



## Course Catalog and Prerequisites

### **Catalog Entry:**

Single and multi-variable calculus including limits, derivatives, integrals, exponentials and logarithmic functions and partial derivatives. Applications are drawn from Biology, Social Science and Business.

### **Prerequisite:**

Successful completion of Math 140 or a qualifying profile from the mathematics placement process.

## Student Support Resources

For a thorough list of [SCC Student Support Services](#), please look in our Canvas Modules under Student Resources.

### **Math Success Center (MSC) – Formerly the Math Study Hall (MaSH)**

The Math Success Center (a.k.a. MSC) is a FREE service provided by SCC that provides students with supplemental learning to the classroom. A math faculty member, Instructional Assistants and student tutors are always on duty to assist students with questions or concerns from their math class. Additionally, computers are available for students to access mathematical software or complete internet-based assignments for any math class. The MSC is located in room D-209. The hours of operation for Fall 2022 are August 22 – December 9:

Monday - Thursday: 9:30 a.m.--7:30 p.m.

Saturday: 9:00 a.m.--3:00 p.m.

Closed Sundays and for School Observed Holidays

**To utilize the MSC, you must enroll in MATHCE 100. You can do this at your first visit to the MSC!**

This is a Pass/Satisfactory Progress, Open Entry/Open Exit noncredit lab course. You will need to complete at least 10 hours and one activity in the MSC within the 16-week semester to earn a grade of Pass (P) To earn a Satisfactory Progress (SP) students must complete at least one hour in the MSC. Attendance is tracked through the sign-in computer so when entering the MSC, scan your student ID card or type in your student ID number at the sign-in computer. When leaving, sign out the same way you signed in; signing out is critical in order to avoid losing any completed hours. If you have any questions or concerns, please email the MSC at [mathsuccesscenter@sccollege.edu](mailto:mathsuccesscenter@sccollege.edu).

### **Disabled Students Programs and Services**

Students with disabilities who want to request academic accommodations are responsible for informing their instructors and Disabled Students Programs and Services (DSPS) as early in the semester as possible, or at least two weeks before the accommodation is needed. To have accommodations authorized, students must provide DSPS with verification of disability and meet with a DSPS professional for an evaluation of needs. Students may schedule a DSPS appointment by phoning DSPS at (714) 628-4860, by emailing to [DSPS@sccollege.edu](mailto:DSPS@sccollege.edu) or by a live audio and/or video chat via this link: [DSPS WEBSITE](#).

## Learning Outcomes

### **Students Learning Outcomes**

1. Apply appropriate problem-solving techniques, including critical thinking and analytical reasoning, to model real world problems in the fields of Business, Economics, Social Sciences and Biology.
2. Formulate problems in numerical, graphical, verbal, and analytical settings and use differentiation and integration techniques of single- and multi-variable calculus to analyze those problems.
3. Interpret and communicate mathematical results in a clear, accurate and professional manner.

## Department Student Learning Outcomes

1. Create mathematical models of real-world phenomena, apply those models to make predictions about the behavior of the phenomena, apply appropriate problem-solving techniques, and critically evaluate the veracity of the obtained results.
2. Clearly communicate mathematical reasoning and problem-solving skills using a variety of formats, diverse technologies, and appropriate mathematical vocabulary and notation.
3. Integrate into educational and professional conduct a calm, confident, and ethical approach to mathematical reasoning and problem solving while taking personal responsibility for mathematical successes.

## Attendance Policy and Important Dates

- September 4, 2022: Last day to drop with full refund
- September 5, 2022: Last day to drop without a "W" grade (withdrawal)
- November 13, 2022: Last day to drop with a "W" grade (withdrawal)

As in a traditional face-to-face course, you will be dropped from an online-live (synchronous) class for non-attendance as well as non-participation. Simply logging into an online class without active participation does not count as attendance. You must engage in class discussions during class time to show you are in attendance the entire class. (If you need to step away momentarily, you may send a private chat message when you leave and when you return). In addition, you need to immediately and continually show academic engagement with the course assignments and discussion boards including engaging communication with course instructor and with other students in the course.

