

Math 5381 – Applied Mathematics

Fall 2007

Professor: Dr. Deborah Koslover

Office: RBN 4010

Office Hours: Monday 3-5 PM, Wednesday 9:30-10:30 AM and Wednesday 4-5 PM. I will be holding my office hours in the Math Learning Lab RBN 4021. These times will be set aside for your exclusive use. Additionally, any other time, if my office door is open, you are welcome to come in for help. If my door is closed, I am probably busy and you should come back later. I will rarely be available on Tuesdays and Thursdays as they are my research days. If you cannot come by during office hours, you can call or email to make an appointment.

Telephone Number: 903-566-7143

Email: dkoslover@uttyler.edu

AIM screen name: debpi3141. Add my name to your buddy list. If I am on AIM, you are welcome to ask me questions. This is a good time to anonymously ask questions, if you are too shy to ask them in class. I will hold scheduled AIM office hours in the late afternoon or early evening on the day before tests, so that you can ask any last minute questions.

Class Meeting Time: 2:00-2:50 MWF

Room: SCI 140

Required Texts: *Mathematical Physics: A Modern Introduction to its Foundations*, 1st Edition, Sadri Hassani, Springer 1999, ISBN # 0387985794

Prerequisites: MATH 3203 and MATH 3305

Course Description: Ordinary differential equations, partial differential equations, and dynamical systems, complex variables, spectral theory, transformations and modeling

Learning Outcomes: At the conclusion of the course, the student should be able to:

1. State the basic properties and theorems of finite-dimensional and infinite dimensional vector spaces.
2. Expand functions in terms of classical orthogonal polynomials and Fourier series and use the expansions to solve ordinary and partial differential equations.
3. Understand the main properties and examples of analytic functions.
4. Use the Residue Theorem to evaluate integrals that cannot be evaluated by elementary calculus techniques.
5. Solve ordinary differential equations using analytical and numerical methods of solution.

Attendance Policy: Please notify the professor in advance if you must miss a class, be late for a class or leave early.

Homework: Homework will be assigned daily. Homework assigned during the week will be due in class on Wednesday of the following week. Assignments will appear on Blackboard. Selected problems will be graded for accuracy, completeness and legibility. Late assignments will be accepted for one week and will receive ½ credit. Solutions to homework problems will appear on Blackboard after the final due dates. Homework will be worth 10% of your grade.

Tests and Final Exams: There will be three tests (30% each) The dates and times of these exams are as follows:

- **Test 1:** Friday, September 28
- **Test 2:** Wednesday, October 29
- **Test 3:** Wednesday, December 12, from 2:45-4:45 PM

You must take the final exam on the date given. Do not plan your winter vacation to start early.

Make-ups: Make-ups for **documented** absences that are **required** as part of a UT Tyler obligation (e.g. athletes participating in an event, participating in a debate contest, etc.) or for religious observation will be granted. For all make-ups of this type, prior notification of at least one week and documentation are required. Other make-ups are granted only in extreme cases and at the sole discretion of the instructor.

Blackboard: You MUST register for this class on Blackboard 6. To do so go to <http://ccs.uttyler.edu/blackboard/>. Follow the instructions at the website to login.

The Blackboard server does not know courses you are taking. At the beginning of each semester you may have to search for, and "Enroll", in any Blackboard courses that are available to you.

After you Log In, click on the "Courses" tab at the top of the Blackboard window Search for Matrix Methods in the Course Catalog When you find your course name, DO NOT CLICK ON THE COURSE NAME. Look for and click on the "Enroll" button to the right of the course name. Follow the instructions for enrolling in that Blackboard course. The password is – **firefly**.

Be sure to update your email address - the default is your patriot email address. I will use Blackboard to contact you, post assignments and grades. If you have a homework question and cannot get to my office, you may post it on the discussion board. Then, email me and let me know that you made a post. I will answer your question and if I feel it is of general interest, email the class that a post has been made.

Calculator Policy: No calculators will be allowed on quizzes and tests.

Cell phones, IPODs and other electronic devices: Please set your cell phones and pagers to silent mode. If you are expecting an emergency call, please notify the professor

in advance, sit near the door, and answer the phone outside. You will not be allowed to wear an IPOD or other electronic devices during an exam.

Important Dates:

September 3 – Labor Day Holiday – No class

September 5 – 12th day

September 28 – Test 1

October 29 – Test 2

October 29 – Last day to withdraw from classes

November 21-23 – Thanksgiving Holiday – No class

December 12 – Test 3 2:45-4:45 PM

Disability Statement: If you have a disability, including a learning disability, for which you request disability support services/accommodation(s), please contact Ida MacDonald in the Disability Support Services office so that the appropriate arrangements may be made. In accordance with federal law, a student requesting disability support services/accommodation(s) must provide appropriate documentation of his/her disability to the Disability Support Services counselor. For more information, call or visit the Student Services Center located in the University Center, Room 282. The telephone number is 566-7079 (TDD 565-5579)." Additional information may also be obtained at the following UT Tyler Web address: <http://www.uttyler.edu/disabilityservices>.

Social Security 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 identification numbers.

Note Regarding Student Absence due to Religious Observance: Students who anticipate being absent from class due to religious observance are requested to inform the instructor by the second class meeting of such absences.

Grade Replacement: 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 (September 5). Failure to file an intent to use grade forgiveness will result in both the original and repeated grade being used to calculate your overall grade point average. A student will receive grade forgiveness (grade replacement) for only three (undergraduate student) or two (graduate student) course repeats during his/her career at UT Tyler. (2006-08 Catalog, p. 35)