

UVM STAT 111 Z1 - Elements of Statistics Spring / 2012

Lectures: Jan. 19th – Apr. 26th

Final Exam: May 10th 4:30pm – 7:15pm

Lafayette L102

Course Description: Basic statistical concepts, methods, and applications, including correlation, regression, confidence intervals, and hypothesis tests. STAT 111 is an introductory statistics course with the main goal of helping you understand the basic concepts in statistics and become statistically literate. There is not much focus on memorizing formulas and procedures, but rather focus on critical thinking that goes into using data in a real world setting and how it applies to various fields of study and everyday life.

Instructor & Class Resources: Neil W. Aguiar
Class Website: <http://bb.uvm.edu/> MyStatLab HW Portal:
E-mail: Neil.Aguiar@uvm.edu
Office Location: Rm 104, 25 Colchester Ave, Mansfield House
Picture & Location: <http://www.uvm.edu/campus/mansfield/mansfield.html>
Mail: Neil W. Aguiar, c/o UVM Math & Stat Dept.
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Course Materials: **Textbook (Optional – since the textbook is available online with MyStatLab)**
Elementary Statistics: Picturing the World, 5th Edition (Larson and Farber)
* Publisher: Addison Wesley; 5th edition (2011)

(Required) You will also need an access code to use Pearson's **MyStatLab**, the online homework portal that accompanies the textbook. This comes with the bookstore text package, or can be purchased separately online. **Important Note:** If you purchase it online it does come with an electronic version of the textbook. The course code is **aguiar55214**. Here are the instructions on how to create your MyStatLab account: <http://www.uvm.edu/~naguiar/courses/CourseCompass/Register-111Z1.pdf>

Statistical Calculator (Required; TI-83/84 strongly recommended)

You will need a graphing calculator such as TI-83/84 series. I will be using a TI-84 during lectures. You are welcome to use any graphing calculator of your choice, however I will only be able to support TI-83/84.

Software (Required): Statistical Software: JMP Version 9 for Windows or MAC. JMP is a free download from <http://www.uvm.edu/software> You may use other Statistical software packages like Excel (w/ Analysis Toolpak), SPSS, SAS or other. The Course will support JMP, Excel and SPSS.

Steps to download and install JMP or SPSS:

1. Visit <http://www.uvm.edu/software/> and login using your UVM NetID login and password.
2. Select your platform (MAC, Windows, Linux)
3. Select category Math/Science/Statistics.
4. Scroll down and select JMP Version 9.0 / or SPSS

Live Chat Software (Optional): Blackboard IM is the free software used to access live assistance. To download and install Blackboard IM, click on **Live Chat** near the bottom of the course menu to access the necessary software installation. You will need to setup a Blackboard IM account.

Grading:	8 Quizzes	10 points (lowest quiz score is dropped)
100 points	6 Computer HW's	10 points (lowest computer score is dropped)
	MyStatLab HW	10 points
	Exam I	20 points
	Exam II	20 points
	Final Exam	30 points (Cumulative)
Exams:	ALL Examinations are split between an in-class (closed book) portion and a take-home (open book, open notes) portion, and are to be performed individually.	

Textbook Homework: There will be assigned textbook HW that is to be completed in a composition notebook (http://en.wikipedia.org/wiki/Composition_book/). This textbook HW is optional, however it is strongly recommended. Alternatively, you may do all your work in the MS Doc file (or other text software that can print to PDF) so you can submit it electronically. **Students that successfully complete the textbook HW will receive a drop of their 3 lowest quiz scores rather than 1.**

UVM Academic Integrity: You are expected to read and adhere to the University of Vermont Code of Academic Integrity. <http://www.uvm.edu/~uvmppg/ppg/student/acadintegrity.pdf>

Special Accommodations: If there is anything I can do to accommodate any special educational needs to ensure you get everything out this course, let me know.

This class will use Blackboard web tools to complement this Course

- * Home: Course Announcements.
- * Email: Sending email messages within the course.
- * Getting Started: A *getting started in the course* message.
- * Syllabus: Course syllabus.
- * Course Schedule: Schedule of weekly lessons and tasks.
- * Course Lessons: Course lessons.
- * Course Compass: Access to MyStatLab online textbook, HW exercises, practice quizzes & more.
- * Crse Comp Instructions: Instructions on how to set up your MyStatLab account.
- * Discussion Board: Student peer to peer discussions and responses to online articles.
- * Live Help Calendar: Calendar of live help assistance.
- * Live Chat: A link to the Pronto chat software to access live virtual help.
- * Quizzes: Online course quizzes.
- * Textbook HW: List of all Textbook HW Assignments.
- * Computer HW: Computer Assignments and Submissions
- * Exams: Take-home Exams and Submissions.
- * JMP Help w/Screen Shots: Help links with screen shots to assist you in completing the Computer HW.
- * JMP Help Manual: Additional assistance to help you complete the Computer HW.
- * Excel Help: Help manual to assist you in completing the Computer HW.
- * TI-83/84 Help: Help pages to assist you with working your calculators.
- * My Grades: Your grade performance.
- * Grade Calculator: A calculator to help you determine your current grade.
- * Instructor & T/A Info
- * UVM Libraries Link
- * Handouts: Instructional handouts to assist you with the course work.

