CALCULUS I in Fall 2019 (MA1030C)

Course Code	MA1030C	**Professor(s)**	Taylor Coffman
Prerequisites	None	**Office Number**	PL
Class Schedule	TWF: 09:00-10:20 in PL-4	**Office Hours**	TBA, or by appointment
Credits	4	**Email**	tcoffman@aup.edu
Semester	Fall 2019	**Office Tel. Ext.**	

Course Description

This course introduces differential and integral calculus and develops the concepts of calculus as applied to polynomial, rational, logarithmic and exponential functions. Topics include limits, derivatives, techniques of differentiation, applications to extrema and graphing, the definite integral, the fundamental theorem of calculus and its applications, logarithmic and exponential functions, growth and decay, partial derivatives.

An additional objective this semester is to develop a positive attitude and appreciation towards mathematics and quantitative reasoning in general. I do not necessarily expect you to come away with a new-found love of math, but I do certainly hope you will come away knowing that these topics do exist and that they do have a purpose in the lives of many people, even yours. Ask all of the questions that you have and let's work together to see how the ideas discussed can have an impact in your life.

Course Learning Outcomes

Understand concepts behind differential calculus, including calculation of derivatives using various techniques.
Understand concepts behind integral calculus, including calculation of definite and indefinite integrals using various techniques.
Show competency in using both algebraic and geometric interpretations of the concepts of calculus.
Be able to apply the techniques (including linearization and optimization) of differential and integral calculus to problems in other disciplines.

General Education

The general education program at AUP consists of four requirements: *Speaking the World, Modeling the World, Mapping the World,* and *Comparing Worlds Past and Present.* This course can be used towards the *Modeling the World* requirement and as such has the following learning objectives:

- Develop a positive approach to mathematics
- Appreciate the use of mathematics in modeling the world
- Reason with quantitative information – in words, numbers, and graphs
- Clearly communicate quantitative information in words, numbers and with graphs
- Develop strategies for solving problems

Course Outline

- Chapter 1: Functions and Graphs
- Chapter 2: Limits
- Chapter 3: Derivatives
- Chapter 4: Applications of Derivatives
- Chapter 5: Integration
- Chapter 6: Applications of Integration

Textbooks

This course doesn't have any textbook.

Attendance Policy

Students studying at The American University of Paris are expected to attend ALL scheduled classes, and in case of absence, should contact their professors to explain the situation. It is the student’s responsibility to be aware of any specific attendance policy that a faculty member

might have set in the course syllabus. The French Department, for example, has its own attendance policy, and students are responsible for compliance. Academic Affairs will excuse an absence for students' participation in study trips related to their courses.

Attendance at all exams is mandatory.

IN ALL CASES OF MISSED COURSE MEETINGS, THE RESPONSIBILITY FOR COMMUNICATION WITH THE PROFESSOR, AND FOR ARRANGING TO MAKE UP MISSED WORK, RESTS SOLELY WITH THE STUDENT.

Whether an absence is excused or not is ALWAYS up to the discretion of the professor or the department. Unexcused absences can result in a low or failing participation grade. In the case of excessive absences, it is up to the professor or the department to decide if the student will receive an "F" for the course. An instructor may recommend that a student withdraw, if absences have made it impossible to continue in the course at a satisfactory level.

Students must be mindful of this policy when making their travel arrangements, and especially during the Drop/Add and Exam Periods.

Grading Policy

Homework 40%

Group Quizzes 10%

Midterm 1 15%

Midterm 2 15%

Final Exam 20%

Note: Plus or minus (+/-) grading will be used.

Other

Homework

We learn math by doing math. Homework plays a big role in this class – 40% is significant so

keep up with the assignments.

Homework in this class will take place within the WebAssign online platform. Each week I will post the assignments to be worked on and completed during that week. That is, you have one week to complete the assignments. WebAssign will automatically grade your submitted answers. However, you have an unlimited amount of submissions. So while you are being graded on performance, you are encouraged to fix and learn from your mistakes by resubmitting problems you may initially struggle with.

You need to work through the homework sections in order, and you cannot move on to the next homework section until you obtain a 50% on the previous homework section.

During the first day of class, I will demonstrate how to sign up for and access WebAssign and how to find your way around the online environment. Additionally, part of the Friday class (in the computer lab) will be devoted to working on the online homework.

Technology

- Webassign: homework, grades
- Slack: private messages, class messages, announcements, links, pdfs, syllabus, etc.

Textbook

OpenStax Calculus Volume I

The book listed above is free of charge (yes, FREE $0) and can be downloaded or viewed online from the following site:

https://openstaxcollege.org/subjects/math