Math 358 - Spring 2005 Syllabus

Professor: Dr. Nathan Wetzel
Office: SCI D352
Office Hours: M RF 10-10:50 am  
R 11-11:50 am  
M 1-1:50 pm or by arrangement
Phone: x4127

Classroom times:
- Math 358 (A203) M W 9-9:50am
- Math 357 (CCC 111) M W F 11-11:50pm
- Math 350 (A212) W F 12-1:50pm

**Topics:** The basic idea of this course is for you to prepare for Actuarial Exam P (CAS and SOA). The May exam is scheduled for Wednesday, May 25 - 8:30 am - 11:30 pm. Registration deadline is April 1, 2005. Cost: $100. We will work through old exam problems and review difficult topics as necessary. The topics in this course cover one semester of probability. This means that we can not cover all of the material in depth. The student must identify the topics where she/he is weak and re-learn that material. Major topics as listed by the SOA are:

- General Probability including sets, mutually exclusive, independence, addition and multiplication rules, conditional probability, and Bayes Theorem.
- Univariate Probability Distributions including binomial, negative binomial, geometric, hypergeometric, Poisson, uniform, exponential, chi-square, beta, Pareto, lognormal, gamma, Weibull, and normal. Probability functions, densities, cdfs, modes, medians, means, variances, mgfs. Transformations.
- Multivariate probability distributions (including the bivariate normal). This includes joint probability functions, densities, conditionals, marginal, moments, covariance correlations, transformations, order statistics, Central Limit Theorem, etc.

**Pre-Requisites:** Math 357 or concurrent registration in Math 357. It is also assumed that the student is planning to take Actuarial Exam P and WANTS to pass it.

**Assignments:** Each student will be assigned a set of problems from old exams. The student will prepare to present the solutions to these problems in class. The instructor will ask questions that will require the student to generalize.

**Test(s):** We will have at least one in-class test consisting of problems from old exams.

**Grading:** Grades will be based on the following percentages:
- Assignments - 60%  
- Test(s) - 30%  
- Final - 10%
A weighted average will be computed and if it is $\geq 93\%$ then the grade will be an A, if it is $\geq 90\%$, then the grade will be at least an A-, if it is $\geq 87\%$, then the grade will be at least an B+, if it is $\geq 83\%$, then the grade will be at least an B, if it is $\geq 80\%$, then the grade will be at least an B-, etc.

Questions and/or homework may be submitted with e-mail to nwetzel@uwsp.edu

Finally, here is a quote from a Univ of Texas page regarding the actuarial exams. “What are the Actuarial exams like? The exams aren’t easy. The exams are challenging. The exams are HARD! They are long, primarily multiple choice, and usually every question is worth one point; only correct answers count in your score. Even very strong students find that they must practice, practice, practice on old exams in addition to learning the academic material in their regular classes. They have to learn to be accurate. They have to learn which problems to answer immediately, which to skip until later (if there is time), and on which ones to guess. A score of 65% correct is highly likely to pass, but it’s not easy to get 65% correct. Plan to spend many hours taking complete old exams and sample exams (of length three hours or four hours or even five hours), scoring them, then studying what you missed if you intend to succeed.”