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JINAN UNIVERSITY

Calculus II

Lecturer: Mohammad Ganjizadeh

Time: Monday through Friday (June 18, 2018-July 20, 2018)

Office hours: 2 hours (according to the teaching schedule)

Contact Hours: 60 (50 minutes each)

Credits: 4

Location: Huiquan Building

Office: Huiquan Building 518

E-mail: mganjizadeh@gmail.com

Content

Techniques of integration, applications of integration, sequences and series, power series and Taylor series, parametric equations and polar coordinates.

Required Textbook

'*Essential Calculus*,' 2nd edition, by Stewart. We will cover most of chapters 5 through 9.

Course Hours

The course has 25 sessions in total. Each class session is 120 minutes in length. The course meets Monday through Friday.

Prerequisites:

We assume students are familiar with the standard content of a calculus I course for scientists and engineers. This includes the study of limits, derivatives, optimization of functions of a single variable, using derivatives to sketch graphs, antiderivatives and the method of substitution, definite integrals and Riemann sums, and the fundamental theorem of calculus. Moreover, they should have studied this material in the context of algebraic, exponential, logarithmic, and trigonometric functions.

Calculators: No calculators may be used on tests. Cell phones must be turned off and put away during tests.

Assignments and Graded Work:

Homework: There will be regular homework assignments posted on the course website. It is totally fine and, indeed, encouraged, to help each other solve homework problems, but it is not okay to turn in essentially identical solutions; once you have discussed the problems you should *write the solutions up on your own*. Not all homework problems will be graded.

Attendance and in-class work: Attendance is mandatory and students are expected to be in class every day for the full class period. We will be covering a lot of material very quickly, so if you get behind it will be very difficult to catch up. We will spend some time in class working on problems in groups. Some of this work may be presented or turned in. We will also have quizzes and “pop” quizzes which count toward classroom attendance and participations.

Grading Policy:

Daily homework- Will be collected and graded.	15%
Quizzes 06/22 and 07/06 /2018	15%
Midterm exams 06/29 and 07/13/2018	40%
Classroom attendance and “pop” quizzes	5%
Final Exam	25%
Total	100%

Make-Ups:

This class will go by very quickly. I strongly recommend that you never miss class, since it will be very hard to make up the material you missed and, since mathematics is cumulative, you will run the risk of getting hopelessly behind. However, I understand that life happens, so up to two missed classes will not count against you. If you miss a midterm with an excellent documented reason and the dean’s approval, you have only the following weekday to make up (Test maybe different from the actual test).

Grading Scale

The instructor will use the grading system as applied by JNU:

Definition	Letter Grade	Score
Excellent	A	90-100
Good	B	80-89
Satisfactory	C	70-79
Poor	D	60-69
Failed	E	Below 60

Approximate Day-to-Day Schedule:

WEEK 1	OBJECTIVES	SECTIONS
Monday	Introduction and review of Trigonometry Functions and their inverse	5.6 & 5.7
Tuesday	Derivative and integration of Hyperbolic functions, indeterminate values and use of L'Hopital Rule	5.7 & 6.8
Wednesday	Review 6.8 and Integration by part	6.1
Thursday	Integration of Trigonometric Functions and their product	6.2
Friday	Review and answering questions- Quiz 1	
WEEK 2		SECTIONS
Monday	Integration using partial fractions and Numerical integration	6.3 & 6.5
Tuesday	Numerical Integration and Improper Integral	6.5 & 6.6
Wednesday	Area Between the curve and volumes by the disk method	7.1 & 7.2
Thursday	Volume by disk Method and review for mid-term 1	6.2
Friday	Mid-Term 1- Week 1 and Week 2 Objectives	
WEEK 3		SECTIONS
Monday	Finding volume using cylindrical shells and Arc Length	7.3 & 7.4
Tuesday	Arc length and area of surface of revolution	7.4 & 7.5
Wednesday	Applications to Physics and Engineering- Work and Center of mass	7.6
Thursday	Sequences and Series	8.1 & 8.2
Friday	Review week's objectives- Quiz 2	
WEEK 4		SECTIONS
Monday	Convergence and Divergence of series using Integral and comparison tests	8.3
Tuesday	Convergence and Divergence using Ratio and Root Tests	8.4
Wednesday	Power Series and representing functions as Power series	8.5 & 8.6
Thursday	Taylor and Maclaurin Series, computing radius of convergence	8.7
Friday	Mid-Term 2 (Week 3 and 4 objectives)	
WEEK 5		SECTIONS
Monday	Parametric Functions and their derivatives, integrals, and arc length	9.1
Tuesday	Integration of Parametric Functions and the arc length of parametric functions graph	9.2
Wednesday	Polar Functions- conversion to rectangular, graphs, derivatives, vertical, and horizontal asymptotes.	9.3
Thursday	Integration of Polar Functions and arc length of polar graphs	9.4
Friday	Final Exam- Comprehensive	

Caveat: This syllabus is subject to change in the event of extenuating circumstances.

Academic Honesty

Jinan University defines academic misconduct as any act by a student that misrepresents the students' own academic work or that compromises the academic work of another scholastic misconduct includes (but is not limited to) cheating on assignments or examinations; plagiarizing, i.e. misrepresenting as one's own work any work done by another; submitting the same paper, or substantially similar papers, to meet the requirements of more than one course without the approval and consent of the instructors concerned; sabotaging another's work within these general definitions, however, Instructors determine what constitutes academic misconduct in the courses they teach. Students found guilty of academic misconduct in any portion of the academic work face penalties ranging from lowering of their course grade to awarding a grade of E for the entire course.