

**Course Code & No. - Section:** Math 130 - Section 1  
**Course Title (Credits):** Calculus I (4)  
**Term & Year:** Spring / 2014  
**Course Ref. No. (CRN):** 10113

**Instructor:** Katie Larkin  
**Email:** [klarkin@sierranevada.edu](mailto:klarkin@sierranevada.edu)  
**Office Hours:** By appointment

**Class Meeting Time:** MWF 11:30 – 12:45  
**Location:** TCES 215

**Prerequisites:** MATH 120 or permission from the instructor

### Course Description

Differential and integral calculus with a single variable with applications from the fields of science and business. Includes limits, differentiation, integration, and the relationship between them. Problem solving using analytic and numeric methods.

### Student Outcomes

The course is designed to guide SNC students towards mathematical proficiency by providing opportunities where learners may practice and demonstrate:

- ① Understand the concepts of integration and differentiation so that you can illustrate them graphically (draw pictures) and apply the concepts to physical processes.
- ② Model a phenomenon with an equation (whose graph predicts the phenomenon, right?)
- ③ Create the derivative and integral of a phenomenon using pictures, calculus, or brute-force arithmetic (graphical, symbolic, and numeric solutions, respectively).
- ④ Explain the significance or utility of the derivative and integral.
- ⑤ Understand how the concepts of limits allows the creation of derivatives and integrals.
- ⑥ Create equations for the derivatives of any equation, and integral of a few simple equations.
- ⑦ Apply technology (e.g. software) to the problems involving calculus in an appropriate, productive way.
- ⑧ Use calculus to reinterpret phenomena in nature: heat budgets, mechanics, bioenergetics.

The Mathematical Association of America's (MAA) Committee on the Undergraduate Program in Mathematics (CUPM) in developing future mathematics curriculum has made the following preliminary recommendations

- Students should achieve mastery of rich and diverse set of mathematical ideas and should experience mathematics as an engaging field with contemporary open questions.
  - Students should be able to think analytically and critically, to formulate and solve problems, and to interpret their solutions. They should understand and appreciate the value and validity of careful reasoning, precise definition, and close argument.
  - Students should have experience applying knowledge from one branch of mathematics to another and from mathematics to other disciplines.
  - Students should be able to use a variety of technology tools.
  - Students should be able to communicate mathematics both orally and in writing; they should be able to read mathematics.
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**Methods of Assessing Student Outcomes**

Homework problems, in class participation, in class assignments, quizzes, and exams.

**Instructional Strategies**

Lecture/Modeling/Demonstration/Examples/Practical Exercise/Active Participation/Cooperative Learning/Homework/Examination

**Texts and Materials**

1. Calculus of a Single Variable by Larson; 10<sup>th</sup> Ed. ISBN: 9781285060286

**Class Requirements**

- Homework – 20%
- In-class Assignments – 15%
- Exams – 50%
- Cumulative Final Exam – 15%

**Grading Policy**

All exams and assignments will be graded on the following straight scale:

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

**Attendance Policy**

Attendance will be recorded but will not directly affect your grade. However, if you miss a class in which an assignment was given, you will not be able to make it up.

**Homework Policy**

For each chapter, suggested and required homework will be assigned. Each student is expected to submit the required homework on exam day. No late work will be accepted. Work must be shown for each exercise. The required homework will be graded on completion and accuracy of a few randomly selected exercises. The lowest homework grade will be dropped.

**In-Class Assignment Policy**

This category covers any work completed during class and collected for a grade. If you have an unexcused absence from class, you cannot make up the assignment. The lowest in-class assignment grade will be dropped.

**Exam Policy**

There will be 5 exams throughout the course of the semester as well as a cumulative final exam. These exams will be taken during class time. If you have a valid excuse for missing an exam, you must talk to me PRIOR to exam day to schedule another time to take the test. The cumulative final exam is on Friday, 5/9/14 from 3 – 6pm.

**How To Succeed In This Course**

- **Keep up with the work!** Math can be a difficult subject; it is **imperative** that you keep up with the work in this class! Pay attention to the schedule and don't miss assignments.
  - **Come to Every Class Prepared!** Before each class you should read the appropriate material (see schedule). You should also be sure to review previous material and ask questions when necessary.
  - **Make use of the Tutoring Center!** I have limited office hours, therefore it is imperative that you get the most out of my lectures and go to the Tutoring Center if you're having any trouble at all and need some assistance. The Tutoring Center, staffed with knowledgeable tutors, is located on the 3<sup>rd</sup> floor
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of Prim Library and is open for math drop-in tutoring at the posted times. There are also computers available for use there.

- **Form study groups!** They can be a great source of help! You can work together on homework assignments, but you need to submit the answer you believe is correct.

### **IMPORTANT DATES**

- **Jan 20:** MLK Jr Day – SNC closed
- **Feb 17:** President's Day – SNC closed
- **Mar 17 - 21:** Spring Break – SNC closed
- **Apr 1:** Last day to change grade status or withdraw without academic penalty
- **May 7:** Study Day – No class
- **May 9:** Final Exam (3:00 – 6:00)

### **Prim Library Resources**

Using the library's resources effectively (not just Internet resources) contributes to developing each of SNC's core themes by exposing students to high quality academic resources, diverse opinions, new ideas, and a future that includes building on a liberal arts education. In this course, you will be expected to utilize the library's resources (either on-site or remotely) as you complete your assignments.

