

## **MATH 5383.001 Syllabus Applied Mathematics II**

**Instructor:** Prof. Regan Beckham

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**Office:** RBN 4012

**Office Hours:** MWR 1:15-2:15pm

**Class Meeting Time:** MWF 10:10-11:05a, RBN 4039

**Required Text:** *Perturbation Methods for Scientist and Engineers*, by Alan Bush

This is a graduate course in *Applied Mathematics* with an emphasis on modeling and analysis of physical problems. You will find that the material in this course has broad applicability and is used by professionals and researchers in mathematics, science, and engineering. It will be assumed that you are well versed in calculus and ordinary differential equations, and are comfortable with real analysis. Linear algebra is helpful but not required.

If you chose to take this class you should:

- *Read the book* – This is a graduate level course and it will be assumed that you are reading the book in preparation of the lectures. The textbook is not just a source of homework problems. Reading the sections to be covered will aid in your comprehension and successful mastery of the material.
- *Attend Class* – I have no formal attendance policy and it does not count as part of your grade in a direct way; however, to fully understand the material you need to be an active participant in the classroom discussions. You should not take this course if you are not committed to attending class.
- *Complete Homework* – Homework completion is vital to the understanding of the material. Working together to learn the material is encouraged but your submitted work should be your own. Due dates for the homework assignments are firm and no late work will be accepted without penalty. Your answers should be correct, justified, and clearly written. If I cannot understand an answer and/or the proper work is not show then it is wrong.

### **Make-up Policy**

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.

### **UT Tyler Honor Code**

To embrace honor and integrity that will not allow me to lie, cheat, or steal, nor to accept the actions of those who do.

Your final grade will be based on the following:

### **Exams (Problem Sets)**

There will be 5 equally weighted exam problem sets throughout the semester. Every exam is comprehensive.

### **A bit about study groups**

In my experience, study groups are most successful when the following are done. First, the problems should be attempted by the group members before the group meets. Next, the problems should be discussed in the group. Finally, the problems are completed by the individual. If problems are worked from start to finish in the group only the strongest students will benefit.

You should limit the amount of outside aid you get in the course. I do not recommend tutoring. If you have questions come see *me*.

### **A bit about grading**

Below is the grading scheme that will be used for all exam problems. Whether this splits up to each part of a multi-part problem depends on the necessary work to move through each part.

- 0 - No progress or relevant information given for the problem
- 1 - Some progress which could lead to a correct solution
- 2 - Significant progress, major elements present, partial explanation/proof
- 3 - Essentially complete and correct solution, with minor gaps, errors, or lack of explanation
- 4 - Fully correct and complete solution with all relevant information and explanation

The grading scale for the course will be no more harsh than

Percentages

100 - 85 A, below 85 - 70 B, below 70 - 50 C, below 50 - 37.5 D, below 37.5 F

### **Student Learning Outcomes**

By the end of the course students should:

- have a better understanding of Applied Mathematics.
- be able to analyze a physical problem and model it mathematically.
- be able to use mathematical techniques to analyze a mathematical model.
- be able to use mathematical results to make conclusions about physical models studied.

### **University Policies (this must be on all syllabi)**

For University policies concerning Students Rights and Responsibilities, Grade Replacement/ Forgiveness, State-Mandated Course Drop Policy, Disability Services, Student Absence due to Religious Observance, Student Absence for University-Sponsored Events and Activities, and the Social Security and FERPA Statement please see:

<http://www.uttyler.edu/academicaffairs/syllabuspolicies.pdf>

### **UNIVERSITY POLICIES AND ADDITIONAL INFORMATION THAT MUST APPEAR IN EACH COURSE SYLLABUS**

#### **UT Tyler Honor Code**

Every member of the UT Tyler community joins together to embrace: Honor and integrity that will not allow me to lie, cheat, or steal, nor to accept the actions of those who do.

#### **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/rightsresponsibilities.php>

#### **Campus Carry**

We respect the right and privacy of students 21 and over who are duly licensed to carry concealed weapons in this class. License holders are expected to behave responsibly and keep a handgun secure and concealed. More information is available at <http://www.uttyler.edu/about/campus-carry/index.php>

#### **UT Tyler a Tobacco-Free University**

All forms of tobacco will not be permitted on the UT Tyler main campus, branch campuses, and any property owned by UT Tyler. This applies to all members of the University community, including students, faculty, staff, University affiliates, contractors, and visitors.

Forms of tobacco not permitted include cigarettes, cigars, pipes, water pipes (hookah), bidis, kreteks, electronic cigarettes, smokeless tobacco, snuff, chewing tobacco, and all other tobacco products.

There are several cessation programs available to students looking to quit smoking, including counseling, quitlines, and group support. For more information on cessation programs please visit [www.uttyler.edu/tobacco-free](http://www.uttyler.edu/tobacco-free).

