

Casper College Course Syllabus

Course Number And Title: MATH 1000-01 Problem Solving Mathematics

Semester / Year: Fall 2015

Lecture Hours: 3 **Lab Hours:** 0 **Credit Hours:** 3

Class Time: 8:00 – 8:50 a.m. **Days:** M,W,F **Room:** PS 117

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: Focuses on the strategies of problem solving. Topics in the course are taken from financial mathematics, set theory, logic, probability, statistics and discrete mathematics and “just in time” algebra topics, such as exponents that are necessary to students in their success in this class and in their major.

Statement of Prerequisites: A “C” or better in MATH 0900; or an ACT Math score of 19 or better; or a COMPASS placement score in the Pre-Algebra domain of 45-100 and Algebra domain of 0-39 within the past year, or final cumulative high school GPA of 3.7 or better.

Goal: The objectives of this course are to introduce the student to a different view of mathematics than that of the traditional algebra curriculum by presenting topics that are applicable to real-life situations. It is also designed to introduce the student to a variety of ways of solving problems they may encounter in their lifetime and show the relevance of mathematics to everyday life.

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 apply simple financial formulas to solve problems involving compound interest, annuities, loans, etc.
2. Be able to use simple financial formulas to analyze problems that require financial decisions.

3. Be able to use the empirical, experimental, and subjective definitions of probability to do probability problems involving one event.
4. Be able to apply the laws of probability to analyze problems involving multiple events and expected value.
5. Be able to describe a data set using basic simple statistics and graphics.
6. Be able to construct an interval estimate from the normal distribution and understand it has a specified certainty of being correct.
7. Have a greater appreciation for the beauty, utility and significance of mathematics as a liberal art.

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, supplemental problems handed out by the instructor, etc. 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 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 is optional. If you are satisfied with your grade after exam #4, you don't have to take the final exam. The optional final exam can be used to replace the lowest of your exam scores and assignment total.

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).

Casper College may collect samples of student work demonstrating achievement of the above outcomes. Any personally identifying information will be removed from student work.

Required Text, Readings, Materials:

- MyMathLab code (Course ID: **desalvo37347**). This will give you access to the e-book version of the textbook and help videos. If you prefer, you can purchase the physical book instead: "Thinking Mathematically", by Blitzer, 6th edition, published by Pearson / Prentice Hall. You do not need to purchase both the code and the book. We will not be using MyMathLab for quizzes or exams.
- A graphing calculator is strongly recommended, although a scientific calculator might suffice. A TI-84 will be used for demonstration. Graphing calculators can be rented from the Math Learning Center if you don't want 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), PS 104, 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 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 Inductive and Deductive Reasoning

1.3 Problem Solving

8.1 Percent, Sales Tax, and Discounts

8.2 Income Tax

8.3 Simple Interest

Exam 1

8.4 Compound Interest

8.5 Annuities, Methods of Saving, and Investments

8.6 Cars

8.7 The Cost of Home Ownership

8.8 Credit Cards

Exam 2

11.1 The Fundamental Counting Principal

11.2 Permutations

11.3 Combinations

11.4 Fundamentals of Probability

11.5 Probability with the Fundamental Counting Principal, Permutations, and Combinations

11.6 Events Involving Not and Or; Odds

11.7 Events Involving And; Conditional Probability

11.8 Expected Value

Exam 3

12.1 Sampling, Frequency Distributions, and Graphs

12.2 Measures of Central Tendency

12.3 Measures of Dispersion

12.4 The Normal Distribution

12.5 Problem Solving with the Normal Distribution

9.1 Measuring Length: The Metric System (9.1, 9.2, and 9.3 if time permits)

9.2 Measuring Area and Volume

9.3 Measuring Weight and Temperature

Exam 4

Final Exam: tentatively scheduled for Tuesday, December 15, 8:00 – 10:00 a.m.