### **Sanctions for Cheating and/or Plagiarism**

#### **The Honor Code**

The faculty of SNC believes students must be held to high standards of integrity in all aspects of college life in order to promote the educational mission of the College and to encourage respect for the rights of others. Each student brings to the SNC community unique skills, talents, values and experiences which, when expressed within the community, contribute to the quality of the educational environment and the growth and development of the individual. Students share with members of the faculty, administration and staff the responsibility for creating and maintaining an environment conducive to learning and personal development, where actions are guided by mutual respect, integrity, responsibility and trust. The faculty and students alike must make diligent efforts to ensure high standards are upheld by their colleagues and peers as well as themselves. Therefore faculty and students accept responsibility for maintaining these standards at Sierra Nevada College and are obligated to comply with its regulations and procedures, which they are expected to read and understand.

#### **Consequences of Violating the Student Honor Code**

SNC students and faculty share the responsibility for maintaining an environment of academic honesty. Thus, all are responsible for knowing and abiding by the SNC Faculty/Student Honor Code published in the current SNC Catalog. Faculty are responsible for presenting the Honor Code and the consequences of violating it to students at the start of their classes AND for reporting all incidences of academic dishonesty to the Provost. Students are responsible for knowing what constitutes CHEATING, PLAGIARISM and FABRICATION and for refraining from these and other forms of academic dishonesty. Violations of the Honor Code become part of a student's academic record.

- 1<sup>st</sup> Offense: Student receives a zero for assignment/exam and counseling with faculty on the honor code, consequences for violating the honor code, and the value of academic honesty in learning.
  - 2<sup>nd</sup> Offense: Student fails course and receives counseling with faculty on the honor code, consequences for violating the honor code, and the value of academic honesty in learning.
  - 3<sup>rd</sup> Offense: Student is expelled.
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**ADA Accommodations**

In accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, students with a documented disability are eligible for support services and accommodations. If a student wishes to request an accommodation, please contact the Director of Academic Support Services, Henry Conover, at (775) 831-1314 x7534, [hconover@sierranevada.edu](mailto:hconover@sierranevada.edu), office in Prim Library: PL-304.

**The SNC Email System**

The SNC email system is the official communication vehicle among students, faculty members and administrative staff and is designed to protect the confidentiality of student information as required by the Family Educational Rights and Privacy Act of 1974 Act (FERPA). Students should check their college email accounts daily during the school year.

Students have a right to forward their SNC e-mail to another e-mail account (for example, @hotmail or @gmail). However, confidentiality of student information protected by FERPA cannot be guaranteed for SNC e-mail forwarded to an outside vendor. Having email redirected does not absolve a student from the responsibilities associated with official communication sent to his or her SNC email account.

**The Sierra Nevada College Mission Statement:**

Sierra Nevada College graduates will be educated to be scholars of and contributors to a sustainable world. Sierra Nevada College combines the liberal arts and professional preparedness through an interdisciplinary curriculum that emphasizes entrepreneurial thinking and environmental, social, economic and educational sustainability.

**The Core Themes:**

Liberal Arts

Professional Preparedness

Entrepreneurial Thinking

Sustainability

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**Tentative Class Schedule**

Week	Date	Chapter
1	M, 1/20	MLK Jr Day - No Class
	W, 1/22	Introduction & Alg Review
	F, 1/24	P
2	M, 1/27	P
	W, 1/29	1
	F, 1/31	1
3	M, 2/3	1
	W, 2/5	1
	F, 2/7	1
4	M, 2/10	1
	W, 2/12	1
	F, 2/14	Chapter 1 Exam
5	M, 2/17	President's Day - No Class
	W, 2/19	2
	F, 2/21	2
6	M, 2/24	2
	W, 2/26	2
	F, 2/28	2
7	M, 3/3	2
	W, 3/5	2
	F, 3/7	Chapter 2 Exam
8	M, 3/10	3
	W, 3/12	3
	F, 3/14	3

Week	Date	Chapter
9	M, 3/17	Spring Break
	W, 3/19	Spring Break
	F, 3/21	Spring Break
10	M, 3/24	3
	W, 3/26	3
	F, 3/28	3
11	M, 3/31	3
	W, 4/2	3
	F, 4/4	Chapter 3 Exam
12	M, 4/7	4
	W, 4/9	4
	F, 4/11	4
13	M, 4/14	4
	W, 4/16	4
	F, 4/18	Chapter 4 Exam
14	M, 4/21	5
	W, 4/23	5
	F, 4/25	5
15	M, 4/28	5
	W, 4/30	5
	F, 5/2	Chapter 5 Exam
16	M, 5/5	Final Exam Review
	W, 5/7	Study Day - No Class
	F, 5/9	Final Exam 3 – 6pm

*\* Schedule subject to change.*