CSS 415 MATHEMATICAL STATISTICS I – COURSE POLICIES

Assignments:
There will be several assignments, with strict deadlines. Late submissions will be penalized by 20% per calendar day overdue. Assignments must be submitted on paper (no emails) and must be stapled. Dog-eared assignments will not be accepted.

Quizzes:
There will be several pop quizzes, usually at the beginning of a class.

Midterm & Final:
Midterm: Mar-03-2011
Final: May-10-2011, 10:45am – 1:15pm

Grades:
Assignments & quizzes count for 50% towards the final grade.
The Midterm counts for 25% towards the final grade.
The Final exam counts for 25% towards the final grade.

Textbook:

Class website:
Located at http://www.cs.usm.edu/~banerjee/CSS415
This is CASE SENSITIVE. Notifications and assignments will be posted on this website, so be sure to check this URL often.

Academic Honesty:
You are expected to do all the homeworks and assignments on your own. You are allowed to consult your classmates or myself regarding any doubts. If you allow your work to be copied or if you copy someone else’s work then all the parties involved will get zero points for that work. If you are caught for the second time as a participant in copying you will get an F for the course.

Attendance:
You should do your best to attend every class. Knowledge presented in class will be critical for passing the midterm and the final. In addition, pop quizzes are always a possibility. If you are late for class, you may miss a quiz, unless prior arrangements are made with the instructor.

Email Policy:
If you send me an email, the subject line must contain ‘CSS 415’, otherwise you should not expect a reply.
CSS 415: Methods of Mathematical Statistics I

Course Objectives:

1. Develop an understanding of basic concepts of probability
   1. To define the sample space of a statistical experiment.
   2. To determine the number of points in a sample space
   3. To calculate the probability of an event using counting principles such as permutations and combinations.
   4. To calculate probabilities of the form $P( A_1 \cup A_2 \cup \ldots \cup A_n )$ and where $A_i$ is an event in the sample space
   5. To calculate probability of the complement of an event $A$ in a sample space, that is, probabilities of the form $P(\text{not } A)$
   6. To calculate the probability of an event $A$ given that an event $B$ has occurred, that is, $P(A | B)$

2. Develop a Basic Understanding of Random Variables and Probability Distributions
   1. To determine and use discrete probability functions
   2. To determine and use continuous probability density functions
   3. To determine and use cumulative distribution functions
   4. To form and use empirical frequency distributions

3. Develop an Understanding of Mathematical Expectation
   1. To calculate and use the expected value of a random variable
   2. To calculate and use the variance of a random variable

4. Develop an Understanding of Selected Discrete Probability Functions
   1. To calculate and use probabilities using the binomial distribution
   2. To calculate and use probabilities using the Poisson distribution

5. Develop an Understanding of the Normal Distribution
   1. To determine probabilities using the normal distribution
   2. To use the normal distribution to estimate binomial probabilities

6. Develop an Understanding of Fundamental Sampling Distributions
   1. To understand and use the central limit theorem

7. Confidence Intervals
   1. To determine and use confidence intervals on the mean of a normal distribution
   2. To determine and use confidence intervals on the proportion of successes in a binomial distribution

8. Hypothesis Testing
   1. To test hypotheses on the mean of a distribution when the population variance $\sigma$ is known
CSS 415 MATHEMATICAL STATISTICS I

ADA Syllabus Statement

If a student has a disability that qualifies under the American with Disabilities Act (ADA) and requires accommodations, he/she should contact the Office for Disability Accommodations (ODA) for information on appropriate policies and procedures. Disabilities covered by ADA may include learning, psychiatric, physical disabilities, or chronic health disorders. Students can contact ODA if they are not certain whether a medical condition/disability qualifies.

Address:
The University of Southern Mississippi
Office for Disability Accommodations
118 College Drive # 8586
Hattiesburg, MS 39406-0001

Voice Telephone: (601) 266-5024 or (228) 214-3232  Fax: (601) 266-6035

Individuals with hearing impairments can contact ODA using the Mississippi Relay Service at 1-800-582-2233 (TTY) or email Suzy Hebert at Suzanne.Hebert@usm.edu.