### Grade Replacement/Forgiveness and Census Date Policies

Students repeating a course for grade forgiveness (grade replacement) must file a Grade Replacement Contract with the Enrollment Services Center (ADM 230) on or before the Census Date of the semester in which the course will be repeated. (For Fall, the Census Date is Sept. 12.) Grade Replacement Contracts are available in the Enrollment Services Center or at <http://www.uttyler.edu/registrar>. Each semester's Census Date can be found on the Contract itself, on the Academic Calendar, or in the information pamphlets published each semester by the Office of the Registrar.

Failure to file a Grade Replacement Contract will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates are eligible to exercise grade replacement for only three course repeats during their career at UT Tyler; graduates are eligible for two grade replacements. Full policy details are printed on each Grade Replacement Contract.

The Census Date (Sept. 12th) is the deadline for many forms and enrollment actions of which students need to be aware. These include:

1. Submitting Grade Replacement Contracts, Transient Forms, requests to withhold directory information, approvals for taking courses as Audit, Pass/Fail or Credit/No Credit.
2. Receiving 100% refunds for partial withdrawals. (There is no refund for these after the Census Date)
3. Schedule adjustments (section changes, adding a new class, dropping without a "W" grade)
4. Being reinstated or re-enrolled in classes after being dropped for non-payment
5. Completing the process for tuition exemptions or waivers through Financial Aid 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 census date (See Academic Calendar for the specific date).  
Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Enrollment Services Center and must be accompanied by documentation of the extenuating circumstance. Please contact the Enrollment Services

Center if you have any questions.

#### Disability/Accessibility Services

In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University of Texas at Tyler offers accommodations to students with learning, physical and/or psychological disabilities. If you have a disability, including a non-visible diagnosis such as a learning disorder, chronic illness, TBI, PTSD, ADHD, or you have a history of modifications or accommodations in a previous educational environment, you are encouraged to visit <https://hood.accessiblelearning.com/UTTyler> and fill out the New Student application. The Student Accessibility and Resources (SAR) office will contact you when your application has been submitted and an appointment with Cynthia Lowery, Assistant Director of Student Services/ADA Coordinator. For more information, including filling out an application for services, please visit the SAR webpage at <http://www.uttyler.edu/disabilityservices>, the SAR office located in the University Center, # 3150 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.

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#### 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.

#### Emergency Exits and Evacuation

Everyone is required to exit the building when a fire alarm goes off. Follow your instructor's directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do not re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services.

#### Student Standards of Academic Conduct

Disciplinary proceedings may be initiated against any student who engages in scholastic dishonesty, including, but not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an

examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

- i. “Cheating” includes, but is not limited to:
  1. copying from another student’s test paper;
  2. using, during a test, materials not authorized by the person giving the test;
  3. failure to comply with instructions given by the person administering the test;
  4. possession during a test of materials which are not authorized by the person giving the test, such as class notes or specifically designed “crib notes”. The presence of textbooks constitutes a violation if they have been specifically prohibited by the person administering the test;
  5. using, buying, stealing, transporting, or soliciting in whole or part the contents of an unadministered test, test key, homework solution, or computer program;
  6. collaborating with or seeking aid from another student during a test or other assignment without authority;
  7. discussing the contents of an examination with another student who will take the examination;
  8. divulging the contents of an examination, for the purpose of preserving questions for use by another, when the instructors has designated that the examination is not to be removed from the examination room or not to be returned or to be kept by the student;
  9. substituting for another person, or permitting another person to substitute for oneself to take a course, a test, or any course-related assignment;
  10. paying or offering money or other valuable thing to, or coercing another person to obtain an unadministered test, test

key, homework solution, or computer program or information about an unadministered test, test key, home solution or computer program;

11. falsifying research data, laboratory reports, and/or other academic work offered for credit;
  12. taking, keeping, misplacing, or damaging the property of The University of Texas at Tyler, or of another, if the student knows or reasonably should know that an unfair academic advantage would be gained by such conduct; and
  13. misrepresenting facts, including providing false grades or resumes, for the purpose of obtaining an academic or financial benefit or injuring another student academically or financially.
- ii. “Plagiarism” includes, but is not limited to, the appropriation, buying, receiving as a gift, or obtaining by any means another’s work and the submission of it as one’s own academic work offered for credit.
  - iii. “Collusion” includes, but is not limited to, the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any section of the rules on scholastic dishonesty.
  - iv. All written work that is submitted will be subject to review by plagiarism software.

#### UT Tyler Resources for Students

1. [UT Tyler Writing Center](mailto:writingcenter@uttyler.edu) (903.565.5995), [writingcenter@uttyler.edu](mailto:writingcenter@uttyler.edu)
2. [UT Tyler Tutoring Center](mailto:tutoring@uttyler.edu) (903.565.5964), [tutoring@uttyler.edu](mailto:tutoring@uttyler.edu)
3. The Mathematics Learning Center, RBN 4021, this is the open access computer lab for math students, with tutors on duty to assist students who are enrolled in early-career courses.

4. [UT Tyler Counseling Center \(903.566.7254\)](#)