

Instructor

Randy Scott
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Office Hours

M 1100-1230
T 1030-1200
W 1100-1230
Th 1030-1200

Prerequisites & Catalog Entry

Prerequisite: Mathematics 180/180H

Catalog Entry: Applications of integrals, including volumes, work, arc length, and surface area. Integration techniques, differential equations, conics, parametric equations, polar coordinates, improper integrals, sequences and infinite series.

Department & Course Student Learning Outcomes (SLOs)

Department SLOs: (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.

Course SLOs: (1) Evaluate and approximate integrals using a variety of techniques and apply integration to solve problems involving area, volume, work, and differential equations. (2) Represent functions using parametric equations, polar equations, and Taylor series and apply calculus techniques to these representations.

Math Success Center (MSC) Registration

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. Due to COVID-19, the MSC is will be offered remotely via Canvas for Fall 2020. The hours of operation for Fall 2020 are

Fall 2020

Monday through Thursday: 9:30 a.m.-7:30 p.m. (0930-1930)

Saturday 9 a.m.-3 p.m. (0900-1500)

To utilize the MSC, you must enroll in MATHCE 100. Once enrolled, you can access two types of assistance, discussion boards and live help.

- Discussion Boards: Once in the MATHCE 100 Canvas page, students can post questions to a discussion board at any time. Please follow the directions for posting and a staff member will reply within 24 business hours.
- Live Help: Offered only during the hours of operation. Once in the MATHCE 100 Canvas page, click the "Get Help Now" button on the homepage. Scroll through the MSC staff members. Any staff members on duty will display a green "online" icon. On that staff member's card, click "Ask for help" and you will be able to start a conversation with that staff member. During live help, staff members have chat options and can also utilize an interactive whiteboard to assist you.

The MSC is a Pass/No Pass, Open Entry/Open Exit noncredit course. You will need to complete at least 10 hours and one activity in the MSC within the 8-week semester to earn a grade of Pass (P). When you log into

Canvas and are in the MSC course (MATHCE 100), your hours are automatically being logged. At the end of the semester we will use the Canvas log to assign grades. A Pass (P) will be assigned to any student who completes at least 10 hours on Canvas, plus completes one assignment in Canvas. A Satisfactory Progress (SP) will be assigned to any student who completes any number of hours in the MSC (via Canvas). If you do not complete any hours in the MSC (via Canvas) you will be dropped from the course at the end of the semester and it will not show on your transcript. If you have any questions or concerns, please email the MSC at sccmathstudyhall@scccollege.edu

Supplemental Instruction

SI is not associated with our section for this semester.

Student Code of Conduct

Based upon the RSCCD Standards of Student 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. This includes excessive talking with your peers and cell phone usage, which is inclusive of texting. Penalties that may be invoked include Warnings, Probation and Suspension from all classes and activities within the district.

RSCCD Title IX Policy

Santiago Canyon College 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 located in the Student Health & Wellness Center in T-102 or call (714) 628-4773.

Attendance

Be in class, on time, each and every day. Attendance comprises a small part of your course grade and missing class will adversely affect your course grade. From the 2020-2021 SCC Catalog: "A student may be dropped for excessive absences when the total hours of absence exceed 10% of the total scheduled hours of class." For Fall 2020, this means I will drop you for excessive absence if you miss more than 3 class meetings.

Withdrawals

If you decide to drop this class, it is *your responsibility* to follow the correct procedures. The last day to drop this class with no record of participation is September 7, 2020 (September 6, 2020 to receive enrollment fee refund) and the last day to drop this class with a W grade is November 15, 2020. Again, it is *your responsibility* to be aware of and to follow the correct procedures.

Accommodations for Disabilities

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 coming to the DSPS Office in E-105, by phoning us at (714) 628-4860 or by emailing us at "DSPS@scccollege.edu"

Academic Honesty

Students attending Santiago Canyon College are expected to be honest and forthright in their academic endeavors. To falsify the results of research, to steal the words or ideas of another or to cheat on an

examination, corrupts the essential process by which knowledge is advanced. Academic dishonesty is seen as an intentional act of fraud, in which a student seeks to claim credit for the work or efforts of another without authorization, or uses unauthorized material or fabricated information in any academic exercise. We, as an institution, also consider academic dishonesty to include forgery of academic documents, intentionally impeding or damaging the academic work of others, assisting other students in acts of dishonesty or coercing students into acts of dishonesty.

In matters relating to academic honesty violations, the primary responsibility for disciplinary proceedings rests with the instructor and the academic division where the violation allegedly occurred.

Calculator Use

You will need a graphing calculator for this course. We will discuss appropriate use of the calculator in class, and will also continue to develop and improve our arithmetic and algebra skills.

