

Math 115: Trig and Analy Geometry
Brock – Spring 2016

Class: Math 115: Trigonometry and Analytic Geometry

Instructor: Laurel Brock

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Phone: 530.307.9968

Days: Tuesday and Thursdays

Time: Section: 10067 @ 11:30am

Room: TCES CLAB 202

Required Textbook: Trigonometry, 10E, Lial, Hornsby, Schneider & Daniels *MyMathLab Access Required

Calculators: TI-83+ suggested. Free virtual version at videomathteacher.com

Laptops: Required in class at all times! Note: May not be used for personal use during class.

Course Outline: A course designed to prepare students for the study of calculus. The topics covered include the following: algebraic skills, measurements of angles, trigonometric functions and inverse trigonometric functions, trigonometric equations and identities, graphing of trigonometric functions, solutions of triangles, applications, polar coordinates, vectors, DeMoivre's theorem, and analytic geometry.

Prerequisite: Math 110 or consent of instructor

Course Objectives:

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

1. Master trigonometric concepts so that calculus is better understood.
2. Understand and apply trigonometric functions to solve problems.
3. Analyze basic algebraic functions by graphing, evaluating composing and finding inverses.
4. Evaluate the six trigonometric functions of special angles and their inverses.
5. Graph basic trigonometric functions and their transformations.
6. Verify trigonometric identities using valid substitutions and algebraic manipulations.
7. Generate solutions to trigonometric equations including the use of trigonometric identities.
8. Solve right and oblique triangles and related applications.
9. Perform basic operations on vectors.

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 of 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.

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- 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.

Method of Assessing Student Outcomes: Homework problems, in class assignments, group work, exams.

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

Class Guidelines:

- You must bring a laptop with internet access on it.
- All course information will be communicated via your SNC Email.
- If an exam/presentation is missed for a legitimate reason (illness, injury, accident, etc.) it may either be taken up to two days late or an alternative assignment will be created to cover the material.
- Take good notes! Find a friend in class to share notes with in case you miss class. If you need additional assistance in note-taking, ask the instructor or visit the Office of Academic Services and Instructional Support.
- Laptops and cell phones may NOT be used for personal use during class. Violation will result in the instructor asking you to leave class.

Grading breakdown:

- Individual Projects – 50%
- Tests – 25%
- Group Projects / Classroom Activities/ Homework – 25%

Grading Rubric:

	Excellent ("A" grade)	Average ("C" grade)	Poor ("D" grade)	"F" grade
Attendance/ Participation	Attends all classes and participates in in-class assignments. On time and doesn't leave class early at least 95% of the time.	Attends most classes and participates in in-class assignments. Is often late or leaves early for class.	Attends less than 50% of the classes and rarely participates in in-class assignments.	Does not come to class at all.
Content Knowledge / Individual Projects	Demonstrates an excellent understanding of the content being taught. Completes projects with full accuracy and meets set deadlines. Earns an average of at least 90% on all in class, group, and individual activities. Earns an average of at least 90% on all exams. Earns on average at least 70% on the final exam and final Individual project.	Demonstrates an average understanding of the content being taught. Completes projects with at least 75% accuracy rate and meets set deadlines. Earns an average of more than 70% on all in class, group, and individual activities. Earns an average more than 70% on all exams. Earns on average at least 70% on the final exam and final Individual project.	Demonstrates a less than average understanding of the content being taught. Completes projects with at least a 50% accuracy rate but rarely meets set deadlines. Earns an average of at least 60% on all in class, group, and individual activities. Earns an average of at least 60% on all exams.	Does not show any understanding of the content being taught. Does not complete projects. Earns an average of less than 60% on all in class, group, and individual activities. Earns an average on all in class, group, and individual activities. Earns an average of less than 60% on all exams.
Homework	Completes all at-home assignments accurately and meets all deadlines. Earns an average of at least	Completes at least 75% of the at-home assignments accurately and meets at least 75% of the deadlines.	Completes less than 50% of the at-home assignments accurately and rarely meets	Does not complete any of the at-home assignments. Earns an average of less

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	90% on all assigned at-home activities.	Earns an average of more than 70% on all assigned at-home activities.	deadlines. Earns an average of at least 60% on all assigned at-home activities.	than 60% on all assigned at-home activities.
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Moodle: All students are required to register in Moodle. Weekly “to do lists” are posted by Monday morning each week. All assignments must be submitted to Moodle by Sunday at 11:55pm.

