Capital University of Economics and Business
Overseas Chinese College
Course Syllabus

Year and Semester	2018 Fall (September 3, 2018 - January 4, 2019)
Course Name	Calculus Ⅰ
Course Code	MAT111
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	Leilei Zhu (Emma Zhu)
Contact Information	Office: C217 Tele: None Email: zhuleilei@cueb.edu.cn
Office Hour	M: 14:20—15:20; T: 10:00-12:00, 15:40—16:40; F: 15:30—17:30
Learning Centre	M: 10:00—12:00; F: 10:00—12:00
Grade/Section	2018BA/Y02
Course Time/Place	M: 8:00—9:50 / A102; F: 13:30-15:20 / A102;

Textbook

James Stewart. *Calculus, Seventh Edition*. Higher Education Press, ISBN: 978- 7- 04-039620-1

Reference Book

1. Colin Adams, Joel Hass, Abigail Thompson. *How to Ace Calculus-The Streetwise Guide*.W H Freeman & Co (1998), ISBN: 0-716-73160-6.
2. Anton, Bivens & Davis. *Calculus , Seventh Edition*. John Wiley & Sons, Inc(2002), ISBN: 0-471-38157-8.

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.

Student Learning Objectives

After completing this course, students will be able to:

- Obtain good computational ability, logical ratiocinating ability
- Obtain the ability to use known knowledge to resolve unknown problem
- Gain deeper understanding of functions
- Use the derivative and integral to set up and solve mathematical models from verbal descriptions
- Can solve the questions related to differential equations.

Website Source

None

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 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: November 5-9, 2018;

Final Exam: January 7-11, 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

Date	Week Index	Topics
0903-0921	Week 1-3	New students registration
0924-0928	Week 4	**Ch1 Functions and Models** 1. Better understanding of definition and properties of functions 2. Master some essential kinds of functions 3. Can get new functions from old functions 4. Know properties of exponential functions
1001-1005	Week 5	**National Holiday**
1008-1012	Week 6	**Ch2 Limits and Derivatives** 1. Understand the tangent and velocity problem 2. Master the definition of limit 3. Can calculate limits by using limit laws expertly 4. Understand the precise definition of a limit
1015-1019	Week 7	5. Master the definition and property of continuity, can determine whether a function is continuous or not, can apply intermediate value theorem to some questions; 6. Know how to calculate limits at infinity, and know how to find vertical and horizontal asymptotes 7. Master the definition of derivative, and can use definition to find derivative 8. Can find derivative as a function

1022-1026	Week 8	**Ch3 Differentiation Rules** 1. Know how to find derivative of polynomials and exponential functions 2. Master the product and quotient rules Exercise Review for Midterm exam &quiz
1029-1102	Week 9	**Midterm Examination**
1105-1109	Week 10	3. Know how to calculate derivative of trigonometric functions 4. Can use chain rule to find derivative of composite functions
1112-1116	Week 11	5. Know how to find derivative of implicit functions 6. Know how to find higher derivatives 7. Can find derivative of logarithmic functions
1119-1123	Week 12	Analysis for Midterm Exam Master the definition of differentials **Ch 4 Applications of differentiation** 1. Can find maximum and minimum values of a function
1126-1130	Week 13	2. Master the mean value theorem and its application 3. Know how derivative affect the shape of a graph 4. Know what is indeterminate form and the can use L'Hospital's Rule to find limit
1203-1207	Week 14	5. Know how to use calculus to solve optimization problems 6. Know the meaning of antiderivatives and can find it
1210-1214	Week 15	**Ch5 Integrals** 1. Understand the area and distance problem 2. Master the definition of definite integral
1217-1221	Week 16	3. Master the fundamental theorem of calculus 4. Master the definition of indefinite integral and the net change theorem, 5.Can calculate integral by using substitution
1224-1228	Week 17	**Quiz II** Review &Presentation
1231-0104	Week 18	**Final Exam**
0107-0111	Week 19	**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

Fall Semester, 2018	**August 31, 2018— January 13, 2019**
Aug. 31	Registration
Sep.3	Classes Begin
Sep.7 - 20	Freshmen's Military Training
Sep.24	Classes Begin（Freshmen）
Sep.24	Mid-Autumn Festival (tentative)
Oct.1 - 5	National Day Holiday (tentative)
Oct. 29 - Nov. 2	Mid-term Test
Jan.1, 2019	New Year's Day Holiday (tentative)
Jan.2-11	Final Exam Period
Jan.14	Winter 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: Emma Zhu **Department Head: Jingning Li**