

# CALCULUS III

## MATH 2057

### SECTION 2

#### Course Information

- **Course:** Math 2057 Section 2
- **Text:** Calculus (early transcendentals), 7th ed.
- **Author:** James Stewart
- **Course Content:** Chapters 14-16.
- **Classroom:** 0015 Lockett Hall (locates in the basement)
- **Time:** 2:30 - 3:20 pm MWF

#### Instructor Information

- **Instructor:** Dr. Ling Long
- **Office:** 256 Lockett Hall
- **Office Hours:** MWF 9-10:20 am, or by appointment
- **Phone:** 578-1654
- **email:** llong@lsu.edu

#### Course Description

This three-hour course on multi-dimensional calculus is designed for math, science and engineering majors and certain other technical majors. It covers partial derivatives, multiple integrals and vector fields.

As a 3-credit course, students are expected to have six hours of coursework outside of class per week, for a minimum time commitment of 9 hours per week.

#### Graded Work

<b>Final Exam</b>	Comprehensive	30%
<b>Exams</b>	Two 50-minute exams	40% (20% each)
<b>In-Class Quizzes</b>	varies	20%
<b>Online Homework</b>	varies	10%

**WebAssign:** We will be using WebAssign to do online homework and quizzes. A WebAssign access code is included with your textbook, or you can purchase access directly from the WebAssign website without buying a book at all. Access to WebAssign also gives you access to the e-book version of our textbook, so if you like using e-books then there is no need to buy a physical textbook. An access code may also be purchased without a textbook at campus bookstores with a small markup in price.

Create a WebAssign account by going to [www.webassign.net](http://www.webassign.net) and clicking on the link labelled "I have a class key." The key for our class is **lsu 4506 4037**. In the field that asks for your

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student ID, enter your LSU ID number (89....) without any hyphens or spaces. The student ID number is needed to transfer your scores into the Moodle gradebook.

**Tests:** There will be two inclass 50-minute-long midterms and one final exam. No books or notes are permitted. The problems will be similar to those in the homework. To request any make-up exam, valid documents (such as physical doctor's notes or team travel notices) will be required. Your lowest hour test score will be replaced by your final exam score if it is higher.

**Calculators and Collaboration:** You can use any technology available to help with homework and online quizzes, and you may collaborate with others while doing them. However, on in-class quizzes and exams you may only use a scientific calculator that does not do graphs or symbolic manipulation, such as solving equations and symbolically calculating derivatives and integrals. Work on in-class exams must be your own work with no assistance from anyone else. During an exam, attempts to look at other students' exams and the use of crib sheets or formula sheets will be considered to be a violation of the LSU Code of Student Conduct and will be reported to the Student Advocacy and Accountability Office.

**Quizzes:** There will be regular quizzes. Each quiz is about 15 minutes long, largely consists of problems chosen from homework assignments. Two lowest quiz scores will be dropped in the end. NO make-up quiz will be given.

### Grading Scale

A+	97+
A	93-97
A-	90-93
B+	87-90
B	83-87
B-	80-83
C+	77-80
C	73-77
C-	70-73
D+	67-70
D	63-67
D-	60-63
F	0-59

### Exam Schedule

Exam 1:	<b>Friday September 16</b>
Exam 2:	<b>Friday October 21</b>
Final Exam:	<b>Monday December 5 ( 5:30pm-7:30pm, in our usual classroom)</b>

### Topics Covered

A partial list of basic skills you should acquire during the course.

- (1) An understanding of limits and continuity of functions of several variables
- (2) The ability to compute partial derivatives and directional derivatives

- (3) An understanding of linear approximation for multi-variable functions
- (4) An introduction to optimization of multi-variable functions using the second derivative and Lagrange Multipliers
- (5) The ability to evaluate iterated integrals over non-rectangular regions
- (6) The ability to use multiple integrals to calculate areas, volumes, masses and centers of mass for standard plane regions and solids
- (7) An introduction to line integrals, path-independence, potential functions and surface integrals
- (8) An understanding of Green's Theorem, the Divergence Theorem and Stoke's Theorem

**Attendance and class preparation:** Regular attendance is required for this course. You should make every effort not to miss any classes and complete all the homework in a timely fashion. It is your responsibility to catch up with missed lectures. You are responsible for the announcements made in class, which may include changes to the syllabus.

**Disability Policy:** Please address any special needs or special accommodations with me at the beginning of the semester or as soon as you become aware of your needs. Those seeking accommodations based on disabilities should obtain forms from the Disability Services (DS) is located in room 115 of Johnston Hall (225-578-5919).