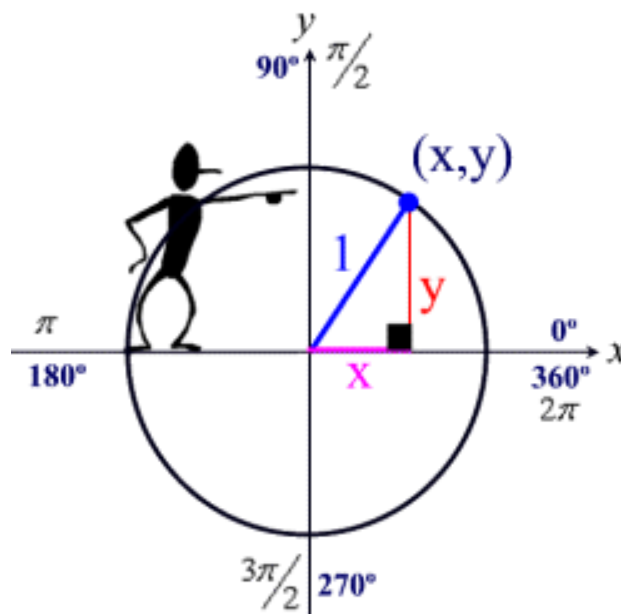


# Precalculus

## Sierra Nevada College



*“Empowering students as architects of their own learning.”*

<b>Course Code &amp; No. – Section:</b>	MATH 120 – Section 1
<b>Course Title (Credits):</b>	Precalculus (5)
<b>Term &amp; Year:</b>	Fall 2017
<b>Course Ref. No. (CRN):</b>	80251
<b>Instructor:</b>	Dr. Steve Ellsworth
<b>Office Phone:</b>	775-831-1314 x7457
<b>Cell Phone:</b>	775-742-9480
<b>Email:</b>	<a href="mailto:sellsworth@sierranevada.edu">sellsworth@sierranevada.edu</a>
<b>Office:</b>	TCES 225
<b>Office Hours:</b>	MW 10:00AM-4:00PM, T 11:00AM-2:00PM, or by appointment
<b>Class Meeting Time:</b>	MW 6:00PM-8:15PM
<b>Location:</b>	PL 320
<b>Prerequisites:</b>	None
<b>Required Text:</b>	<i>Precalculus</i> 6/e by Levitan, Kolman, and Shapiro ISBN: 978-1-62751-366-1
<b>Required Computer Program:</b>	Microsoft Office Wolfram Alpha pro ( <a href="http://www.wolframalpha.com/pro/">http://www.wolframalpha.com/pro/</a> )
<b>Moodle Site:</b>	<a href="http://sncmoodle.sierranevada.edu/course/view.php?id=172">http://sncmoodle.sierranevada.edu/course/view.php?id=172</a>

## *Course Description*

Prerequisites: None. A preparatory course for calculus covering functions, trigonometry, real and complex numbers, exponents and logarithms, sequences and series, probability, determinants and matrices, and analytic geometry.

## *Instructional Strategies*

The lecture period is composed of lectures and note taking, discussions, and problem solving. There will be frequent study and review sessions scheduled outside class meeting times. The three hour period will be used partly to conduct field exercises that illustrate concepts learned in class.

## *Student Outcomes*

The student will:

- demonstrate an understanding of the basic principles of mathematics sufficiently well to succeed in subsequent math courses;
- learn critical analysis, logic, and problem solving of verbal and quantitative data;
- acquire skills that will prepare the student for a career or graduate school;
- demonstrate an understanding of the importance of mathematics and computers to society;
- demonstrate the critical thinking skills that are necessary to understand issues in science and technology;
- sketch and analyze graphs of a variety of mathematical functions;
- perform operations with complex numbers and plot complex numbers in the complex plane;
- solve a variety of equations;
- use a commercial mathematical software programs (Wolfram|Alpha pro and Excel) to model and solve real-world problems.

## *Tentative Schedule*

*NOTE* – topics, exam dates, and any other aspect of the class schedule are subject to change upon notification by instructor. The Class Announcements section of the Moodle course website and in-class announcements will be used to alert students of changes to the syllabus.

## *Section One*

CLASS DATES	CLASS TOPICS	CHAPTERS
M 8/21, W 8/23	Introduction and Review, Wolfram Pro Overview Foundations of Algebra	1
M 8/28, W 8/30	Foundations of Algebra Equations and Inequalities	1, 2
W 9/6	Equations and Inequalities	2
M 9/11, W 9/13	Equations and Inequalities, Exam I	2

## ***Section Two***

M 9/18, W 9/20	Functions	3
M 9/25, W 9/27	Polynomial Functions	4
M 10/2, W 10/4	Polynomial Functions, Rational Functions	4, 5
M 10/9, W 10/11	Exponential and Logarithmic Functions	6
M 10/16, W 10/18	Systems of Equations, Exam II	10

