

003 Lecture	MWF 10:00-11:15	WH 117
004 Lab/Rec	T 10:00-11:15	Lab: SB 112J, Rec: TBA

**Instructor:** Charles Tier    **Office:** E1 212    **Office Hours:** MWF 12:45-1:45 or appointment

**E-mail:** ctier@iit.edu

**Web Site:** [www.iit.edu/~ctier/Math152](http://www.iit.edu/~ctier/Math152) (check often)

**Textbook:** James Stewart, *Calculus 6th. ed.* Brooks Cole.

**Prerequisites:** C or better in Math 151 or Math 149 or Advanced Placement.

**Graduate Teaching Assistant:** Ben Niu, nben@iit.edu

### Course Topics

- Chapter 7 - Inverse and transcendental function
- Chapter 8 - Techniques of Integration
- Chapter 10 - Differential Equations
- Chapter 11 - Parametric Equations
- Chapter 12 - Infinite Series
- Appendix G - Complex numbers

### Course Objectives

- The student should acquire a sound understanding of the common transcendental functions.
- The student should become proficient in the basic techniques of integration for the evaluation of definite, indefinite, and improper integrals.
- The student should learn to solve first-order separable and linear differential equations with initial values.
- The student should learn parametric curves and polar curves and their calculus.
- The student should learn infinite series, power series and Taylor polynomial and series, and their convergence properties.
- The student should be able to utilize the computer algebra system Maple to explore mathematical concepts, illustrate them graphically, and solve problems numerically or symbolically.
- The student should become a more effective communicator by developing his/her technical writing skills in the preparation of several Maple lab reports.

## Required Coursework

**Hourly Exams:** There will be three hour exams during the semester. Unless otherwise stated, *calculators* will **not** be allowed during the exams. Tentative Dates: Exam 1 - Sept. 17, Exam 2 - Oct. 15, Exam 3 - Nov 21.

**Final Exam:** A comprehensive final exam will be given during the IIT final exam week (date TBA). Unless otherwise stated, *calculators* will **not** be allowed during the final exam.

**Quizzes:** Short quizzes may be given on the day a homework assignment is due with questions similar to the homework problems.

**Homework:** Homework assignments will typically be posted once per week and will consist of (i) problems to hand in, and (ii) practice problems not to hand in. It will be collected at the beginning of class on the due date and graded. You are encouraged to discuss homework problems but only with another student in Math 152 this semester, the TA, an IIT ARC tutor, or the instructor. It is recommended to practice a problem until you can solve it quickly without calculator or Maple in order to prepare for exams. The more problems you do will improve your understanding of the material and your grade.

**Maple Labs:** Maple labs will be due roughly once every other week at the beginning of lab. Lab assignments and due dates will be maintained on the course web page. Maple labs may be and are encouraged to be done in groups of (at most) 2. The collaboration policy for Maple labs is as for homework except that your partner can always be consulted. The group work is intended to improve communication skills.

**Recitation:** During the recitation sessions, you must explain and solve several recitation problems at the board during the semester, which will count as the recitation problem grade component. Recitation problem assignments and Maple lab assignments are separate from the regular homework and will also be posted on the course website under the lab link.

Solutions for homeworks, labs and exams must be written clearly, legibly, and concisely and will be graded on mathematical correctness and presentation. Points will be deducted for sloppiness, incoherent or insufficient explanation, or for lack of supporting rationale. The solutions should be presented so that your fellow students could read them and follow both the calculations and logic.

### Grading Policy (approximate percentages)

- Three Hour Exams - 45%
- Final Exam - 40%
- Maple labs - 5%
- Homework/Quizzes - 5%
- Recitation - 5%

Tentative Grading Distribution: A: 85-100; B: 74-84; C: 60-73; D: 51-59; E:  $\leq 50$ .

## **Class Etiquette and Rules**

We are all members of the IIT academic community. We should treat each other with respect and use proper ethics in our work. You should be aware of the following.

- Attendance is mandatory and will be taken in every lecture, lab, and recitation session. Students are required to attend all classes. Lack of attendance can be reflected in the final grade.
- During all classes, students are prohibited from using iPods, notebook computers, etc. Cell phones should be off and are not allowed for calls or text messaging. A ringing phone will lead to a penalty (see webpage).
- Refrain from talking in class and in general avoid behaviour that will distract others' attention.
- Academic Integrity: By writing your name on your work you certify that you have adhered to the homework and lab policy, and that all exam work is your own without any unauthorized assistance or aids. The Code of Conduct in the IIT Student Handbook applies, and violations will be prosecuted accordingly.
- Disability Assistance: IIT and this instructor are committed to accommodating students with disabilities. Students desiring such consideration must immediately contact the Center for Disability Resources and Educational Development at 567-5744. (Their approval must be had for any exceptions regarding exam guidelines.)
- Talk to your instructor about any problems that may prevent you from performing up to your expectations. Any concerns about the class pace, material, sections, quizzes and homework should be promptly discussed with your instructor.
- Missed Work: Assignments/exams/labs cannot be made up except as approved by the instructor (e.g., due to official IIT activity or documented emergency). An exam missed for an excused reason must be made up promptly upon the students return, the time frame being at the discretion of the instructor.