MATHEMATICS 206 — DATA ANALYSIS
Syllabus and Course Procedures  Spring 2006

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Office Hrs:  Tuesday 11:00-12:00, 2:30-3:30
            Wednesday 6:30-8:00 pm
            Thursday 11:00-12:00


Course Material Chapters 9-16 is a rough course outline. Some sections may be omitted or added, and some sections may not require written homework. I will also add some material outside the scope of the text.

Your Course Grade  Your course grade will be determined as a weighted average as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Homework</td>
<td>22%</td>
</tr>
<tr>
<td>Short Quizzes*</td>
<td>16%</td>
</tr>
<tr>
<td>Class Participation</td>
<td>6%</td>
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<tr>
<td>Midterm Exam</td>
<td>18%</td>
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<tr>
<td>Analysis Project</td>
<td>16%</td>
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<tr>
<td>Final Exam</td>
<td>22%</td>
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Grading scale is approximately: A (90-100), B (80-90), C (70-80), D (60-70), F (below 60)

* I will delete your lowest quiz score before calculating your final course average.

Homework  Homework exercises will be assigned and collected frequently (typically at least one assignment per week.) You are encouraged to discuss problem concepts and solution techniques with your fellow students, but your final homework reports must be your own work. Homework solutions should be legible and presented in a logical fashion with ample explanations and conclusions. Messy work that is difficult to follow may receive no credit. One of my favorite axioms is Homework is where most of the learning happens in a course, and I agree whole-heartedly. The payback from hours of hard work on home assignments will be a deeper understanding of data analysis, and, ultimately, the likelihood of a high grade in the course. For simplicity, I will weight all homework assignments equally.

Late Policy  Homework assignments must be turned in to me at the beginning of the class period on the assigned due date, unless I specify otherwise. No Credit will be given to late papers. If you have an illness or athletic schedule conflict, let me know as soon as possible.

Short Quizzes  I plan to give approximately eight to ten quizzes, so their frequency will be roughly between weekly and bi-weekly. The quizzes will be about 15 minutes in
duration, and may cover concepts and interpretations as well as statistical calculations. The goal of the quizzes is to serve as a feedback to me as to where difficulties lie in student understanding, in addition to serving as a motivator for students to stay current with the material. I will delete your lowest quiz score before calculating your final course average.

**Class and Lab Participation** This component of your grade is based on attendance, participation in class discussions and in-class lab activities, and good teamwork in group activities.

**Exams** There will be one midterm exam, and one comprehensive final exam. Exams will consist of both in-class and take-home portions. The dates of these exams are:

- **Midterm Exam** — Take-Home Portion: March 21-28; In-Class Portion: March 23.
- **Final Exam** — Take-Home Portion: TBA; In-Class Portion: May 8, 8:30-11:30 am

**Analysis Project** For the analysis project, you will find a data set, explore and analyze the data, draw conclusions, and present your results in a formal report. You are responsible for finding a data set to study. I suggest you begin your data search within a topic in which you are very interested. About mid-semester I will be meeting with each of you individually to approve your data set and basic analysis plan — I say approve not to be dictatorial, but to assure the scope of your project is not too small and not too big. Your formal report should be of professional quality — typed, having a cover sheet, introduction, body, and results and conclusions. It should be well-written with good use of both technical and non-technical language, and displaying appropriate graphics. The grade on your report will be weighted, giving 70% weight to mathematical and statistical correctness, and 30% to presentation.

**Software** There will be a considerable amount of work done with the aid of the software packages SAS and Minitab. All that you need to know about these programs will be covered in class. The SAS analysis software is popular in industry due to its statistical power and its ability to store, manipulate, and merge huge data sets. Minitab, on the other hand, is limited in its analysis capabilities but is very easy to use for some of the more simple procedures. Minitab also is a fast and friendly program for running simulations, which are instrumental in demonstrating the underlying statistical principles of analysis. Fast and powerful statistical software is a somewhat bittersweet pill. With todays powerful software, we can perform a plethora of analyses quickly and generate a ream of output, whether or not these analysis procedures are appropriate for the given data setting, and whether or not key validating assumptions are met. Knowledge and discipline must match the awesome computational power and speed of modern software!

**Academic Honesty** Any work you submit for credit in this course must result directly from your own understanding, thoughts, and ideas. Presenting the work of others as your own is strictly prohibited.

**Disabilities** If you have any disability and therefore may have need for some type of accommodation(s) in order to participate fully in this class, please feel free to discuss your concerns in private with Erin Salva, Coordinator of Disability Services, by calling her office at phone number 5145.