STAT 250 – DL1: Introductory Statistics I

Fall 2013

Catalog Description: Elementary introduction to statistics. Topics include descriptive statistics, probability, and estimation and hypothesis testing for means and proportions. Statistical software used for assignments. Fulfills general education requirement in quantitative reasoning.

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Office Hours: Tuesdays and Thursdays 11:00 am 12:00 pm  On-line office hours
12:00 pm – 2:20 pm  Face-face office hours

Lectures: On-line

Course Goals

1. To expose the student to the ideas and concepts of statistics and probability and the statistical models used for decision support in different areas of our life.
2. To give the student mastery of the concepts and tools of data representation, probability models, and statistical inference by solving problems.
3. To encourage the student to learn the methodologies and techniques of statistics to solve typical problems.
4. To enable the student to:
   o understand a situation and recognize the type of problem and/or the kind of analysis required;
   o formulate the problem quantitatively;
   o associate the appropriate probabilistic models and statistical techniques;
   o understand and interpret the model results and obtain the required solution to problems using a statistical package (MINITAB for Windows).
5. To foster the communication and presentation of statistical results and inferences.
6. To provide a sound basis in statistics for the student’s future academic and professional careers.

General Education Program

This course meets the Quantitative Reasoning requirement, one of the Foundation requirements of the University General Education program. The goal of the Foundation requirement is to help ensure that students develop the ability to use and critically evaluate numerical information, and to create logical arguments using quantitative reasoning. For more information on General Education, please see the University Catalog, pp. 69-71, and the Provost’s Office General Education website, http://www.gmu.edu/departments/provost/gened/index.html
Textbook and Software

Textbook:


In addition to the textbook, you will need to purchase an Access Code to StatsPortal. New copies of the physical textbook should include this access code bundled with the text. If you prefer, you may purchase the Access Code to StatsPortal separately. This purchase should provide you access to e-book (an online version of our textbook).

StatsPortal is a website where all your online assignments are found. There are Homework Assignments, Quizzes, and interactive Learning Curve Assignments which reinforce course material taught during lecture. These assignments altogether count for 25% of your grade. The link to this website is as follows: [http://courses.bfwpub.com/ips7e.php](http://courses.bfwpub.com/ips7e.php)

Make sure to register to Statsportal through Blackboard.

Software: Minitab 16 is a statistical computing software program designed for students. We will use this program during class lectures and it is expected that you use this program to complete our offline Minitab Assignments (see the Assignments section below for more information. Minitab is available on campus computer or you may purchase a semester long license at Patriot Computers in the Johnson Center.

*Note:* Minitab is only available for Windows. If you have an apple computer and want to install Minitab on it, you will have to use either Virtual Machine or Boot Camp.

Blackboard and Email

**Blackboard**

This course uses Blackboard found at [mymason.gmu.edu](http://mymason.gmu.edu). You should make sure you have access to the folder for STAT 250 of your particular section because all course documents, assignments, and other important information will be distributed through this web page. Your Mason email user name is also your ID (e.g. the ID for jdoe@masonlive.gmu.edu would be jdoe). Your Mason email password is also your Blackboard password. You must first establish a Mason email account before you can access Blackboard. Please go to the URL above for more information about Blackboard.

**Email**

For **administrative** or **personal** questions or issues, please email me. **Please type STAT 250 and your section number** in the **Subject area of the email** and include your full name in your email. Thanks.
Technology Requirements

You are required to master a variety of technologies as a part of this course.

First, you must be able to navigate through Blackboard. There will be important information, assignments, and answers to commonly asked questions found on this site.

As mentioned above, you must purchase a Statsportal access code so that you are register for your section in the StatsPortal. You must be able to maneuver in the StatsPortal environment because your homework assignments, Learning Curve assignments, and quizzes will be completed and submitted electronically (25% of your grade).

You must demonstrate competence in the use of the Minitab statistical software program. This includes but is not limited to the following: properly installing the software on your own computer (if you choose to do so) or understanding how to access the software on GMU Lab computers (if you choose to take that option); understanding how to use Minitab; understanding how to create “professional” style graphics and how to insert those graphics into your Minitab assignments.

You must demonstrate competence in the use of a word processor such as Microsoft Word. In particular, you must be able to import graphics from Minitab, create a report, and print it.

You must demonstrate the ability to manage files and use the Internet.

