ZJU-UIUC INSTITUTE
Zhejiang University/University of Illinois at Urbana-Champaign Institute
浙江大学伊利诺伊大学厄巴纳香槟校区联合学院

Math 231: Calculus II (Fall 2020)

Course Syllabus

Course Overview

Topics for this course include techniques and applications of integration, infinite sequences, power series, parametric curves, polar coordinates. The course will cover Chapters 7,8, 10,11 of the textbook: Calculus: Early Transcendentals, 8th *edition*, James Stewart.

Learning Goals

After successfully completing the course, you (1) will study calculus concepts from a theoretical point of view, (2) will learn techniques of calculation, and (3) will apply calculus to model scientific problems.

Homework

Homework will be assigned through the Webassign system. Tests will be written with the assumption that you have done all of the assigned reading and can solve all of the assigned homework.

Quizzes

You should expect three quizzes at discussion sections. Quizzes will consist of 3-5 problems.

Worksheets

In your discussion sections, you will also spend some time working in small groups on worksheets. Worksheets are a continuation of lecture, but not a repeat. Topics covered in lecture will be explored further in Worksheets. The groups will be randomly formed and while each student will submit a completed worksheet, only one paper from each group will be graded and the entire group will share this grade.

Exams

There will be two one-hour midterm exams and a final exam in the end semester.

Instructors & TAs

Name	Contact	Location	Office Hours
Dr. Nikolai Dokuchaev Instructor	Dokuchaev@intl.zju.edu.cn		By appointment
Zihao Li	Zihao.19@intl.zju.edu.cn		
Jinke Li	Jinke.19@intl.zju.edu.cn		

Communication

1. Online blackboard announcements (General notice; lecture notes; worksheets; weekly reminders).
2. Email (urgent notice, e.g., reschedule; matters/questions of a personal nature).
3. In person (during office hours and help sessions).
4. Webex, Microsoft Team

Class Materials

Recommended Textbook:

James Stewart, *Calculus: Early Transcendentals*, **8th edition**

Lecture notes & Worksheets & Handouts

Will be posted weekly after each lecture.

Course Grade Partitions

The components of the final grade are listed by type and final grade percentage:

Assessment Type	Final Grade Percentage
Homework	10%
Worksheets	10%
Quizzes	10%.
Midterm exams (2)	35%.
Final exam	35%
Total	100%

Dropped scores

Your lowest 2 worksheet scores will be dropped. The lowest 2 homework scores will be dropped.

Homework/Quiz/Exam Policy

1. **Homework will be assigned after each lecture.** Late submissions will reduce half of earned points.
2. No calculators are allowed for midterm and the final exam. To help prepare for this, you should refrain from using calculators on HW and GW assignments.

3. Homework is given to help you understand and learn the material. Cooperation is encouraged but each student submits assignments independently. Blindly copying somebody else's homework is cheating, it's not cooperation. Both parties are held responsible.
4. Cooperation during exams is cheating and will **NOT** be tolerated. You MUST bring your ID card to the exam.
5. Missed exams: There will be no make-up exams. Rather, in the event of a valid illness, accident, or family crisis you can be excused from an exam so that it does not count towards your overall average. Such situations must be documented and it is at the instructor's discretion whether an exam will be excused. All such requests should be made in advance if possible. In case of illness, a note stating you visited a doctor is not sufficient for excusal.
6. Returned work and grade disputes: Quizzes will be returned in discussion sections and exam will return in your TA's office hour. Your Solutions to quizzes and exams will be posted after the tests. Grading issues should be discussed with me in office hours.
7.

Use of electronic devices

Laptop and tablet are allowed during lectures, but **ONLY for class purposes.** Any other use is inappropriate (you would agree that streaming your favorite show is not the best use of class time). No electronic devices of any type are allowed during exams. **Please silence your phone during lectures, discussions and exams.**

Tentative Schedule of Lectures

Week	Monday lecture	Wednesday lecture	Discussion
1	Syllabus, Revision §5.3, §5.5, §6.2	Applications of integrals . Integration by parts §5.4 §7.1	Worksheet #1 (Review, §7.1)
2	Trig Integrals. Trig Substitution §7.2 §7.3	Trig Substitution Intro to partial fractions §7.3 §7.4	Worksheet# 2 (§7.2-§7.4)
3	Partial fractions. Applications for integration §7.4§7.5	Improper integrals §7.8	Quiz 1 Worksheet #3 (§7.4, §7.5, §7.8)
4	National Day Holiday	National Day Holiday	National Day Holiday
5	Approximate Integration §7.7	Arc length §8.1	Worksheet #4 (§7.7)
6	Surface Area Applications §8.2 § 8.3	Sequences. §11.1 §11.2	Worksheet #5 (§8.1-8.3)
7	Exam 1 Review	Series. Integral Test §11.2 §11.3	Exam 1
8	Comparison Tests §11.4	Alternating Series §11.5	Worksheet #6
9	Absolute convergence, ratio test §11.6	Strategy for Testing Series §11.7	Worksheet #7
10	Power Series §11.8	Function as Power Series §11.9	Worksheet # 8
11	Taylor series §11.10	Taylor series §11.10	Worksheet #9
12	Taylor's Theorem, Taylor Polynomials, Application §11.10 §11.11	Parametric Curves §10.1 §10.2	Worksheet #10
13	Calculus with Parametric Curves §10.2, Exam 2 Review	Polar Coordinate. Area and Length in Polar Coordinates §10.3 §10.4	Exam 2
14	Final Review	Final Review	Worksheet #11

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