Please see our **Classroom Policies** page in the **Get Started** Module in Canvas for details.

## Academic Honesty Policy

**Cheating** in our online class is considered any of the following **during a class exam or quiz**.

- Seeking help from another individual or providing help to another student.
- The use of unapproved calculators or electrical devices.
- Accessing other websites on your computer, phone, ipad, laptop, tablet or any other internet-accessing device.
- Using a browser to search for answers. This includes accessing youtube, Wolfphram alpha, Chegg, Mathway, or even non-mathematical websites.
- Providing work on a class exam or quiz that is not your own.
- Using notes, book, or cheat sheet during a class exam or quiz, unless allowed by the instructor.

A violation of this policy will result in the student receiving a zero on that assignment and the filing of an Academic Honest Incident Report with the Dean of Students.

## Regular and Effective Contact Policy

Please see our **Classroom Policies** page in the **Get Started** Module in Canvas for details.

## Title IX

Santiago Canyon College (SCC) faculty are committed to supporting our students and upholding gender equity laws as outlined by Title IX. Therefore, if a student chooses to confide in a member of SCCs faculty regarding an issue of sexual misconduct, that faculty member is obligated to tell SCCs Title IX Coordinator. If a student does not wish to formally report an incident to a faculty member but wishes to speak to someone confidentially about an unwelcome sexual encounter, the student can speak to the College Psychologist who is not legally bound to report the conversation. The College Psychologist is in the Student Health & Wellness Center in T-102 or call (714) 628-4773.

## Class Behavior

Based upon the RSCCD Standards of Student Conduct (also known as the Code of Conduct) all students will be in violation of the code should you become disruptive in any way, such that you disrupt the teaching of this class or do not follow our class communication policy. Students who violate the Standards of Conduct are subject to disciplinary action which includes Warnings, Probation and Suspension from all classes and activities within the district.

## Homework

Homework will be assigned every class from every section covered. Your homework will be accessed through Canvas, but you will need the correct book with XYZ Homework to access the assignments. **Write your homework on paper and keep it handy.** Not only will you need it to study, but we will be posting and answering questions on a discussion board. Homework is due as scheduled on the last pages of this syllabus.

## Quizzes

Quizzes will be taken on Canvas. They will be assigned as scheduled on the last pages of this syllabus. They will cover any previous lessons covered during lecture.

## Exams

There will be three full chapter exams, one mini-exam, and one final given that will be taken as scheduled on the last pages of this syllabus. Everyone is required to take a **two-part, comprehensive final exam** during the last two day of class.

## Grades

### **Weighted Grade Percentages**

Homework	15%
Quizzes	10%
Chapter Exams	55%
Final Exam	20%

### **Letter Grade Percentages**

A:	90 - 100%
B:	80 - 89%
C:	70 - 79%
D:	60 - 69%
F:	Below 60

## Lesson Schedule

We will try to cover one lesson a day during each hour we meet for class. There will be lessons/assignments listed on days "Thu - Sun". These are the lessons you are to cover on your own. Any assignment due over the weekend is due Sunday. Videos and notes will be provided. Questions over any material or homework need to be posted in that week's discussion board so all can see the answers at once. All assignments are due by 11:59 pm the day scheduled unless otherwise noted.

See the last page for a tentative schedule of our lessons and assignments.

