Instructor: Prof. Amitava Dutta
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Class Times: Section 001 Wed 7:20-10:00PM Founders Hall 113, Arlington

Office Hours: Wed: 6:00 - 7:00 p.m. (location in Arlington TBD) and by Appointment
Prerequisites: Admission to the MBA program and College Mathematics

Course Website [http://courses.gmu.edu](http://courses.gmu.edu) Log in using your GMU email id and password.

MBA Program Learning Goals
The MBA program focuses on the following program learning goals:

- Teaming & Leading - Our graduates will demonstrate the team leadership and interpersonal skills needed to form, lead, and work effectively on diverse organizational teams.
- **Analytical Decision Making** - Our students will demonstrate the ability to analyze uncertain complex management situations using appropriate tools, techniques, and information systems for decision-making.
- Knowledge of Functional Business Disciplines- Our graduates will demonstrate the ability to integrate knowledge from all functional areas of business into a meaningful firm-level perspective
- Global Understanding - Our graduates will demonstrate a perspective on how businesses operate in the global environment.
- Communication Skills - Our graduates will demonstrate written, oral and presentations skills necessary to explain problems and solutions effectively and persuasively.
- Ethics and Social Responsibility - Our graduates will have a sense of professional and social responsibility in the conduct of managerial affairs.

Course Objectives:
Learn:
1. basic statistical techniques used to summarize and present data;
2. basic statistical techniques used for inference and prediction;
3. to apply these techniques to address business problems.
4. to use MS Excel to perform statistical analysis.
Grading:

<table>
<thead>
<tr>
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<th>Percentage</th>
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<tbody>
<tr>
<td>Mid term exam (in class)</td>
<td>20%</td>
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<tr>
<td>Final exam (in class)</td>
<td>30%</td>
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<tr>
<td>Take home exams (indiv)(2)</td>
<td>50%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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**Final Exam:** Wednesday 5/11/2011, 7:30-10:15PM.

**Assignments:** Homework problems will be assigned every week. Solutions showing the final answers as well as the intermediate steps will be posted at the same time. It is your responsibility to complete the problems on your own every week and check your solutions against the posted ones. You are not required to submit the homework problems. Although there is no homework submission, I will emphasize that working problems is key to mastering the material and doing well on exams. You should complete the homework each week and discuss any difficulties with me. Do NOT wait till exam time to work problems. There are no ‘extra credit’ assignments or other mechanisms for adjusting class scores.

**Keys to doing well in the course.**

- Course grade will be determined by the level of mastery of the subject matter as demonstrated through the two in-class exams and take home exams. Mastery implies being able to (a) identify the statistical problem embedded in a given business problem (b) apply appropriate techniques to solve the statistical problem and (c) interpret the statistical results and identify their implications for the business problem. Mastery also implies that one is able to do these three things in a reasonable amount of time.

- Problem solving is the key to achieving mastery of the subject matter. If you feel you will learn better by working homework problems in groups, by all means do so. However, and I cannot emphasize this more strongly, you must also practice problems completely on your own. This is what you will have to do on the exams. Only when you test yourself in this manner will you get a realistic idea of how well you have mastered the subject.

- Although not a requirement, I recommend bringing your textbook and a laptop to every class. We will work problems regularly in class.

- Statistics is in use all around you. Keep a lookout for applications of statistics in what you read and hear on a daily basis. This will strengthen your understanding of core concepts.

- Keep up with readings and assignments. Concepts will build on one another rather rapidly.
### MBA 633/001 – Spring 2011

**TENTATIVE COURSE SCHEDULE (SPRING BREAK MAR14-20, MAY 7)**

<table>
<thead>
<tr>
<th>Dates</th>
<th>Topics</th>
<th>Reading</th>
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<tbody>
<tr>
<td>Jan26</td>
<td><strong>Introduction to Course</strong>&lt;br&gt;Descriptive Statistics: Tabular and Graphical Methods&lt;br&gt;(Read: Ch. 1, Sec 1.2-1.5; Ch. 2, Sec 2.1, 2.2, 2.4)&lt;br&gt;<em>HW#1 assigned</em></td>
<td>Chapter 1  &lt;br&gt;Chapter 2</td>
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<td>Feb02</td>
<td><strong>Descriptive Statistics: Numerical Measures</strong>&lt;br&gt;Measures of Location and Measures of Variability&lt;br&gt;z-scores, empirical rule, Chebychev’s theorem&lt;br&gt;(Read: Ch 3, Sec 3.1, 3.2, 3.3, 3.5, 3.6)&lt;br&gt;<em>HW#2 assigned</em></td>
<td>Chapter 3</td>
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<tr>
<td>Feb09</td>
<td><strong>Introduction to Probability &amp; Random Variables</strong>&lt;br&gt;Discrete Probability Distributions Binomial Distribution&lt;br&gt;Expected Value and Variance&lt;br&gt;(Read: Ch.4, Sec4.1, 4.2, 4.3, 4.4; Ch.5, Sec5.1, 5.2, 5.3, 5.4)&lt;br&gt;<em>HW#4 assigned</em></td>
<td>Chapter 4  &lt;br&gt;Chapter 5</td>
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<td>Feb16</td>
<td><strong>Continuous Probability Distributions</strong>&lt;br&gt;Uniform Distribution, Normal Distribution&lt;br&gt;(Read: Chapter 6, Sections 6.1 and 6.2)&lt;br&gt;<em>HW#5 assigned</em></td>
<td>Chapter 6</td>
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<td>Feb23</td>
<td><strong>Continuous Probability Distributions (contd.)</strong>&lt;br&gt;Uniform Distribution&lt;br&gt;Normal Distribution&lt;br&gt;(Read: Chapter 6, Sections 6.1, 6.2, 6.3)&lt;br&gt;<em>HW#6 assigned</em>&lt;br&gt;<em>Take Home Exam #1 assigned</em></td>
<td>Chapter 6</td>
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<td>Mar02</td>
<td><strong>Sampling Distributions</strong>&lt;br&gt;Point Estimation&lt;br&gt;Central Limit Theorem&lt;br&gt;Read: Chapter 7, Sections 7.1 to 7.6)&lt;br&gt;<em>HW#7 assigned</em>&lt;br&gt;<em>Take Home Exam #1 Due (Blackboard submission)</em></td>
<td>Chapter 7</td>
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<td>Mar09</td>
<td><strong>Interval Estimation</strong>&lt;br&gt;Confidence Intervals for Population Means, t – Distribution&lt;br&gt;Confidence Intervals for Population Proportions&lt;br&gt;Sample Size Determination&lt;br&gt;(Read: Chapter 8, Sections 8.1 to 8.4)&lt;br&gt;<em>HW#8 assigned</em></td>
<td>Chapter 8</td>
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<td>Mar23</td>
<td><strong>Mid Term (in class) open textbook only. See exam rules.</strong>&lt;br&gt;7:20 – 10:00PM</td>
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### Dates | Topics | Reading
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Mar30 | **Hypothesis Testing**  
Null and Alternative Hypotheses, One-Tail and Two-Tail tests  
Significance Levels, p-values  
*(Read: Chapter 9, Sections 9.1 to 9.5)*  
**HW#9 assigned** | Chapter 9

