COURSE OUTLINE
INTRO TO PROBABILITY & STATISTICS FOR CS
STA 3033-01, SPRING 2007

Instructor: Dr. Golam Kibria
Office: DM 402B
Phone: (305) 348-1419
Email: kibriag@fiu.edu
Web page: http://www.fiu.edu/kibriag/stat3033/

Class Time: Monday & Wednesday, 11:00 AM to 12:15 PM
Class Room: PC-211
Office Hours: Monday & Wednesday, 2:00 PM to 3:15 PM or by appointment (305- 348 1419).
Prerequisite: Calculus II

Additional Reading if needed:
2. "Engineering Statistics", by Montgomery, Runner and Hubele

Course Description: This course is designed for Engineering and Computer Science majors. The focus of this course is on both applications and theory. The details about the courses are as follows:

Ch.1. Introduction (All Sections): Statistics. Basic ideas and tools for displaying and analyzing data sets.
Ch.2. Probability (All sections): Probability and counting rules, conditional probability and independence, rules of probability.
Ch.4. Continuous Probability Distributions (4.1 - 4.8) Continuous random variable, its density and cumulative distribution functions; mathematical expectation, Uniform Distribution, Exponential Distribution, Gamma Distribution, Normal Distribution, Beta Distribution, Weibull Distribution.
Ch.6. Statistics and Sampling Distributions (6.1 - 6.5): Sample Mean and Sample Variance, Sampling Distribution of Sample Mean, Central Limit Theorem, Normal Approximation to the Binomial Distribution, Sampling Distribution of Sample Variance.
Ch.7. Estimation (7.1 - 7.5): Point and Interval Estimators, Unbiasedness, Confidence intervals for means, proportions and variances. Prediction intervals.
Ch.8. Hypotheses Testing (8.1 - 8.3): Testing the mean, the proportion p, the variance; testing the difference between two means, the difference between two proportions, paired t-test, testing the ratio of variances.

Note: A scientific calculator is required for this course.
Course Evaluation: There will be four exams and tentatively the weighting scheme is as follows:

<table>
<thead>
<tr>
<th>Exam</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Midterm Exam I</td>
<td>20%</td>
</tr>
<tr>
<td>Midterm Exam II</td>
<td>20%</td>
</tr>
<tr>
<td>Midterm Exam III</td>
<td>20%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>40%</td>
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</tbody>
</table>

Grading Scale: The weighted average of the scores in the three exams will be converted to a percentage. The following scale will then be used to assign letter grades for the course.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>90% and +</td>
</tr>
<tr>
<td>A-</td>
<td>87% to 89%</td>
</tr>
<tr>
<td>B+</td>
<td>84% to 86%</td>
</tr>
<tr>
<td>B</td>
<td>80% to 83%</td>
</tr>
<tr>
<td>B-</td>
<td>77% to 79%</td>
</tr>
<tr>
<td>C+</td>
<td>74% to 76%</td>
</tr>
<tr>
<td>C</td>
<td>70% to 73%</td>
</tr>
<tr>
<td>C-</td>
<td>67% to 69%</td>
</tr>
<tr>
<td>D+</td>
<td>64% to 66%</td>
</tr>
<tr>
<td>D</td>
<td>60% to 63%</td>
</tr>
<tr>
<td>D-</td>
<td>57% to 59%</td>
</tr>
<tr>
<td>F</td>
<td>0% to 56%</td>
</tr>
</tbody>
</table>

The first midterm exam will be held on February 5 (Monday), 2007 and exam covers the materials until January 31 (Wednesday), 2007.

The second midterm exam will be held on March 5 (Monday), 2007 and exam covers the materials until February 28 (Wednesday), 2007.

The third midterm exam will be held on April 4 (Wednesday), 2007 and exam covers the materials until April 2 (Monday), 2007.

The final exam is cumulative and will be held on April 25 (Wednesday) 2007, between 9:30 PM to 12:15 PM.

Home works: During the semester some problems will be assigned from text. Doing homework is strongly recommended. The answers of the odd problems can be found at the back of the text book.

Some Important Dates:
1. January 15 (Monday), 2007: Martin Luther King Holiday (University Closed).
2. January 16 (Tuesday), 2007: Last day to complete late registration, change grading option, drop/withdraw courses without incurring a financial liability.
3. February 6 (Tuesday), 2007: Last day to withdraw from the University with a 25% refund of tuition.
4. March 12 (Monday) 2007: Deadline to droop a course with DR grade and to withdraw from the University with a WI grade.
6. Classes end on April 19 (Thursday) 2007.

Note: The instructor is not responsible about the exact date or time or adding/ dropping the course etc.

Makeup’s: No make-up exam will be given, however, if an extenuating circumstance exists, please contact the instructor prior to the exam. No extra work will be given to improve the grade. A grade F will be given if a student attend 1 or 2 midterm exams only. All students are required to complete/write the final exam, as it is worth 40% of the final grade.

Incomplete: The incomplete (I) grade will be given ONLY to a student who has completed the bulk of the course works and is unable to complete the course due to a serious interruption not caused by the student’s own negligence.

Academic Misconduct: Students guilty of academic misconduct are subject to a variety of disciplinary actions ranging from a zero on an exam and F in the course to dismissal from the University.

Attendance: Students are expected to attend the classes regularly. If a student misses (or fails to attend) a class, it is his/her sole responsibility to obtain the missing information (for examples change of exam date, change of exam location, add/ omit some sections, class notes, new home works etc). Students are encouraged to seek the instructors help during office hours.

Notice: The course outline provides a general plan/guide for the course only, however, deviation or some changes may be necessary. The instructor will assume the sole authority in all matters related to course content, students gradings, and classroom procedures. No active beeper or cellular phones are allowed in classes. You should not register in this class if your final exam conflicts with other course.