Week	Task	Assessment (Tuesday)	Assessment (Thursday)
1: Jan 18 – Jan 24	Module 1	Intro / Syllabus *Day One Tasks	Group Project (<i>in class only</i>)
2: Jan 25 – Jan 31	Module 1	Classroom Activities/ Hmwk	Group Project (<i>in class only</i>)
3: Feb 1 – Feb 7	Module 2	Classroom Activities/ Hmwk	Individual Project
4: Feb 8 – Feb 14	Module 2	Classroom Activities/ Hmwk	Test (Module 1 & 2)
5: Feb 15 – Feb 21	Module 3	LAB DAY [no class]	Individual Presentation
6: Feb 22 – Feb 28	Module 3	Classroom Activities/ Hmwk	Group Project (<i>in class only</i>)
7: Feb 29 – Mar 6	Module 4	Classroom Activities/ Hmwk	Individual Project
8: Mar 7 – Mar 13	Module 4	Classroom Activities/ Hmwk	Test (Module 3 & 4)
9: Mar 14 – Mar 20	Module 5	LAB DAY [no class]	Individual Presentation
10: Mar 21 – Mar 27	Module 5	SPRING BREAK	SPRING BREAK
11: Mar 28 – Apr 3	Module 6	Classroom Activities/ Hmwk	Individual Project
12: Apr 4 – Apr 10	Module 6	Classroom Activities/ Hmwk	Test (Module 5 & 6)
13: Apr 11 – Apr 17	Module 7	LAB DAY [no class]	Individual Presentation
14: Apr 18 – Apr 24	Module 7	Classroom Activities/ Hmwk	Group Project (<i>in class only</i>)
15: Apr 25 – May 1	Module 8	Classroom Activities/ Hmwk	Individual Project
16: May 2 – May 8	Module 8	Classroom Activities/ Hmwk	Test (Final – Modules 1 – 8)
17: May 9 – May 15	FINALS	Final: Individual Presentation time: TBA	

Lab days: There are classes that are dedicated to you performing research and creating presentations. These are days that you will not attend class; however you will be expected to complete the tasks necessary to prepare for your individual project being presented in the next class.

To Do Lists: Each week has a “TO DO” list posted on Moodle. Complete each task to earn full credit for the week.

Independent Projects and presentations: Assigned projects that should be completed on your own. These projects and presentations are assigned to allow the instructor to understand whether you have gained the content knowledge necessary for that particular module.

Tests: How much information, presented in the book, in the class, and in individual projects, has been retained will be determined through paper tests given in class.

Test Makeup: Only one make up test is permitted per student without Doctors Note. Test must be scheduled within 72 hours of the exam. Instructor must be notified BEFORE the exam takes place or no makeup testing will be considered.

Homework: Homework will be posted on Moodle. All assignment instructions will be included. To submit your homework, scan/photo/prt sc the work and put in pdf format. Submit via Moodle with the correct file name. “last name_assignment name”. (*your grade will be marked down if you do not name file correctly*)

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Late assignments: Late assignments will be accepted with a 25% penalty. Late assignments must be emailed to the instructor. Late assignments must be emailed with the proper file name: "Last name _ Assignment Name" or they will not be accepted or graded. I will ONLY ACCEPT LATE ASSIGNMENTS UP TO THE TEST DAY. I will not accept any work after the module assessment has been given. *For example: I will accept Module 1 & 2 assignments until Feb 11th when the Test for Module 1 & 2 is given.*

ADA Accommodations: In accordance with the Americans of 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 students wishes to request an accommodation, please contact the Director of Academic Support Services, Henry Conover, at 775.831.1314 x7534, hconver@sierranevada.edu.

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.

Note: You are able to forward your SNC email to other e-mail accounts. However, confidentiality of student information protected by FERPA cannot be guaranteed for SNC e-mail forwarded to an outside vendor. Having e-mail 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, Entrepreneurial Thinking, Professional Preparedness, and Sustainability.

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Sierra Nevada Mission Statement

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Student 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, value 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 must be 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 the student's academic record.

1st Offense: Student receives a zero for the assignment / exam and counselinf with faculty on the honor code, consequences for violating the honor code, and the value of academic honesty in learning.

2nd offense: student fails course and receives counseling with faculty on the honor codes, consequences for violating the honor code, and the value of academic honesty in learning.

3rd offense: student is expelled.

Please sign below indicating that you have read and understand what is expected of you in regards to academic honesty at SNC.

Student Name

Student Signature

Date