Apr06 | **Inferences about Means/Proportions with Two Populations**  
*(Read: Ch. 10, Sec 10.1, 10.2, 10.4)*  
**HW#10 assigned** | Chapter 10

Apr13 | **Inferences about Two Population Variances**  
*(Read: Ch. 11, Sec 11.1, 11.2)*  
**Analysis of Variance**  
*(Read: Ch. 13, Sec 13.1, 13.2)*  
**HW#11 assigned** | Chapter 11  
Chapter 13

Apr20 | **Simple Linear Regression and Correlation**  
Correlation Coefficient  
Regression Notation  
Least Squares method  
Computer Solution  
*(Read: Ch. 14, Sec 14.1 to 14.6)*  
**HW#12 assigned** | Chapter 14

Apr27 | **Simple Linear Regression and Correlation (Cont’d)**  
Testing for Significance, Estimation and Prediction  
*(Read: Ch. 14, Sec 14.1 to 14.6)*  
**Multiple Regression**  
Interpretation of computer output  
Testing for Significance  
Multi-Collinearity, Estimation and Prediction  
*(Read: Ch 15, Sec 15.1 to 15.6)*  
**Take Home exam #2 assigned** | Chapter 14  
Chapter 15

May04 | **Multiple Regression (contd.)**  
*(Read: Ch 15, Sec 15.1 to 15.6)*  
**Take Home Exam #2 Due (Blackboard submission)** | Chapter 15

**Final exam: open textbook only – see exam rules.**  
**Location: regular classroom**  
**Time, Date: Wednesday 5/11/2011, 7:30-10:15PM.**

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**Class Administrative Rules**

1. All course material will be made available through Blackboard at the URL provided at the top of this syllabus. The username and password are the same as what you use for your GMU email. Help functions are also available there should you need them.

2. **Honor Code:** GMU Honor code applies to all activities related to this course, particularly the in class exams and take home exams. Any suspected violation will be reported to the University Honor Committee for appropriate action.
3. I will need to broadcast messages to the whole class from time to time. Such messages will be sent to your GMU email addresses only. You need to check your GMU mail regularly or autoforward your GMU email to an appropriate address.

4. Take home exams are to be submitted on Blackboard only. No emailed assignments please.

5. Disability: Students with disabilities who require special accommodation should contact the Student Disability Resource Center (http://www.gmu.edu/student/drc/ or 703-993-2474) and should inform me of their needs so I can take them into consideration. Please take care of this within the first two weeks of the semester.

6. Cell phones & beepers: Please turn off/mute all audible signals when you are in the classroom.

**Midterm and Final Exams:** Note the date of the in-class mid-term and the final. I ask that you make appropriate arrangements at work ahead of time to avoid conflicts with these two dates. Absence from an exam will result in a score of zero and makeup exams will not normally be offered. A student who misses an exam due to an emergency may petition for a makeup exam. The petition must be in writing and be accompanied by appropriate documentation about the emergency. Petitioning for a makeup exam does not guarantee that one will be offered. That decision is at the sole discretion of the instructor who will determine whether the evidence offered by the student justifies the absence.

Take home exams are open notes and open book, but they must be done alone. However, no supporting material (such as homework problem sets and personal classnotes), other than the textbook, will be permitted during the in-class exams.

**Course Grading Scheme**

- 90% and above: A/A- (split to be decided by instructor based on clustering)
- 80% to < 90%: B+/B/B- (split to be decided by instructor based on clustering)
- 70% to <80%: C
- <70%: F

**Grading criteria for in-class and take home exams**

Numerical problems involving statistical calculations generally have precise answers. Grading will be based on correctness of answers and demonstration of relevant intermediate steps. Correct final answers without intermediate steps will not receive full points. For any case studies that may be assigned, evaluation will depend on both numerical correctness as well as the quality of the arguments made or conclusions that are drawn from the numerical analyses. The absence of numerical mistakes in a case analysis does not, by itself, result in a high score. Higher quality answers will receive higher scores. A case analysis is expected to be written with care as if it were a professional submission. Note that the take home exams may be case studies, numerical problems, or some combination thereof, at the discretion of the instructor.