Exams

Exams are *tentatively* scheduled for Tuesday, September 22, Tuesday, October 20, and Tuesday, November 24, 2019. I reserve the right to change the date to reflect the progress we make in the class, but I promise to always give you at least a one week notice before an exam.

Quizzes

A short quiz will be given on the average of once each week. Some quizzes will be at the beginning of the class time, some in the middle, and some at the end of the class time.

There are no make-up quizzes given for any reason. To compensate for unavoidable absences, I will drop your lowest quiz score at the end of the semester.

Homework

Doing work outside of class time provides the essential practice needed for success in mathematics. Plan to spend at least *three* hours outside of class for each hour in class. These *three* hours may include reviewing your class notes, reading the textbook, working on the assigned problems, or reviewing older homework assignments.

Regularly check your class calendar to stay current on homework assignments and submissions through Canvas.

Finally, late homework will not be accepted for any reason.

Final Exam

The final exam will be administered during the last regularly scheduled class meeting: Thursday, December 10, 2020. No early or late finals will be given.

Grades

Your grade in this class is computed using a weighted average with the following category weights and letter grade assignments with p being your class percentage and l being the letter grade:

Exams 50%	If $p \geq 90$, then	$l = A$
Quizzes 15%	If $80 \leq p < 90$, then	$l = B$
Homework 10%	If $70 \leq p < 80$, then	$l = C$
Participation 5%	If $60 \leq p < 70$, then	$l = D$
Final Exam 20%	If $\leq p < 60$, then	$l = F$

For example, to find your exam category score, compute the average (arithmetic mean) of the percentage of each of your exam scores. To find your quizzes category score, compute the average (arithmetic mean) of

the percentage of each of your quiz scores. Sum the products of all the category scores and the weight, and the result is your class percentage.

Some Thoughts

I believe that each and everyone of you can be successful with mathematics. I believe that being able to understand and communicate mathematics is of critical importance for you, your children, and all the future generations of your family. If you work hard and maintain a positive, productive attitude, you will gain an understanding of mathematics that will insure your success for many years to come.

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Math 185

#83812

TTh 0800-1005

Fall 2020, First Eight Weeks
Santiago Canyon College

Collection & Quizzes

Lecture Topics

HW in progress

	Sun.	Mon.	Tuesday	Wed.	Thursday	Fri.	Sat.	
August	Week 1	23	24	25	26	27	28	29
			HW Collect: Review Prob's Intro.; Sec. 6.1 HW: 6.1		Quiz 01: Sec. 6.1 Sec. 6.1, 6.2 HW: 6.1, 6.2			
September	Week 2	30	31	1	2	3	4	5
			HW Collect: 6.1, 6.2 Sec. 6.3, 6.4 HW 6.3, 6.4		Quiz 02: Sec 6.2, 6.3 Sec 6.4, 6.5 HW: 6.3, 6.4, 6.5			
September	Week 3	6	7	8	9	10	11	12
	Last day to drop with no record.			HW Collect: 6.3, 6.4, 6.5 Sec. 7.1, 7.2 HW 7.1, 7.2		Quiz 03: Sec 7.1 Sec 7.2, 7.3 HW 7.2, 7.3		
September	Week 4	13	14	15	16	17	18	19
				HW Collect: 7.2, 7.3 Sec. 7.3, 7.4 HW 7.3, 7.4		Quiz 04: Sec 7.2, 7.3 Sec 7.4 HW 7.4		
September	Week 5	20	21	22	23	24	25	26
				HW Collect: 7.4 Exam I: 6.1-6.5, 7.1-7.4 HW 7.5 pt. 1		Sec 7.6, 7.7 HW 7.5 pt. 1, 7.6, 7.7		
October	Week 6	27	28	29	30	1	2	3
				HW Collect: 7.6 Sec. 7.8, 8.1 HW 7.5 pt. 1, 7.7, 7.8, 8.1		Quiz 05: Sec 7.8, 8.1 Sec 8.1, 8.2, 8.3 HW 7.5 pt 1, 8.1, 8.2, 8.3		
October	Week 7	4	5	6	7	8	9	10
				HW Collect: 7.5 pt 1, 7.7, 7.8, 8.1, 8.2 Sec 8.3, 8.4 HW 8.3, 8.4		Quiz 06: Sec. 8.2, 8.3 Sec 9.1, 9.2 HW 9.1, 9.2		
October	Week 8	11	12	13	14	15	16	17
				HW Collect: 8.3, 8.4, 9.1 Sec. 9.3, 9.5 HW 9.2, 9.3		Quiz 07: Sec. 9.3, 9.5 Catch-up HW 9.3, 9.5		