STAT 111 Course Topics, Coverage and Important Dates

Topic	Text Book Coverage
Lesson 1: Statistics and Data	Ch. 1 (All sections)
Lesson 2: Graphing Data	Ch. 2 (Sec. 1, 2)
Lesson 3: Summarizing Data with Numbers	Ch. 2 (Sec. 3, 4, 5)
Lesson 4: Probability and Random Observations	Ch. 3 (All sections)
Exam I (Lessons 1-3): Take-home Exam released Feb. 9th – Due Feb. 16th via BB submission In-class Exam Feb. 16th	
Lesson 5: Random Variables & the Normal and Binomial Probability Distributions	Ch. 4 (Sec. 1, 2, 3) Ch. 5 (Sec. 1, 2, 3)
Lesson 6: Sampling Distributions and the Central Limit Theorem	Ch. 5 (Sec. 4, 5)
Lesson 7: Confidence Intervals of a Mean/Proportion & Determining Sample Size	Ch. 6 (Sec. 1, 2, 3)
Exam II (Lessons 4-6): Take-home Exam released Mar. 15th – Due Mar. 22nd via BB submission In-class Exam Mar. 22nd	
Lesson 8: Hypothesis Testing of a Mean/Proportion	Ch. 7 (Sec. 1, 2, 3, 4)
Lesson 9: Single Factor ANOVA (One-Way Analysis of Variance)	Ch. 10 (Sec. 4)
Lesson 10: Correlation and Simple Linear Regression	Ch. 9 (Sec. 1, 2, 3)
Lesson 11: Chi-Square Tests - Inferences Involving Categorical Data	Ch. 10 (Sec. 1, 2)
Final Exam (Cumulative): Released Apr. 26th – Due May 7th via BB submission In-class Final Exam Thu., May 10th 4:30pm – 7:15pm, Lafayette L102	

UVM Academic Calendar

Events	Date	
Martin Luther King Holiday	Jan 16	M
First Day of Classes	Jan 17	T
Add/Drop, Pass/No Pass, Audit Deadline	Jan 30	M
Presidents' Day Holiday	Feb 20	M
Town Meeting Day Recess	Mar 6	T
Spring Recess	Mar 5-9	M-F
Last Day to Withdraw	Apr 2	M
Honors Day	Apr 20	F
Last Day of Classes	May 2	W
Reading and Exam Period	May 3-11	R,F-F
Reading Days	May 3,9	R,W
Exam Days	May 4,7,8,10,11	F,M,T,R,F
Commencement	May 20	Su

A Message from the Instructor:

The goal of Stat 111 is to help you develop a complete understanding of basic statistical concepts, methods, and applications, including descriptive statistics, sampling, probability, exploratory data analysis, estimation, confidence intervals, hypothesis testing, analysis of variance (ANOVA), simple linear regression and various non-parametric methods. While you might not be familiar with many of these terms, they will become clear during the progression of the course.

This course is made up of class lectures, textbook readings, textbook homework, computer homework, quizzes, two semester exams and a cumulative final exam. In addition, there is a class website where there are many resources to help ensure you have all the necessary material to help your success. There are also online articles to read and post a comment or reflection. To have a successful learning experience, students must attend class regularly and take responsibility to complete the required course work and properly prepare for exams, utilizing the resources available, to ensure a complete understanding of the material.

Course Structure

The course is divided into eleven (11) lessons, to work cohesively with the textbook and JMP computer software. There is a graded Quiz after each lesson that should be completed before moving on to the next lesson. There is one textbook homework exercise per lesson and some computer exercises as well. The textbook homework is for your own practice and answers to most of the exercises are provided in the back of the textbook. By completing all of your textbook homework in a composition notebook, you can earn 2 additional quiz drops to the one quiz drop everyone is entitled. The computer exercises will be graded to ensure your understanding of JMP software and computer output. There are 2 exams during the semester and a comprehensive Final exam.

Assignments

The HW assigned in MyStatLab along with the assigned textbook homework exercises are designed to provide you with a basic problem solving understanding of the statistical concepts and procedures. The computer assignments provide a necessary platform to perform statistical problem solving with the use of a computer. As the course progresses, you will find the computer software increasingly more helpful in answering statistical questions increasing in complexity. All assignments (MyStatLab, textbook and computer) directly complement the lessons and textbook readings. By the conclusion of the course, a successful student will have a full understanding of the statistical concepts and methods and be able to perform each method with the use of computer software. This is easier than it sounds, but it requires much diligence!

Summary

A successful student will execute the necessary effort and diligence to ensure proper understanding of the course material and timely completion of all assignments. The more committed you are, the more rewarding your course experience can be. I will do everything I can to assist you so you can stay focused and gain the necessary understanding of the material.

My best to you!

Neil