## ***Section Three***

M 10/23, W 10/25	The Trigonometric Functions	7
M 10/30, W 11/1	The Trigonometric Functions	7
M 11/6, W 11/8	The Trigonometric Functions	7
M 11/13, W 11/15	Analytic Trigonometry	8
M 11/27, W 11/29	Applications of Trigonometry	9
M 12/4, W 12/6	Applications of Trigonometry, Exam III	9

## ***Methods of Assessing Student Outcomes***

### **Grading:**

- The course is graded on a straight scale (A 93-100, A-90-92, B+ 87-89, B 83-86, B- 80-82, C+ 77-79, C 73-76, C- 70-72, D+ 67-69, D 63-66, D- 60-62, F 0-59) unless a shift downward in the scale is appropriate (based on performance of the entire class).
- Your grades on all assignments and exams will be posted in Moodle. It is your responsibility to check the grades to make sure that there are no errors. Please contact your instructor if there is an incorrect or missing grade.

### **Point summary:**

In-class exams (3 @ 200 pts. each)	600 pts.
Final exam	200 pts.
Assignments (Rescaled based on % accrued for entire semester)	200 pts.
TOTAL	1000 pts.

## *Assignment Grading Rationale*

### 20 point system (Points may be out of 40 or 80 for larger assignments)

#### 20 points

- All portions of the assignment are completed
- It is obvious that a high-quality and in-depth effort was put into the assignment
- If any answers or computations are incorrect they are not major mistakes or do not hinder understanding of the material
- Interpretations are relevant and concise, and yet have enough information to convey an understanding of the material
- It is obvious that no answers were simply copied from another student or group, although answers may be similar from students or groups that work together

#### 15 points

- All portions of the assignment are completed or possibly only a few very minor components are not completed
- A quality effort was put into the assignment but it may lack some depth and understanding
- There are at least one or a few errors that result from a misunderstanding of the material
- Interpretations are mostly relevant but there may be some lack of understanding of the material
- It is obvious that no answers were simply copied from another student or group, although answers may be similar from students or groups that work together

#### 10 points

- The assignment is most likely not completed
- The effort put into the assignment cannot be described as quality work
- There are at least several errors that result from a misunderstanding of the material
- Interpretations are frequently irrelevant and there is often a misunderstanding of the material
- It is obvious that no answers were simply copied from another student, although answers may be similar from students who work together

#### 5 points

- The assignment is not completed
- The effort can be described as minimal and half-hearted
- There are multiple errors that result in a misunderstanding of the material
- Interpretations are mostly irrelevant and there is a clear misunderstanding of the material
- It is obvious that answers were simply copied from another student or group

#### 0 points

- The assignment was not turned in or basically no real work was put into it.

- You must have access to a laptop with Wolfram|Alpha pro and Excel on it in order to take an exam – it is very important that you accept this responsibility. The exams and homework will require the use these programs, so they are integral aspects of the class.
- You may use one 8.5x11 sheet of paper with notes, Wolfram|Alpha pro, and Excel during the exams. Note sheets from prior exams in the course may also be used. All three note sheets can be used during the final. No photocopies (like from the text) are allowed unless approved by the instructor. No unauthorized Internet connections from laptops are allowed during the exam. Any violations of these rules will result in failing the course.
- There are no late exams given, with no exceptions. A make-up exam based directly on the content of the three exams over the semester will be given on Monday, December 11 at 9:00AM. This exam will replace any exam that is missed, or can be taken to replace the lowest score of an exam over the semester.
- It is ***strongly*** recommended that you take very good notes during class sessions and that you study these notes extensively for the exams. If you need tips on how to take good notes ask your instructor or visit the Office of Academic Services and Instructional Support.
- Laptops and cellphones ***absolutely*** may not be used in class for personal use such as observing videos, instant messaging, texting, checking e-mail, doing assignments for other classes or browsing the web. If you bring a laptop to class it must be closed unless approved by the instructor. Cellphones must be turned off and put away, meaning that they are not allowed to be put on the desks during class. Since attendance is not absolutely required for the course you have the freedom to laptop work and cellphones outside of the classroom during the class period. If you have to use your cellphone please excuse yourself from the class in a nondisruptive manner. Each violation of this rule may result in the loss of up to 50 points from the overall class score.

### ***Keys to Success in Precalculus***

- Have or develop intellectual curiosity in the beauty of how mathematics can be used in analysis and problem solving.
- Don't always think that ideas are important only if they apply to your life.
- Become proficient in Wolfram|Alpha pro and Excel. Spend time exploring them.
- Attend office hours and review sessions as much as possible.
- Take great notes in class.
- Don't expect to understand all of the material right away in class.
- Be persistent.
- Work with other students who are as serious (or more serious) than you about learning.
- Ask questions during the exams and finals.
- Don't fall behind because it is a very difficult to recover in the course.

### ***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) or go to the OASIS offices on the third floor of Prim Library within the first week of the semester.

## *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.

## *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.

### ***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