Math 125 # 83812
 TTh 0800-1005

Fall 2020, Second Eight Weeks
 Santiago Canyon College

	Sun.	Mon.	Tuesday	Wed.	Thursday	Fri.	Sat.	
O c t o b e r	Week 9	18	19	20	21	22	23	24
			HW Collect: 9.2, 9.3, 9.5 <hr/> EXAM II: 7.6-7.8, 8.1-8.4 9.1-9.5 (9.4) HW 7.5 pt 2		Sec. 11.1, 11.2 <hr/> HW: 7.5 pt 2, 11.1, 11.2			
W e e k 1 0		25	26	27	28	29	30	31
			HW Collect: 11.1 Sec. 11.2, 11.3 <hr/> HW: 7.5 pt 2, 11.2, 11.3		Quiz 09: 11.1, 11.2 Sec. 11.3, 11.4 <hr/> HW: 7.5 pt 2, 11.3, 11.4			
N o v e m b e r	Week 11	1	2	3	4	5	6	7
			HW Collect: 7.5 pt 2, 11.1, 11.2 Sec. 11.4, 11.5, 11.6 <hr/> HW 11.4, 11.5, 11.6		Quiz 09: 11.3, 11.4, 11.5 Sec. 11.6, 11.8 <hr/> HW 11.6, 11.7 pt. 1			
W e e k 1 2		8	9	10	11	12	13	14
			HW Collect: 11.3, 11.4, 11.5 Sec. 11.8, 11.9, 11.10 <hr/> HW 11.6, 11.7 pt 1, 11.8, 11.9		Quiz 10: 11.6, 11.8 Sec. 11.9, 11.10, 11.11 <hr/> HW 11.7 pt. 1, 11.9, 11.10, 11.11			
W e e k 1 3		15	16	17	18	19	20	21
	Last day to drop with a W.		HW Collect: 11.6, 11.8, 11.9 Sec. 11.10, 11.11 <hr/> HW 11.7 pt. 1, 11.10, 11.11		Quiz 11: 11.9, 11.10, 11.11 Catch-up / Sec 10.1 <hr/> HW catch up through ch. 11			
W e e k 1 4		22	23	24	25	26	27	28
			HW Collect: 11.7 pt 1, 11.10, 11.11 Exam III: 11.1-11.11 <hr/> HW 10.1					
D e c e m b e r	Week 15	29	30	1	2	3	4	5
			Sec. 10.1, 10.2, 10.3 <hr/> HW 10.1, 10.2, 10.3		Quiz 12: 10.1, 10.2 Sec. 10.3, 10.4 <hr/> HW 10.1-10.4			
Week 16	6	7	8	9	10	11	12	
		HW Collect 10.1, 10.2, 10.3 Catch-up / 10.4 <hr/> HW 10.4		HW Collect: 10.4 Final Exam!				

Santiago Canyon College, Fall 2020, Mr. Scott
 Math 185, Calculus II
 Text: Stewart, James; *Calculus, Early Transcendentals, 8e*

Ch. 6 Applications of Integration

Section	Assignment
6.1 Areas Between Curves	1-4, 5, 7, 8, 11, 15, 17, 21, 25, 29, 30, 37, 41, 47, 48, 49, 53
6.2 Volumes	1, 3, 5, 6, 9, 11, 12, 13, 15, 17, 31, 34, 35, 37, 47, 49, 54, 55, 61
6.3 Volumes by Cylindrical Shells	1, 2, 3, 5, 6, 9, 10, 13, 15, 17, 19, 23, 25, 35, 37, 39, 41
6.4 Work	1, 5, 7, 9, 13, 17, 231, 22, 23-26
6.5 Average Value of a Function	1, 3, 4, 5, 7, 15, 17, 18

Ch. 7 Techniques of Integration

Section	Assignment
7.1 Integration by Parts	3, 5, 8, 9, 17, 18, 21, 23, 30, 33, 37, 39, 61, 65
7.2 Trigonometric Integrals	1, 3, 4, 7, 8, 9, 11, 14, 19, 23, 25, 27, 35, 37, 65, 66
7.3 Trigonometric Substitution	1-3, 5, 7, 11, 13, 19, 22, 23, 25, 29, 37
7.4 Integration of Rational Functions by Partial Fractions	1, 4, 5, 7, 9, 14, 17, 21, 23, 27, 33, 39, 45, 46, 53, 67, 69
7.5 Strategy for Integration	Part I: $4k - 3$, $k = 1, 2, \dots, 21$ Part II: $4k - 2$, $k = 1, 2, \dots, 21$ Part III: $4k - 1$, $k = 1, 2, \dots, 20$ Part IV: $4k$, $k = 1, 2, \dots, 20$
7.6 Integration using Tables and Computer Algebra Systems	5, 15, 17, 25, 27, 29, 38, 40, 41, 45
7.7 Approximate Integration	2, 5, 7, 10, 15, 21, 22, 23, 30, 33, 35, 37, 43
7.8 Improper Integrals	1, 3, 5, 10, 13, 15, 17, 27, 29, 35, 49, 51, 53, 55, 63

