Capital University of Economics and Business
Overseas Chinese College
Course Syllabus

Year and Semester	2019 Spring (February 25, 2019 - July 12, 2019)
Course Name	Calculus II
Course Code	MAT 112
Course Type	☑ General Education (Required) ☐ General Education (Elective) ☐ Professional Course (Required) ☐ Professional Course (Elective) ☐ Basic Disciplinary Course
Course Credits	4
Course Hours	64
Prerequisites	None
Instructor	Ling Li
Contact Information	Office: C217 Tele: 010-83951082 Email: liling@cueb.edu.cn
Office Hour	TBA
Learning Centre	TBA
Grade/Section	Y01/Y02/Y03
Course Time/Place	Y01: M: 10:10—12:00; W: 10:10—12:00 / A101 Y02: T: 8:00-9:50; TH: 10:10-12:00/A102 Y03: M: 8:00-9:50; T: 13:30-15:20/A104

Textbook

James Stewart. Calculus (Seventh Edition). Higher Education Press (Thomoson) ISBN 978-7-04-039621-8

Reference Book

Anton, Bivens & Davis. Calculus (Sixth Edition). Houghton Mifflin Company (1998). Time Roman by Techseters, Inc. ISBN: 0 – 471 – 38157 – 8

Course Description

Calculus is one of the fundamental courses for university education. On the practical side, calculus is indispensable for the undertakings such as earth satellites, space exploration, cyclotrons, weather prediction, actuarial science, computer technology and electronics. It is a prerequisite for anyone wishing to study disciplines such as psychology, economics, sociology, geology, physics, engineering, and mathematics itself. Calculus II is the second part of calculus. This course introduces the parametric equations and polar coordinates, infinite sequences and series, vector functions, techniques of multivariable differentiation and integration.

Student Learning Objectives

After completing this course, students will be able to:

- Master the basic properties of parametric equations and applications of definite integral.
- Master the theory of infinite sequences and series
- Familiar with the vector function and space geometry
- Gain deeper understanding of the multivariable differentiation
- Ability to calculate multiple integrals by using the methods of integration
- Able to solve some application problems by using multivariable integration

Website Source

1. https://www.geogebra.org
2. https://open.163.com/

Teaching Methods

This course contains lectures, class discussions, homework, quizzes, presentation and exams. Textbook content will be introduced first. Students must be prepared to finish some small questions and small quizzes during the class.

Grade Criterion

Component	Weight	Description
Final Exam	20%	A cumulative final examination will be given based on all of the contents of the class. The exam paper may be composed of multiple-choice questions, short answer questions, essay questions, problems, and preparation of financial statements. Students should rely primarily on homework assignments to give them a sense of what they may see for material on exams.
Mid-Term Test	20%	A cumulative midterm test will be given based on all of the contents that have been taught in class. The test paper may be mainly composed of multiple-choice questions and it should be completed within 15 minutes in class.
Homework	15%	Most of the assigned homework is taken from the Exercises in the textbook. Assignments will be collected at the clearly stated date. Late assignments will not be accepted. The graded assignments will be kept by the tutor for reference and won't be returned to students.
Quizzes	15%	There will be at least 2 quizzes during the semester. Quizzes may or may not be announced in advance. It may also be used as a way to check the attendance. Quizzes will test your knowledge of both concepts and the application of those concepts.
Presentation	10%	The students will be divided into several groups to prepare a presentation. Each student is required to be involved in the presentation. The topics can be selected from the textbook or lectures. Each group need to finish a

		PPT related to the topic which is given and hand in the related resources to the teacher before the presentation.
Participation	10%	Individuals will be asked to participate individually in a question and answer at least 5 times during the semester. The performances should be counted in their participation.
Attendance	10%	Refer to attendance policy listed below
Total	100%	

Detailed Grade Computation

	Before Midterm	After Midterm
Attendance	5%	5%
Participation	5%	5%
Homework	5%	10%
Quizzes	5%	10%
Presentation		10%
Midterm test	20%	
Final exam		20%
Total	40%	60%

Grading Policy

A+ 97-100	A 93-96	A- 90–92	B+ 87-89	B 83-86	B- 80–82
C+ 75-79	C 70-74	C- 67–69	D+ 63–66	D 62-60	F 0- 59

Exam Schedule

Midterm Test: Apr.29-May.3,2019

Final Exam: July.8-July.12, 2019

Assessment of Student Performance

☞ Self-Study and Reading ability Practice

Instructor will give out the chapters or the reference books to read and use class hours to have discussion; students should be able to show a proactive attitude and ability for self-study and reading. Knowledge and oral English will be elements of homework or presentation score.

☞ Homework

Students should finish their homework by themselves. Copying from others will be treated as cheating and the homework scores will be lowered. Students should hand in all assignments on time. Late assignments will be accepted at the discretion of the instructor (i.e., when the student was ill or had an excused absence). Late assignments without reasonable proof will be reduced in score by 50%.

☞ Attendance

Because the course covers a great deal of material, attending every class session is very important for performing well.

