

Casper College Course Syllabus

Course Number And Title: MATH 1400-02 Pre-Calculus Algebra

Semester / Year: Fall 2015

Lecture Hours: 4 **Lab Hours:** 0 **Credit Hours:** 4

Class Time: 12:00 – 12:50 p.m. **Days:** M,Tu,W,Th **Room:** PS 109

Instructor's Name: Nick DeSalvo **e-mail:** ndesalvo@caspercollege.edu

Instructor's Contact Information: Office #: PS 127 Phone: (307) 268-2504

Office Hours:

Mondays: 10:00 – 10:50 a.m.

Tuesdays: 10:00 – 10:50 a.m. and 1:00 – 1:50 p.m.

Wednesdays: 10:00 – 10:50 a.m.

Thursdays: 10:00 – 10:50 a.m. and 1:00 – 1:50 p.m.

Fridays: 9:00 – 9:50 a.m. and 10:00 – 10:50 a.m.

Other times may be available by appointment.

Course Description: Elementary functions and graphing for mathematics, science, business, and engineering majors preparing for the regular calculus sequence. Includes exponential and logarithmic functions.

Statement of Prerequisites: A grade of “C” or better in MATH 0930, MATH 0934, an ACT math score of 23 or better or appropriate COMPASS exam score (Algebra 66-100 or College Algebra 0 – 64) or other appropriate placement test score within the past year.

Goal: This course is designed to help students gain mathematical knowledge and skills using algebra concepts to solve problems. It will also prepare students to take calculus, statistics, linear algebra, and other mathematics, computer, science, and business courses that present problems needing algebra concepts to solve. This course is heavily dependent upon the use of the graphing calculator technology. The objective is that students will be familiar with and competent in using a graphing calculator to graph and solve equations and functions.

Outcomes:

Solve problems using critical thinking and creativity. Use quantitative analytical skills to evaluate and process numerical data.

Course Objectives: Students should:

1. Be able to use function concepts including; evaluating, operations, composition, inverses, and transformations.
2. Solve polynomial, exponential, and logarithmic equations and relate and interpret these solutions.

3. Be able to graph linear, polynomial, exponential, logarithmic, absolute value, square root, piecewise defined, and rational functions.
4. Be able to model and interpret real-world problems using polynomial equations or regressions.
5. Be able to solve systems of equations.

Methodology: Each day homework problems will be assigned for practice. Approximately 13 times during the semester, assignments will be collected and graded. These may consist of pop quizzes, projects, homework problems from the text, or supplemental problems handed out by the instructor. Each assignment that is collected will be worth 10 points. At the end of the semester, your highest 10 scores will be kept, for a total of 100 points, and the other scores will be dropped. Assignments will not be accepted late – you have until the end of the day to get it to my office. If you do not have your assignment ready on the day it is due or if you are absent on the day a pop quiz is given, that will be one of the scores you will drop. You can miss about three assignments before it starts hurting your grade. If you are absent for two days or more (according to the Casper College catalog) due to accident, illness, etc., contact the dean of students and explain your reason. Your instructors will then receive a notice explaining your absence.

In addition to the assignments, there will be four or five 100-point exams. The exams will be announced ahead of time.

My policy on taking an exam late: Everyone has one chance to take an exam late, as long as you call and leave a message telling me why you aren't able to take the test on time, and take the exam in the Academic Testing Center before the graded exams are handed back to the rest of the class. This option is to be used only for illness, emergencies, etc., and I reserve the right to refuse to allow someone to take a test late for non-emergencies, even if it is your first time (not being ready does not qualify as an emergency!). If you haven't taken the exam by the time the rest of the class has received their graded exams (or if you have already used up your one chance to take an exam late), then your final exam score will be doubled to replace the missed exam. If you know ahead of time that you will be absent on the day of an exam, arrangements can sometimes be made to take the exam early. If you are involved in a sport or club that may cause you to miss class time, please let me know in advance. Information about the Academic Testing Center will be provided.

The comprehensive final exam will be worth 100 points and everyone must take it. If your final exam score is higher than your lowest score or your assignment total, I will double your final exam score and drop your lowest score. If your final exam score is your lowest score, I will not double it. In other words, the final exam is worth either 100 points or 200 points, depending on how well you do on it.

Evaluation Criteria: The total of your exams, assignments, and final exam will be divided by the points possible. Your grade will be determined as follows: 90-100%=A, 80-89%=B, 70-79%=C, 60-69%=D, and 0-59%=F. If your average is less than one percentage point of the next grade, I will round up if you have demonstrated good attendance. (For example, if your percentage is 79.2% and you have missed only a few classes, I would be inclined to give you a B. A percentage of 79.0% would remain a C regardless of attendance).