**Schedule Notations** are DB: Discussion Board and HW: Homework

Weeks	Days	Lessons Covered	Assignments Due
<b>Week 1</b>	M 8/22	1.1 Intro to Functions and Relations	
	W 8/24	1.2 Algebra & Composition of Functions	DB: Ice Breaker Post
	Thu - Sun	1.3 Rates of Change, & Linear Functions	
<b>Week 2</b>	M 8/29	1.4 Introduction to Limits	HW: Week 1
	W 8/31	1.5 Functions and Continuity	DB: Ice Breaker 2 Replies
	Thu - Sun	1.6 Average and Instantaneous Rates of Change	
<b>Week 3</b>	M 9/5	LABOR DAY	
	W 9/7	2.1 The Derivative of Functions & 2 Interpretations	HW: Week 2
	Thu - Sun	2.2 Differentiating Products and Quotients	Quiz: Ch 1
<b>Week 4</b>	M 9/12	2.3 Higher-Order Derivatives	HW: Week 3
	W 9/14	2.4 The Chain Rule and General Power Rule	DB: What is working?...
	Thu - Sun	Review For Exam 1 (ch. 1 – 2)	Quiz: Ch 2
<b>Week 5</b>	M 9/19	3.1 The 1 <sup>st</sup> Derivative & Behavior of Functions	HW: Week 4
	W 9/21	Review for Exam 1 (ch. 1 – 2)	
	Thu - Sun	<b>Exam 1 (ch. 1 – 2)</b>	<b>Exam 1</b>
<b>Week 6</b>	M 9/26	3.2 The 2 <sup>nd</sup> Derivative & Behavior of Functions	
	W 9/28	3.3 Applications of the Derivative: Optimization	
	Thu - Sun	3.4 Applications of the Derivative: Business & Econ	
<b>Week 7</b>	M 10/3	4.1 The Exponential Functions	HW: Weeks 5 - 6
	W 10/5	4.2 The Natural Logarithm Function	
	Thu - Sun	4.3 Differentiating the Natural Log Function	Quiz: Ch 3
<b>Week 8</b>	M 10/10	4.4 Differentiating Natural Exponential Functions	HW: Week 7
	W 10/12	Review for Exam 2 (ch. 1 - 4)	HW: Week 8
	Thu - Sun	<b>Exam 2 (ch. 1 – 4)</b>	<b>Exam 2, Quiz: Ch 4</b>
<b>Week 9</b>	M 10/17	5.1 Antidifferentiation & Indefinite Integral	
	W 10/19	5.2 Integration by Substitution	
	Thu - Sun	5.3 The Definite Integral	
<b>Week 10</b>	M 10/24	5.4 The Definite Integral and Area	HW: Week 9
	W 10/26	6.1 Area of Regions in the Plane	
	Thu - Sun	6.2 Consumer's & Producer's Surplus	Quiz: Ch 5
<b>Week 11</b>	M 10/31	6.3 Annuities and Money Streams	HW: Week 10
	W 11/2	Start Project Assignment	
	Thu - Sun	Review for Exam 3 (ch. 1 - 6)	Quiz: Ch 6, HW: Week 11
<b>Week 12</b>	M 11/7	7.1 Functions of Several Variables	
	W 11/9	Review for Exam 3 (ch. 1 – 6)	
	Thu - Sun	<b>Exam 3 (ch. 1 – 6)</b>	<b>Exam 3</b>
<b>Week 13</b>	M 11/14	7.2 Partial Derivatives	HW: Week 12
	W 11/16	7.3 Optimization of Functions of Two Variables	Study for Exam 3
	Thu - Sun	7.4 Constrained Maxima and Minima	
<b>Week 14</b>	M 11/21	Review for Exam 4 (ch. 7)	HW: Week 13
	W 11/23	Present Project results	<b>Project Due</b>
	Thu - Sun	<b>Exam 4 (short exam over ch. 7 only)</b>	<b>Exam 4, Quiz: Ch 7</b>
<b>Week 15</b>	M 11/28	Present Project results	
	W 11/30	Review for Final	
	Thu - Sun	Review for Final	
<b>Week 16</b>	M 12/5	<b>Final Exam Part A (Taken during class on Zoom)</b>	<b>Final Exam A</b>
	W 12/7	<b>Final Exam Part B (Taken during class on Zoom)</b>	<b>Final Exam B</b>