- Being late for 15 minutes or more is considered an absence.

- Five hours or above of unexcused absences will result in the lower level of the final grade by one grade band (e.g. from C – to D +). Any excused absence must be discussed directly with the teacher.
- Absence which is more than 1/3 of the total teaching hours will cause an F (a failing grade) directly. But students are welcome to continue attending classes.
- An incomplete grade (I) will be considered in case of medical or family emergencies.

☞ ***Participation***

- Students should participate in classes actively. Half of participation grade is determined by their presentation in class. They are encouraged to ask questions relevant to the subject and express their own opinions. Every student should respect the ideas, opinions, and questions of their classmates.
- Students should also use office hours to ask questions or talk with the instructor for good communication and effective learning.
- Frequent visiting the instructor and chatting in English during office hours is highly recommended.
- Any misbehavior and non-class related activities in class will result in the lower level of the participation grade, including ringing cell phones.
- All above behaviors will be solely evaluated by the instructor for scoring.

☞ ***Textbook***

Students must bring the textbook to class.

Topical Course Outline

Week	Date	Topics	Homework
1	Feb.25-Mar.1	● Syllabus orientation ● Review of Calculus I	——
2	Mar.4-Mar.8	● Chapter 7 •Trigonometric integrations •Trigonometric substitution	——
3	Mar.11-Mar.15	● Chapter 7 •Partial Fractions •Improper Integrals ● Exercise for Chapter 7	——
4	Mar.18-Mar.22	● Chapter 8 •Area problem •Volume problem •Arc length problem ● Exercise for Chapter 8	——
5	Mar.25-Mar.29	● Chapter 9 •Differential equations •Linear equations ● Exercise for Chapter 9	——
6	Apr.1-Apr.5	● Chapter 10 •Calculus with parametric curves •Calculus with polar curves ● Exercises for Chapter 10	——
7	Apr.8-Apr.12	● Chapter 11 •Introduction to sequence and series	——
8	Apr.15-Apr.19	● Chapter 11	——

		•Convergence and divergence test •The integral test	
9	Apr.22-Apr.26	● Chapter 11 •The comparison test ● Quiz I	——
10	Apr.29-May3	● Midterm Test	——
11	May.6-May.10	● Chapter 11 •Alternating series •Absolute convergence and conditional convergence •Ratio and root test •Strategy for testing series	——
12	May.13-May.17	● Chapter 11 •Power series •Representation of functions as power series •Taylor and Maclaurin Series ● Exercise for Chapter 11	——
13	May.20-May.24	● Chapter 12 •Three dimensional coordinate systems •Equations of lines and planes •Vector functions and space curves ● Exercise for Chapter 12	——
14	May.27-May.31	● Chapter 14 •Functions with several variables •Limits and continuity	——
15	June.3-June.7	● Chapter 14 •Partial derivatives •Tangent planes and linear approximations •The chain rule-part one	——
16	June.10-June.14	● Chapter 14 •The chain rule-part two •Maximum and minimum values •Double integrals over rectangles ● Exercise for Chapter 14	——
17	June.17-June.21	● Chapter 15 •Iterated Integrals •Double integrals over general regions •Triples Integrals ● Exercise for Chapter 15	——
18	June.24-June.28	● Presentations ● Quiz II	——
19	July.1-July.5	● Final Review	——
20	July.8-July.12	● Final Exam	——

Note: *Some chapters or sections may leave for self-study, this is the students' duty to learn and understand, they may also be included in the quizzes or exams.*

A review in Chinese may be held during L.C. and O.H. in the semester.

Teacher's Office Hour

- The instructor's office hour is shown in the front of the office door.
- Students are suggested to use the instructor's office hour and learning center to ask questions or talk with the instructor once at least per week for good communication and effective learning, which is recorded in the students' participation.

- The time can be scheduled by instructors or students, or both.

Cheating and Plagiarism

Cheating is not tolerated. Any student caught cheating on a quiz; test or exam will be given a mark of zero (0) for the particular work. At the beginning of the semester the definition of plagiarism will be carefully explained, when any thoughts or writings of another person are used, they must be clearly identified (usually one uses quotation marks) and the source notes. **If any student is caught cheating on any homework assignment, the highest score the student can earn in that course is a "C".**

Important Dates

Spring Semester, 2019	**February 25, 2019— July 12, 2019**
Feb.24	Registration
Feb.25	Class Begin
April.5	Qingming Festival (tentative)
Apr.19	Sport's meeting (tentative)
May.1	National Labor Day (tentative)
June.7	Duanwu Festival (tentative)
June.17-21	Sophomore and Junior students' Final Exam
June.24-July.14	Sophomore and Junior students' Social Practice
June.29-July.7	Revision and Final Exam Period
July.8-July.12	Final Exam Period
July.15	Summer Vacation Begins

Note: *This syllabus is tentative and may be changed or modified throughout the semester. All students will be notified and a new syllabus will be given.*

Instructor: Ling Li **Department Head: Prof. Jingning Li**