

Course Code & No. - Section: Math 101 - Section 1
Course Title (Credits): Math Reasoning (3)
Term & Year: Spring / 2015
Course Ref. No. (CRN): 10042

Instructor: Katie McConaghy
Email: piontheside@gmail.com
Office Hours: By appointment

Class Meeting Time: T/Th 2:30 – 3:45pm
Location: PA 213

Prerequisites: Passing MATH 090 with a "C" or better, or meeting the College's entrance requirements for mathematics

Course Description

Mathematical ways of thinking and an overview of many areas of mathematics. Included are parts of algebra, geometry, graph interpretation, probability, statistics, and topology. Emphasis on problem solving. Interesting geometric puzzles and logic problems. Intended to hone a student's reasoning and critical thinking abilities.

Student Outcomes

Upon completion of this course, a student will be able to:

- 1) Think correctly about numbers and have the ability to discern the reasonableness of a particular solution.
- 2) Model a mathematical problem using various strategies in order to solve a problem.
- 3) Understand the many uses of mathematics in other disciplines (with emphasis on Environmental Science).
- 4) Gather, organize, display, and summarize data.
- 5) Use technology as a tool to solve mathematical models.
- 6) Discover when to use a linear, exponential, or power function from the given data.

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.

Methods of Assessing Student Outcomes

Class participation, homework problems, projects, group presentations, exams.

Instructional Strategies

Content Area Reading, Lectures, Modeling, Demonstrations, Examples, Practical Exercises, Active Participation, Cooperative Learning, Oral and Written Student Presentations.

Required Texts and Materials

1. Topics in Contemporary Math, 10e by Bello, Kaul, Britton. ISBN: 978-1-133-10742-2
2. A fully functional laptop
3. Wolfram | Alpha & Microsoft Office (or Open Office)

Class Requirements

- Problem Sets (5) – 25%
- Presentations (5) – 25%
- Unit Tests (5) – 30%
- Culminating Final Presentation – 10%
- Cumulative Final Exam – 10%

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

It is highly recommended that a student does not miss any class sessions. Over the course of the semester, there will be 18 lecture days, 5 test days, and 6 presentation days. (See schedule at the end of the syllabus for further detail.) Attendance to the lecture days will be rewarded with points added directly to the final grade at the end of the semester. The breakdown is as follows:

Lecture Attended	Points Added
16 – 18	5
13 – 15	4
9 – 12	3
5 – 8	2
2 – 4	1

Problem Set Policy

There will be one problem set per unit. Each problem set is due at the time of the unit test. It is **STRONGLY** recommended that you complete the problem set many days in advance of the due date. The exercises to be included in each problem set will be listed in Moodle. All answers must include work for full credit. **Late problem sets will not be accepted.**

Presentation Policy

There will be four different group presentations per unit. Each group consists of 4 students. Throughout the duration of the course, each student must present for 4 different units and grade for 1 unit. At the start of each new unit, students choose which presentation they'd like to do. The order in which each student chooses will be random. Presentations will take place on the class session before the unit test. Each student must be present and participate in the presentation to get credit. Each group will be graded on presentation, accuracy, participation, and overall performance by a group of peers. Each presentation

must be between 10 and 15 minutes in length. I will award the final grade based on peer reviews and my own evaluation.

Unit Test Policy

There will be one test per unit. Each test will be given during class. Technology allowances will be clarified before each test. Tests may never be taken late unless an arrangement has been made with me PRIOR to exam day given an acceptable excuse.

Final Exam and Presentation Policy

The final exam will be cumulative and will be given on Tuesday, 5/12/15 from 11:30 – 2:30. The final presentations will be on the last day of class which is Tuesday, 5/5/15. The presentations will follow the same format as the unit presentations except each student will participate in a presentation and everyone will be responsible for grading each group. More detail to come.

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.
- **Work at your own pace!** This is a computer-based learning class. This means that you may work at your own pace, but you cannot fall behind the due dates for each chapter. You are encouraged to work ahead of the schedule if you find yourself understanding the material at a faster pace.
- **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 3rd floor of Prim Library and is open for math drop-in tutoring. There are also computers available for use. Check out the website for more information: [SNC Tutoring Center](#)
- **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 26:** Last day to drop with 100% refund
- **Feb 16:** President's Day – SNC closed
- **Mar 16 – 20:** Spring Break – no classes
- **Mar 30:** Last day to change grade status or withdraw without academic penalty
- **May 6 – 7:** Study Days – no classes
- **May 12:** Final Exam (11:30 – 2:30pm)

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.

- 1st 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.
- 2nd 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.
- 3rd Offense: Student is expelled.

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, 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

SNC - Math 101 - Section 1 - Spring 2015

Tuesday	20-Jan	Ch 1 & 3
Thursday	22-Jan	Ch 1 & 3
Tuesday	27-Jan	Ch 1 & 3
Thursday	29-Jan	Unit 1 Presentations
Tuesday	3-Feb	Unit 1 Test
Thursday	5-Feb	Ch 5 - 7
Tuesday	10-Feb	Ch 5 - 7
Thursday	12-Feb	Ch 5 - 7
Tuesday	17-Feb	Ch 5 - 7
Thursday	19-Feb	Ch 5 - 7
Tuesday	24-Feb	Unit 2 Presentations
Thursday	26-Feb	Unit 2 Test
Tuesday	3-Mar	Ch 8
Thursday	5-Mar	Ch 8
Tuesday	10-Mar	Unit 3 Presentations
Thursday	12-Mar	Unit 3 Test
Tuesday	17-Mar	Spring Break - No Class
Thursday	19-Mar	Spring Break - No Class
Tuesday	24-Mar	Ch 11 - 12
Thursday	26-Mar	Ch 11 - 12
Tuesday	31-Mar	Ch 11 - 12
Thursday	2-Apr	Ch 11 - 12
Tuesday	7-Apr	Ch 11 - 12
Thursday	9-Apr	Unit 4 Presentations
Tuesday	14-Apr	Unit 4 Test
Thursday	16-Apr	Ch 13
Tuesday	21-Apr	Ch 13
Thursday	23-Apr	Ch 13
Tuesday	28-Apr	Unit 5 Presentations
Thursday	30-Apr	Unit 5 Test
Tuesday	5-May	Final Presentations
Thursday	7-May	Study Day - No Class
Tuesday	12-May	Final Exam (11:30 – 2:30)

**Subject to change*