Casper College Course Syllabus

Course Number and Title: MATH 1000-N2 Problem Solving Mathematics

Semester / Year: Fall 2006

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

Class Time: Internet section, so no class time scheduled

Instructor’s Name: Pete Wildman

Instructor’s Office #: PS 344 Phone: 268-2506

Office Hours: M,F: 1-1:50
cT,W,TH: 10-10:50
W: 11-11:50

Other times by appointment or just drop by - I am often around in addition to these hours. If you can not get me in person, please contact me by e-mail at pwildman@caspercollege.edu or petewildman@bresnan.net. I check my e-mail many times daily!

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.

Statement of Prerequisites: A grade of “C” or better in DVST 0920, or an ACT score of 21 or better, or an appropriate COMPASS exam score within the past year.

General Objectives: The objectives of this course are to provide the student with an introduction to some of the mathematics currently being used everyday in society. It is to introduce the student to a different view of mathematics than that of the traditional algebra – geometry 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. Hopefully it will help the also understand the “beauty” of mathematics and help the student to better appreciate and like mathematics.

Specific Objectives: Students should:
1. Be able to apply simple financial formulas to solve problems involving compound interest, annuities, sinking funds, 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 sample 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
METHODOLOGY:
It will be assumed that any student in this class has access to the internet. Having internet access at home is convenient, but not necessary as long as you have access somewhere, such as one of the computer labs at Casper College. We will be using WebCT, which has its own internal e-mail and a posting for news and discussions. You should check both frequently. It will also be assumed that students in this class are familiar with the internet and their internet browser. You may be asked to do research on-line, so be able to conduct on-line searches. Let me know if you need any help. Students will be assessed on a regular basis by projects, quizzes, and exams. Quizzes and possibly the final exam will be administered on WebCT, where you will take the quiz or exam on-line. The final exam may be a "pencil and paper" proctored exam. Projects should be submitted either by e-mail (or word processor documents sent as an e-mail attachment), fax, regular mail, or in person. These will have a due date. Any work submitted after the due date (or post-marked after the due date if mailed) will be subject to a deduction of points, and the point deduction will increase with the number of days it is late. I will remind you of impending due dates in the WebCT calendar and news sections of WebCT.

Any work submitted must consist of more than just answers (except any multiple-choice quizzes or exams taken on WebCT). Points may be deducted for not showing work even if the answer is correct. For work that is not submitted on WebCT, I strongly recommend that you keep a copy of anything you turn. The easiest way to do this is to do your work in a word-processing program, save it on a disk, and submit it by an e-mail attachment. An alternate way, if you prefer to do your work with paper and pencil, is to photocopy any work you submit. The reason I recommend this is because things get lost in the mail (even e-mail), and yes, even your instructor has occasionally lost things. So please, for your own sake, keep a copy of everything.

While I recognize that working together is beneficial and is very much encouraged, I do want to stress that anything you turn in, especially exams and projects, should be a product of your own effort and should be in your own words. Duplicate submissions (for example, two students submit an exam or a project that are identical or nearly identical) are both subject to a deduction of points. When a project is assigned, you will be told whether you must select your own topic or if you can work together.

EVALUATION CRITERIA:

1) QUIZZES: Problems from the textbook will be assigned for practice. Quizzes will be on-line (through WebCT). There will usually be one quiz per week.

2) PROJECTS: The projects are a little more involved than homework assignments. Projects will require you to work with your textbook, your instructor, the internet, and other outside sources. There may be some research involved, and there will be a writing component with each project.

3) EXAMS: Exams will be on-line – the calendar and weekly updates will help you keep track of these.

4) DISCUSSIONS: For each unit there will be a discussion question that focuses on some aspect of the course. You must post a contribution to the discussion question and respond to two other discussion postings.

Your grade in this course will be determined as follows:
- Quizzes: about one per week, usually worth 10 points each
- Projects: three or four of them, worth 50 points each
- Exams: three of them, worth 100 points each
- Discussion Questions: 3-4 of them, worth 50 points each
- Final exam: worth 100 points

Your total points earned will be divided by the total possible points to arrive at your percentage. I use the usual 90 - 100 %= A, 80 - 89 %= B, 70 - 79 %= C, 60 - 69 %= D, 0 - 59 %= F grading scale.
WHAT IF I NEED HELP?? What should you do if you are confused?? Ask questions! Please do not hesitate to ask questions! There are many ways to get additional help

- Ask questions using e-mail! Use the WEB CT e-mail account!
- Use the discussion list in WEB CT to ask questions of your peers
- Come and see me during my office hours (listed above). If these times are not convenient, then please see me to make an appointment! I am often around in addition to these times, so don't hesitate to stop by or give me a call. I want to help.
- Form a study group with your friends - this is a great way to learn!

    Let's make this a great semester!!!

LAST DATE TO CHANGE TO AUDIT STATUS OR TO WITHDRAW
Friday Nov. 3, 2006

STUDENT RIGHTS & 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 in order to solve the problem. If you are not satisfied with the solution offered by the instructor, you should then take your problem through the appropriate chain of command starting with the department head, then the division chair, 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.

ADA Accommodations Policy: It is the policy of Casper College to provide appropriate accommodations to any student with a documented disability. If you have a need for accommodation in this course, please make an appointment to see me at your earliest convenience.

TENTATIVE SCHEDULE WITH COURSE CONTENT

This schedule is tentative and subject to change.

Week # 1 August 28 – Sept. 1
    Introduction & Orientation
    1 A and 1 B Fallcies and Propositions and truth values

Week # 2 Sept. 4-8
    1 C Sets and Diagrams
    1 D Evaluating Arguments

Week # 3 Sept. 11-15
    2 C Problem Solving techniques
    Project # 1 - Logic

Week # 4 Sept. 18-22
    5 A Fundamentals of Statistics
    5 B Should You Believe a Statistical Study?
Week # 5  Sept. 25-29
  5 C Statistical Tables and Graphs
  5 D Graphics in the Media
  5 E Correlation and Causality
  Exam # 1

Week # 6  Oct. 2-6
  6 A Characterizing a Data Distribution
  6 B Measures of Variation

Week # 7  Oct. 9-13
  6 C The Normal Distribution
  6 D Statistical Inference

Week # 8  Oct. 16-20
  Project # 2 - Statistics
  7 A Fundamentals of Probabilities
  7 B Combining Probabilities

Fall Break, Oct. 21-24 - no school

Week # 9  Oct. 25-Nov. 3
  Finish  7 B
  7 C The Law of Averages
  Exam # 2

Week # 10  Nov. 6-10
  7 E Counting and Probability
  Project # 3 - Probability

Week # 11  Nov. 13-17
  4 A The Power of Compounding
  4 B Savings Plans and Investments

Week 12 : Nov. 20-24
  4 C Loan Payments, Credit Cards, and Mortgages
  4 D Income Taxes

Week # 13  Nov. 27-Dec. 1
  Exam # 3
  Project # 3 - Finance

Week # 14  Dec. 4-Dec. 8
  10 A Fundamentals of Geometry
  10 D Proportion and the Golden Ratio

Week #17: Dec. 11-Dec. 15
  Catch Up week
  Study for final

Final exam week : Dec. 18-21