Ch. 8 Further Applications of Integration

Section	Assignment
8.1 Arc Length	3, 5, 7, 9, 13, 15, 18 (Hint: Use $\sqrt{x - x^2}$ to determine the limits of integration.), 19, 27, 31, 35, 37, 38, 43
8.2 Area of a Surface of Revolution	1, 3, 7, 11, 13, 16, 17, 23, 25, 27, 30
8.3 Applications to Physics and Engineering	1, 2, 3, 5, 7, 9, 14, 25, 27, 31, 33
8.4 Applications to Economics and Biology	1, 2, 3, 6, 7, 8, 12, 15, 16, 19, 20
8.5 Probability	1, 2, 3, 11, 12, 13, 14, 15, 17, 21

Ch. 9 Differential Equations

Section	Assignment
9.1 Modeling with Differential Equations	1, 3, 6, 7, 9, 10, 15
9.2 Direction Fields and Euler's Method	1, 2, 3-6, 7, 8, 19, 23, 24
9.3 Separable Equations	Sol'n of Sep. Equ's 1, 3, 5, 7, 8, 9, 13, 15, 16, 23 Orthogonal Traj's 29, 31 Other App's 39, 40, 41 Mixture Prob's 45, 47, 48
9.4 Models for Population Growth	1, 3, 5, 9, 15, 17, 21
9.5 Linear Equations	5, 8, 9, 13, 15, 17, 19, 24, 25
9.6 Predator-Prey Systems	3, 4, 5, 10, 11

Continued on next page

Ch. 10 Parametric Equations and Polar Coordinates

Section	Assignment
10.1 Curves Defined by Parametric Equations	3, 5, 9, 11, 13, 17, 21, 24, 28, 33, 37
10.2 Calculus with Parametric Curves	3, 5, 9, 13, 17, 19, 21, 23, 25, 31, 33, 37, 39, 42, 43, 55, 57, 61
10.3 Polar Coordinates	15, 17, 19, 21, 23, 31, 35, 38, 41, 45, 55, 59, 63, 69, 72
10.4 Areas and Lengths in Polar Coordinates	2, 3, 7, 8, 11, 17, 25, 27, 29, 32, 35, 39, 45, 47, 51
10.5 Conic Sections	3, 5, 11, 15, 17, 19, 23, 27, 35, 39, 43, 45, 49
10.6 Conic Sections in Polar Coordinates	3, 7, 11, 15, 17, 25, 27

Ch. 11 Infinite Sequences and Series

Section	Assignment
11.1 Sequences	1, 2, 3, 7, 11, 13-18, 19, 25, 29, 31, 32, 35, 39, 43, 49, 51, 62, 63, 73, 77
11.2 Series	1, 2, 3, 4, 5, 7, 9, 14, 17-25 odd, 27, 31, 37, 41, 43, 47, 57-63 odd, 69, 71, 73
11.3 The Integral Test and Estimates of Sums	3, 7, 11, 13, 15, 19, 21, 23, 29, 33, 34, 36, 37
11.4 The Comparison Tests	1, 2, 3, 5, 7, 13, 17, 23, 27, 31, 33, 35
11.5 Alternating Series	1, 3-19 odd, 23, 25, 27, 29
11.6 Absolute Convergence and the Ratio and Root Tests	1, 3, 7-23 odd, 25, 27, 29, 31, 37, 50
11.7 Strategy for Testing Series	Part 1: 1-37 odd Part 2: 2-38 even
11.8 Power Series	1, 2, 3-27 odd, 35
11.9 Representation of Functions as Power Series	1, 2, 3-9 odd, 11, 13, 15, 17, 18, 19, 25, 28, 29
11.10 Taylor and Maclaurin Series	5, 11-17 odd, 19-25 odd, 31, 33, 35, 39, 41, 53, 55, 59
11.11 Applications of Taylor Polynomials	3-9 odd, 15, 16, 19, 21, 27, 29, 31, 37

Useful Websites:

<http://wolframalpha.com/>

<http://www.calculus.org/>

<http://tutorial.math.lamar.edu/Classes/CalcII/CalcII.aspx>

<http://ocw.mit.edu/courses/mathematics/18-01-single-variable-calculus-fall-2006/>