A calculator will be needed (one that can do basic arithmetic operations and can take square roots). Cell phones cannot be used as calculators during exams.

Important Information about How We Present Information to You

We will present information to you in several different ways. Most of the information is presented in class only. You must attend class and listen carefully to your professor to absorb this information. Some information might be given in the answers to your homework problems only. Some information is given only on Blackboard. The book can be used to support concepts taught in class.

Regardless of the manner by which we convey the information to you, you are responsible for its applications to the homework assignments, Learning Curve assignments, quizzes, Minitab assignments and tests.

You are expected to attend all lectures and participate in classroom discussion. Class participation includes questions and answers.

Students are highly encouraged to read the PowerPoint lectures before the scheduled lecture dates.

Assignments

You will have Homework Assignments, Learning Curve Assignments, Quizzes, and Minitab Assignments.

Homework Assignments will be assigned almost every week. These assignments will be available and must be completed using StatsPortal. Your answers are submitted electronically through StatsPortal which will be due at a designated time.
The Learning Curve Assignments will be assigned periodically. The Learning Curve assignments will be available and must be completed using StatsPortal. Your answers are submitted electronically through StatsPortal which will be due at a designated time.

Quizzes will be assigned almost every week. Quizzes will be available and must be completed using StatsPortal. Your answers are submitted electronically through StatsPortal which will be due at a designated time.

Statsportal Assignments late policy: If you miss a deadline, you may email me to ask for an extension. Extensions will be granted for up to seven days after the assignment was due. If an assignment is completed late, there is an automatic 30% deduction in your grade. (If you scored a 100 on a quiz but submitted late, the grade will be edited and recorded as a 70). After seven days from the date an assignment is due, no extensions will be granted and you will receive a 0 for that assignment.

In addition, you also have offline Minitab Assignments. For Minitab Assignments, you are required to type all homework solutions (for later assignments, I will accept neatly hand-written mathematical calculations along with typed responses and conclusions). That is, you must integrate in a word processor the Minitab results (including any graphs) used to solve the problem and all the typed or neatly hand-written answers to the questions. You will use the “copy and paste” features of Windows to accomplish the required integration of material.

You must submit a hard copy of the completed Minitab assignment, printed and stapled, at the beginning of the class that it is due. On-line students will e-mail their submissions directly to the section GTA’s e-mail address. Then the corrected document will be e-mailed back to the student.

There will be a 5 point deduction each day your Minitab assignment is late (each day, not class period). After a week (7 days), a zero will be given.

You have at most a week after an assignment is returned to question a grade. If you do not notify the instructor within that time, then the posted grade stands.

Quizzes and Tests

Quizzes:
There will be quizzes approximately every week. Quizzes are approximately fifteen minutes in duration and found in Statsportal. You will have up to three attempts. The final score will be the average of each attempt. (So if you get a 100 on your first try, you should not take the quiz again).

Tests:
For classes that meet two or three days a week there will be two in-class tests and a final exam. For classes that meet once a week and for on-line classes there will be one midterm exam and a final exam. You should bring a calculator (cell phones and computers are not acceptable during tests and the final), a scantron form NO.882-E, a formula/study sheet (8.5 × 11 front and back, handwritten sheet), and #2 pencil with an eraser. In addition, you will need to bring the statistical tables found on Blackboard. You are not allowed to use other materials, including scrap paper.

Make-up tests are given only in the most extreme cases (e.g. religious reasons, sick in hospital, University related travel...). Please contact me at least one week before the test to schedule a make-up test. If you miss test 1 or test 2 unexcused, you will receive a zero on the test. Rules about rescheduling the final are found on the last page of this syllabus.
You have at most a week after a test is returned to question a grade. If you do not notify the instructor within that time, then the grade posted stands.

TESTS AND QUIZZES ARE CLOSED BOOK. Even though the quizzes are online, please try not to use the book. If you use the book, you will not finish the quiz.

THE FINAL EXAM IS ADMINISTERED AS A COMMON EXAM FOR ALL SECTIONS. We will have two dates (one for sections 3 through 6 and the other for sections 7, 8, DL1, and DL2) and one make-up day. These dates will be announced on Blackboard soon.

Policies

Homework due Dates and Times:
All Homework assignments, Learning Curve Assignments, and Quizzes should be submitted electronically in the StatsPortal and will be due according to our class schedule and the due dates posted on Statsportal. After that time, you will be unable to submit them without the instructor’s permission.

