MATH 180—SINGLE VARIABLE CALCULUS
Intersession 2022

Welcome

I am looking forward to working with you. Calculus is subject that has uses in many fields, not just the sciences. I believe (and hope you do too) that you can be successful in this class. Learning is about understanding concepts and not just memorizing formulas/steps or using resources to find answers. Learning is often messy because it takes time for your brain to process the material. You will not be judged on your mistakes, but you will also not pass this course unless you can demonstrate that you understand this material well enough to apply it.

We are scheduled to meet in person. Canvas is available for information and grades, but all assessments/quizzes are given in class.

I want to be fair to all students, so I tend to stick to my policies. There are so many available points in this class that missing or doing poorly on a few assignments does not prevent you from being successful overall.

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Office: D-116-6

Office Hours: In MSC (E-303) TTh 1-3

Textbook: Calculus, Volume 1, OpenStax , ISBN-13: 978-1-938168-02-4
https://openstax.org/details/books/calculus-volume-1

Calculators: Phones are not allowed on quizzes, assessments, or the finalexam.

GRADES

Your grade will be determined as follows:

Homework	50 pts
Morning Assessments	550 pts
Quizzes	200 pts
Final Exam	200 pts
TOTAL	1000 pts

Scores within the given range are guaranteed the grade:

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

Grades close to the cutoffs will be considered on an individual basis to determine if a student might receive a higher grade.

Attendance
You are responsible for any announcements made in class, including changes to the schedule. A student may be dropped for excessive absences (10% or more of the classes). If you decide to drop this class, it is your responsibility to drop officially.

Homework:
Homework will be graded according to completeness on a scale of 0 to 4 points. Expect to spend 2-4 hours on each assignment. It is necessary that you spend this time to reallyunderstand the material. After the first two weeks, there may be a late penalty.

Morning Assessments
These are like mini tests. The shorter ones (25 points) will mostly be on the material covered in the previous class. The longer ones (60 points) will be comprehensive.

Afternoon Quizzes:
On material covered in class that day. You will be able to use your notes.

**Assessments/quizzes can only be taken at the given time in class (no early or late quizzes). You will get credit for work shown as done in class.

Final Exam:
There will be a final exam on the last day of class worth 200 points. It will be cumulative but similar format to the assessments/quizzes.

OTHER INFORMATION

Accommodations for Disabilities:
Students with verifiable disabilities who want to request academic accommodations are responsible for notifying their instructor and Disabled Students Programs and Service (DSPS) as early as possible in the semester or at least two weeks before the accommodation is needed. To have accommodations authorized, students must provide DSPS with verification and meet with a DSPS profession for an evaluation of needs. Contact DSPS by phone at (714) 628- 4860 or email dsps@sccollege.edu.

Math Success Center (MSC)
Monday—Thursday 1:00-5:00, E-303 (First Year Support Center) The MSC is a free SCC service. A math professor, along with instructional assistants and tutors, is on duty to assist students with questions or concerns. To use the MSC, you must enroll in MATHCE 100 on your first visit. 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 session to earn a grade of Pass(P). If you have any questions or concerns, please email the MSC at mathsuccesscenter@sccollege.edu

Student Conduct:
Guidelines for student conduct are set forth in the RSCCD "Standards of Student Conduct" policy (see the college catalog). Students who violate the Standards of Conduct are subject to disciplinary action which includes, but is not limited to, removal from class, suspension and expulsion. Unacceptable behaviors include, but are not limited to, academic dishonesty, disruptive behavior, and disrespect to instructor or other students.

Course Student Learning Outcomes:
1. Analyze functions analytically and graphically using limits, derivatives, definite and indefinite integrals.
2. Apply basic definitions, properties and theorems of first semester Calculus to formulate elementary proofs and model and solve problems.

Math 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

TENTATIVE SCHEDULE FOR MATH 180

	Monday	Tuesday	Wednesday	Thursday
Jan 3	2.2 The Limit of a Function 46—82 ALL 2.3 The Limit Laws 87—121 odd 1.3 Trigonometric Functions 123—126 ALL, 129—145 odd	1.3 Trigonometric Functions 155—166 ALL 2.4 Continuity 131—167 odd 2.5 Precise Definition of a Limit 180—188 ALL, 192,193 (Use the method presented in class)	3.1 Defining the Derivative 13—19 odd, 39—41 ALL, 47 3.2. The Derivative as a Function 55—63 odd, 78—80 ALL, 96—98 ALL 3.3 Differentiation Rules 107—141 odd, 145	3.4 Derivatives as Rates of Change 151—157 odd, 164 3.5 Derivatives of Trigonometric Functions 175—213 odd 3.6 The Chain Rule 229—253 odd
Jan 10	3.8 Implicit Differentiation 301—329 odd 3.9 Derivatives of Exponential and Logarithmic Functions 331—357 odd	4.1 Related Rates 1—41 odd	4.2 Linear Approximations and Differentials 51—77 odd 4.4 Mean Value Theorem 161—166 ALL, 168, **for the following, find c** 171, 172, 174, 176	4.3 Maxima and Minima 119—133 odd, 140, 141 4.5 Derivatives and Shape of a Graph 221—245 odd, 207, 209, 213, 215
Jan 17	HOLIDAY	4.7 Optimization 315—326 ALL, 335—353 odd	4.6 Limits at Infinity and Asymptotes 251—269 odd 4.8 L'Hospital's Rule 367—391 odd, 392, 394, 395	5.1 Approximating Areas 1—21 odd, 39, 43, 45 5.2 The Definite Integral 71—103 odd
Jan 24	4.10 Antiderivatives 465—507 odd 5.3 The Fundamental Theorem of Calculus 148—158 ALL, 160, 163, 171—197 odd	5.5 Substitution 263, 265, 271—287 odd, 293, 294, 297 5.6 Integrals Involving Exponential and Logarithmic Functions 321—341 odd, 355—365 odd	Review	Review

Final Exam |

Homework is due during the class meeting <u>after</u> it is listed, except when you are told otherwise.