

**MATH 180**  
**CALCULUS AND ANALYTIC GEOMETRY**  
**Spring 2021**

Professor: Frank V. Tran

Office hours: MTWTh: 2:30pm – 3:30pm

E-mail: [frank@mtsac.edu](mailto:frank@mtsac.edu)

Course Website: <http://faculty.mtsac.edu/fran>

Materials Required

Text: *Calculus Early Transcendentals, 8<sup>th</sup> Edition by James Stewart*

Calculator: *A scientific or graphing calculator.*

Student learning Outcome: *SLO are under the department website:*

[http://www.mtsac.edu/math/slo\\_math.html](http://www.mtsac.edu/math/slo_math.html)

Course Structure:

- *This course is conducted entirely online, which means you do not have to be on campus to complete any portion of the class.*
- *You are expected to attend ALL classes Zoom meeting from 10:00am – 11:15am on Monday, Wednesday and Friday.*
- *Course materials will be provided on your Canvas account and on the course website <http://faculty.mtsac.edu/fran>*
- *Also, you will participate in the course using Mt. SAC learning system called Canvas for completing assignments, taking quizzes and exams.*
- *You are expected to have the lecture outlines for each time we meet. The lecture outlines are available on your canvas account or my website.*

Computer requirements:

- *You will need to have an up-to-date browser, operating system and some additional software on your computer to take this class.*
- *Need to download the Canvas app and Zoom app onto your computer or cell phone.*
- *Know how to download and scan your works and then upload pdf files thru your Canvas account. (For uploading pdf files, you can use Notes app on your cellphone, or download CamScanner app)*
- *You must have a camera for taking quizzes and exams.*

### **Course Participation Policy:**

*Participation is essential to your success in this class. In distance course you are required to participate just as if you were in face – to – face course. This means that in order to get full credit for participation you have to complete your discussion assignments, group works, lesson assignments, quizzes and exams on timely basis. Consistent failure to participate in class will result in being dropped from the course. All exams and quizzes will be conducted on zoom meeting and will be monitored by camera.*

### **Course Assignments:**

*Important Dates: The due dates for your assignments will be stated clearly on your Canvas account.*

### **Topics to be covered:**

- *Limits and Continuity: Rates of change and limits, calculating limits using limit laws, precise definition of a limit, one-sided limits and limits at infinity, infinite limits and asymptotes, continuity, tangents and derivatives.*
- *Differentiation: The derivative as a function, differentiation rules, derivatives of trig functions, the chain rule and parametric equations, implicit differentiation, derivatives of inverse functions and logarithms, inverse trig functions, related rate problems, linearization and differentials.*
- *Applications of derivatives: extreme values of functions, Mean Value Theorem, First derivative test, concavity and curve sketching, applied optimization problems, indeterminate forms and L'Hopital's rule, Newton's Method, Antiderivatives.*
- *Integration: Estimating with finite sums, sigma notation and limits of finite sums, the definite integral, Fundamental Theorem of Calculus, indefinite integrals and the substitution rule, substitution and area between curves.*
- *Integrals and Transcendental Functions: Logarithm defined as integral, exponential growth and decay, relative rate of growth.*
- *Integration by substitution and by parts.*

### **Homework**

*The completion of daily homework is critical to your success in this course. Homework will be assigned every lecture, and they are NOT going to be collected, but there will be similar problems from the homework assignment on quizzes and exams. It is very important both for your understanding of the material and for preparing for exams that you work all the assigned problems as soon as the material covered in class.*

### **Quizzes**

*There will be about 8 quizzes. All quizzes are consisting of problems similar to the homework and examples in lectures. There will be no makeup quizzes and the lowest quiz will be dropped.*

**Exams:**

There will be three exams and there's no make up exam. The exams will test your understanding of the concepts covered in the course. Most of the questions on these exams will require showing a significant amount of work to justify your answer. A correct answer with no work shown will be given a zero. The exams will also require you to explain and interpret your results. **Graphing calculator is NOT allowed on any exam.**

**Grading**

Your semester course grade will be determined by your percentage of the total points possible. You should keep an accurate record of your grades. I will provide information on your grade standing after each exam.

	<b>Percentage</b>	
Exams		45%
Final Exam		30%
Quizzes		15%
Participation		10%

The scale used to convert from total points earned to a letter grade will no more stiff than:

<b>Percentage</b>	<b>Grade</b>
90.0 - 100.0	A
80.0 - 89.9	B
70.0 - 79.9	C
60.0 - 69.9	D
Below 60.0	F

No grade pleading will be entertained. Your grade is exclusively your responsibility. Work hard right from the beginning. Every little bit helps, so don't miss assignment deadlines. Deadline extensions can be given only when an unusual circumstance is discussed well before the deadline (except, of course, for a sudden illness or other documented event).

**Drop:**

All distance education courses currently follow the Mt. SAC policy for Attendance, Class Drops and Auditing courses. In order to avoid getting an F or the course, it is your responsibility to officially withdraw from the class prior to the deadline.

Students who do not participate in class, that is, who consistently do not complete assignments, quizzes, exams will be dropped from the class for non – participating.

**Late Work:** *Late work will not be accepted. Assignments will not be available after the deadline. If you have an extenuating circumstance, please contact me by private message before the assignment is due to make alternate arrangements.*

**Accommodations:**

*Any student who feels he/she may need an accommodation based on the impact of a disability should contact me privately to discuss your specific needs so that we can strategize together on ways to help you succeed in this class. . Please contact the DSPS & S at (909) – 274 – 4290 in Student Service Center, Building 9B to coordinate the necessary accommodations. Appointments for taking quizzes and exams at DSP&S must be the same day that the quiz or exam is scheduled.*

**Academic Honesty/Student Conduct:**

*As a student at Mt.SAC, you are expected to following the College's guidelines for Academic Honesty/Student Conduct can be found here:*

<https://catalog.mtsac.edu/registration-policies/college-policies-notice/#academichonestytext>

*This means that you should not:*

- a. Cheat*
- b. Plagiarize, that is, use another person's words or ideas as your own without proper documentation.*
- c. Collaborate with others unless specially requested in an assignment or discussion.*
- d. No imposter, (i.e. let other people take the class or do any work for you)*
- e. Let another student login to your Canvas account.*

*Failure to follow this policy will result in disciplinary action which can affect your academic standing in the College.*