Extra Credit:
There are no extra credit assignments in this course.

The GMU Honor Code:
Read the George Mason University Honor Code and follow it. You may work in groups on the homework (unless otherwise indicated) and, in fact, you are encouraged to do so. Please note that working together does not mean handing in photocopies of someone else's work. Also, working together does not mean handing in a single “group” copy of the assignment with multiple names. Each individual must submit his/her own work to receive credit. I suggest working on your own first and meeting with fellow students after you have completed your work.

You are required to work alone on tests and quizzes. No communication (except with your professor) is allowed during quizzes or tests. Do not communicate with students who have not taken a quiz or test after you have taken it. Using the work of another student, whether that student is taking the course this semester or has taken it during some previous semester, is a violation of the Honor Code.

All violations of the rules of this class and the GMU Honor code will be referred to The Honor Committee. I take the Honor Code seriously and so should you.

Past Sanctions that have been given for an Honor Code Violation on a Minitab Assignment (for a student’s first offense) include zero for the assignment, 10% reduction in the student’s final grade, and Academic Integrity Seminar.

Stronger sanctions are given for a second offense. Even Stronger sanctions are given for cheating on a test or exam. It will begin with an F in the course. Please do not cheat. At the end of the story, you are actually cheating yourself and those students working honestly.
Other Useful Campus Resources:

**Writing Center**: A114 Robinson Hall; (703) 993-1200; [http://writingcenter.gmu.edu](http://writingcenter.gmu.edu)

**University Libraries**: “Ask a Librarian” [http://library.gmu.edu/mudge/IM/IMRef.html](http://library.gmu.edu/mudge/IM/IMRef.html)

**Counseling and Psychological Services (CAPS)**: (703) 993-2380; [http://caps.gmu.edu](http://caps.gmu.edu)

**Disability**: If you have a disability that requires academic accommodation, contact the Office of Disability Services (993-2474) for authorization.

Grading

1. Homework (10%): The lowest Homework Assignment grades will be dropped.
2. Quizzes (10%): The lowest quiz grades will be dropped.
3. Learning Curve Assignments (5%): The lowest Learning Curve will be dropped.
4. Minitab Assignments (10%): If **ALL** 5 Minitab Assignments are completed; the lowest Minitab will be dropped.
5. In-class Test 1 (20%)
6. In-class Test 2 (20%)
7. Cumulative Final Exam (25%)

Letter grades will then be assigned according to the following scale:

<table>
<thead>
<tr>
<th>Numeric Score</th>
<th>Letter Grade</th>
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<tbody>
<tr>
<td>98 – 100</td>
<td>A+</td>
</tr>
<tr>
<td>91 – 97</td>
<td>A</td>
</tr>
<tr>
<td>90</td>
<td>A–</td>
</tr>
<tr>
<td>88 – 89</td>
<td>B+</td>
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<tr>
<td>81 – 87</td>
<td>B</td>
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<tr>
<td>80</td>
<td>B–</td>
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<tr>
<td>78 – 79</td>
<td>C+</td>
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<tr>
<td>71 – 77</td>
<td>C</td>
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<tr>
<td>70</td>
<td>C–</td>
</tr>
<tr>
<td>60 – 69</td>
<td>D</td>
</tr>
<tr>
<td>0 – 59</td>
<td>F</td>
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</tbody>
</table>
Final Exam

The final exam is a common exam. If you have a conflict or a reasonable reason not to take the exam at the appointed time, you must request a change of time and date. That is, you must get the Dean in the department that houses your degree to sign the form if in the Volgenau School.

Where to get form for Request for change of date for Final Exam:

http://volgenau.ite.gmu.edu/forms/final_examination_reschedule.pdf

Directions for students are available at:
http://volgenau.ite.gmu.edu/forms/reschedulefinalexaminstruct_072002.pdf

Final examinations must be rescheduled if:
1. More than one examination is scheduled at the same time on the same day.
2. More than two examinations are scheduled within 24 hours.
3. Illness on day of examination makes attendance at the scheduled time impossible. (In this case, documentation by a physician may be required by the instructor and/or Dean).

Rescheduling of final examinations for other reasons requires the following:
1. Exceptional circumstances beyond the control of the student.
2. Willingness of the course instructor to reschedule the examination.
3. Approval of the Assistant Dean or Dean of the department that houses your degree.