for their student ID which will be scanned for attendance and held until the student wishes to be scanned out before leaving the lab. The MLC is a place to do work related to your mathematics courses - it is not a general access lab used for surfing the internet and checking email (this will be monitored by the tutors). As such, you should expect the tutors to help you with your homework. However, this doesn't mean that they remember how to do all of the different types of problems. Sometimes it will be necessary for the tutor to ask for your book to review some material before helping you. If a tutor cannot figure something out, then they will consult with a faculty member. Occasionally things go wrong in the MLC and we need to hear about it. If you feel that you are not getting the help that you need (tutors ignoring your requests for help or refusing to help due to ignorance of a subject) or if the environment is too distracting (loud talking, someone playing music, etc), then go to your instructor or Joshua Jones (RBN 4004) to report your problem. It is especially important to remember the day and time that the incident occurred. All complaints will be kept anonymous.

University Policies

Students Rights and Responsibilities

To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link:

<http://www.uttyler.edu/wellness/StudentRightsandResponsibilities.html>

Grade Replacement/Forgiveness

If you are repeating this course for a grade replacement, you must file an intent to receive grade forgiveness with the registrar by the 12th day of class. Failure to do so will result in both the original and repeated grade being used to calculate your overall grade point average.

Undergraduates will receive grade forgiveness (grade replacement) for only three course repeats; graduates, for two course repeats during his/her career at UT Tyler.

State-Mandated Course Drop Policy

Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the 12th day of class (See Schedule of Classes for the specific date). Exceptions to the 6-drop rule include, but are not limited to, the following: totally withdrawing from the university; being administratively dropped from a course; dropping a course for a personal emergency; dropping a course for documented change of work schedule; or dropping a course for active duty service with the U.S. armed forces or Texas National Guard.

Petitions for exemptions must be submitted to the Registrar's Office and must be accompanied by documentation of the extenuating circumstance. Please contact the Registrar's Office if you have any questions.

Disability Services

In accordance with federal law, a student requesting accommodation must provide documentation of his/her disability to the Disability Support Services counselor. If you have a disability, including a learning disability, for which you request an accommodation, please contact Ida MacDonald in the Disability Support Services office in UC 282, or call (903) 566-7079.

Student Absence due to Religious Observance

Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

Student Absence for University-Sponsored Events and Activities

If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

Social Security and FERPA Statement:

It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.