Required Text, Readings, Materials:

- MyMathLab code (Course ID: **desalvo37367**). This will give you access to the e-book version of the textbook (“Precalculus With Modeling and Visualization”, 5th ed., by

Rockswold, published by Pearson), and help videos. We won't be using MyMathLab for exams or quizzes.

- A graphing calculator is required for this class. The instructor will be using a TI-84 graphing calculator for demonstrations. Calculators can be rented for the semester in the Math Learning Center if you choose not to purchase one. Bring your calculator to class every day. No calculators allowed during quizzes and exams that are on devices that can communicate with other devices (such as cell phones, tablets, laptops, etc.!).

Class Policies:

Last Date to Change to Audit Status or Withdraw with a W Grade: Thursday, November 12.

Electronics: No listening to music or texting during class time. Cell phones must be in silent/vibrate mode during class time, and can't be out during exams or quizzes. Laptops and tablets can be used during class for note taking or to access the eBook version of the textbook, except during exams and quizzes. If it is found that you are using the laptop for other purposes, it is expected that you will immediately shut down and put it away.

Where to Go for Help:

- My office. See the top of the syllabus for contact information and office hours.
- The Math Learning Center (also called the Math Lab) is a place you can go for help. Staff and student workers are there to answer questions, or you can go if you just need a place to do your math homework. The Math Learning Center is located in PS 104. The exact hours it is open will be announced, or you can look on the door. Make sure you get help as soon as you start having trouble!

Student Rights and Responsibilities: Please refer to the Casper College Student Conduct and Judicial Code for information concerning your rights and responsibilities as a Casper College Student.

Chain of Command: If you have any problems with this class, you should first contact the instructor to attempt to solve the problem. If you are not satisfied with the solution offered by the instructor, you should then take the matter through the appropriate chain of command starting with the Department Head/Program Director, the Dean, and lastly the Vice President for Academic Affairs.

Academic Dishonesty: (Cheating & Plagiarism) Casper College demands intellectual honesty. Proven plagiarism or any form of dishonesty associated with the academic process can result in the offender failing the course in which the offense was committed or expulsion from school. See the Casper College Student Code of Conduct for more information on this topic.

Official Means of Communication: Casper College faculty and staff will employ the student's assigned Casper College email account as a primary means of communication. Students are responsible to check their account regularly.

ADA Accommodations Policy: If you need academic accommodations because of a disability, please inform me as soon as possible. See me privately after class, or during my office hours. To request academic accommodations, students must first consult with the college's Disability Services Counselor located in the Gateway Building, Room 344, (307) 268-2557, bheuer@caspercollege.edu. The Disability Services Counselor is responsible for reviewing

documentation provided by students requesting accommodations, determining eligibility for accommodations, and helping students request and use appropriate accommodations.

Tentative Calendar or Schedule Indicating Course Content:

This schedule is tentative and subject to change.

- 1.1 Numbers, Data, and Problem Solving
- 1.2 Visualizing and Graphing Data
- 1.3 Functions and Their Representations
- 1.4 Types of Functions and Their Rates of Change
- 2.1 Equations of Lines
- 2.2 Linear Equations
- 2.3 Linear Inequalities

Exam #1

- 2.4 More Modeling with Functions
- 2.5 Absolute Value Equations and Inequalities
- 9.1 Functions and Systems of Equations in Two Variables
- 9.2 Systems of Inequalities in Two Variables
- 9.3 Systems of Linear Equations in Three Variables
- 9.4 Solutions to Linear Systems Using Matrices

Exam #2

- 3.1 Quadratic Functions and Models
- 3.2 Quadratic Equations and Problem Solving
- 3.3 Complex Numbers
- 3.4 Quadratic Inequalities
- 3.5 Transformations of Graphs

Exam #3

- 4.1 More Nonlinear Functions and Their Graphs
- 4.2 Polynomial Functions and Models
- 4.3 Division of Polynomials
- 4.4 Real Zeros of Polynomial Functions
- 4.5 The Fundamental Theorem of Algebra
- 4.6 Rational Functions and Models
- 4.7 More Equations and Inequalities
- 4.8 Radical Equations and Power Functions

Exam #4

- 5.1 Combining Functions
- 5.2 Inverse Functions and Their Representations
- 5.3 Exponential Functions and Models
- 5.4 Logarithmic Functions and Models
- 5.5 Properties of Logarithms
- 5.6 Exponential and Logarithmic Equations
- 5.7 Constructing Nonlinear Models

Exam #5 (if time permits, or chapter 5 may be part of the final exam)

The final exam is tentatively scheduled for Wednesday, December 16, 1:00 – 3:00 p.m.