Capital University of Economics and Business
Overseas Chinese College
Course Syllabus

MAT112 Syllabus

Semester and Year **2018 Spring (March 5,2018-July 6,2018)**

Course Name **Calculus II**

Course ID **MAT112**

Section **Y01/Y02/Y04**

Course Credits **4**

Instructor **Prof.M.Li**

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Course Description

This course will focus on one variable calculus. It contains: function, limit and continuity, derivative and its applications, the concept and property of definite and indefinite integrals and the application of them, the differential equation and its application,sequence and series,etc.

Student learning objectives

Upon completion of the course, the students should have good computational ability, logical ratiocinating ability, and the using known knowledge to resolve unknown problem ability. They should gain deeper understanding of functions, be able to use the derivative and integral to set up and solve mathematical models from verbal descriptions and can solve the questions related to differential equations.

Textbook

James Stewart 《Calculus》

Teaching methods

This course consists of lectures, discussions and student presentations. Students will be divided into small groups with a group leader helping others in the group. Students must be prepared to finish some questions and 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
Mid-Term Exam	20%	A cumulative Mid-term quiz will be given based on all of the contents of the first half of the class.
Homework	15%	Homework problems will be assigned throughout the term, including but not limited to: terminologies, research project, and reading assignments.
Quiz	20%	There will be several times quizzes during the semester. The purpose of the quizzes is to ensure that students keep up with the readings.
Participation	15%	Individuals will be asked to participate individually in questions during the semester. Students are required to meet with their teachers every week. Their performances should be counted in their participation.
Presentation	10%	Content50%+organization10%+language15%+performance25 %
Attendance	10%	Refer to attendance policy listed below.
Total	100%	

Detailed Grade computation

In a semester, the grade of attendance, participation, assignment/homework, and quiz accounts 60 percent in final grade, the Mid-term Quiz and final exam accounts 20 percent in final grade, respectively. The grade is arranged 40 percent before midterm, and 60 percent after midterm. That is shown as in the following table:

	Before midterm	After midterm
Attendance	5%	5%
Participation	5%	5%
Homework/assignment	5%	10%
Quiz	5%	10%
Mid-term Quiz	20%	
Final exam		20%

Presentation		10%
Total	40%	60%

Grading Policy

A+	100-95	A	94-90	A-	89–87
B+	86-83	B	82-80	B-	79–77
C+	76–73	C	72-70	C-	69–67
D+	66–63	D	62-60	F	59-0

Quiz/Exam Schedule

Midterm Quiz: May 5-May 11

Final Exam: July 16-July 20

Homework

Students should finish their homework (except for group projects) by themselves. **Copying from others will be treated as cheating. Students homework scored will be lowered.** Students should hand in all assignments promptly and on time. Late assignment will be accepted at the discretion of the instructor Assignment turned in late without proof of illness or had an excused absence will be reduced in score by 20%.

Attendance

Being late for 15 minutes will result in unexcused absence. Each unexcused absence will result in 10% reduction of attendance grade. Five hours of unexcused absences will result in the lowering of grade by one level, i.e. A to A-. **Students should attend class with their textbooks.**

Participation

Students should participate in classes actively**.** 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.

Any misbehavior and non-course related activities in class would result in the lowering of the participation grade. All above behaviors will be evaluated by the instructor for scoring.

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. 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".**

Course Outline

Week Index	Content
Week 1 **March 5-March 9**	Class Orientation Review of Calculus I
Week 2 **March 12-March 16**	Trigonometric Integrations Trigonometric Substitution Improper Integrations
Week 3 **March 19-March 23**	Application of Integration: Area problem Volume problem Arc length problem
Week 4 **March 26-March 30**	Application of Integration: Solving separable differential equations and using them in modeling (including the study of the equation y· =ky and exponential growth) . Solving linear differential equations
Week 5 **Apr 2-Apr 6**	Parametric Equation Calculus with Parametric Equation
Week 6 **Apr 9-Apr 13**	Polar Equation Calculus with Polar Equation
Week 7 **Apr 16-Apr 20**	Introduction to Sequence and Series Convergence and Divergence of Sequence

Week 8 **Apr 23-Apr 27**	Series of constants Motivating examples, including decimal expansion . Geometric series with applications . The harmonic series .
Week 9 **Apr 30-May 4**	Integral test Comparison test and Limit Comparison test Quiz I
Week 10 **May 7-May 11**	**Mid-term Quiz**
Week 11 **May 14-May 18**	Alternating Series Test The ratio test for convergence and divergence . Comparing series to test for convergence or divergence .
Week 12 **May 21-May 25**	Introduction to Function of more than 1 variables
Week 13 **May 28-June 1**	Limit and continuity of Function of more than 1 variables
Week 14 **June 4-June 8**	Differentiate function of more than 1 variables 2 types of Chain rule
Week 15 **June 11-June 15**	Integrate Function of more than 1 variables Integrate over a General Region
Week 16 **June 18– June 22**	Review Session For Final Examinaton and Quiz II
Week 17 **June 25– June 29**	Students'Presentation (1)
Week 18 **July 2-July 6**	Students'Presentation (2)
Week 19 **July 9-July 13**	**Review Week**
Week 20 **July 16-July 20**	**Final Examination**

Note: This syllabus is tentative and may be changed or modified

throughout the semester.

2017-2018 Academic Calendar

Spring Semester, 2018	**March 4, 2018— July 20, 2018**
Mar.4	Registration
Mar.5	Classes Begin
Mar.16	Last Day to Drop or Add a Course
Apr.5	Qingming Festival (tentative)
Apr.20	Spring Sports (tentative)
May 1	Labor Day Holiday (tentative)
May.7 -11	Mid-term Quizs
May 14-18	Summer School Registration (tentative)
June 18	Duanwu Festival (tentative)
June 25-29	Sophomore and Junior students' Final Exam
July 2-20	Sophomore and Junior students' Social Practice，Summer School
July 16-20	Revision and Final Exam Period
July 23	Summer Vacation Begins