

TEMPLE UNIVERSITY
Department of Statistics
Spring 2007

Stat C011
 Section 3
 TuTh 1:10-2:30
 Speakman 113

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Commitment

To succeed in this course you must commit to spend an average of 6 to 8 hours of quality time per week aside from class, studying the material and doing loads of homework of both types: on-line and paper and pencil. That is, three times as much learning must take place away from class as in class. You will not learn the material merely by sitting in class but primarily from time spent away from class working on problems. Be forewarned: if you proceed ahead without spending this time and wind up with a poor grade in this course, the cause will be *your* lack of commitment and self-discipline, not mine. Further, since most people cannot successfully “cram” quantitative material, I suggest that you spread these hours across most days of the week. It is important to attend all classes and to keep up with the reading and homework in accordance with the syllabus below.

Getting help

My tentative usual office hours for this course are MF 10:00-noon and TH 11:40-12:10. There may be a few exceptional days when these hours will have to be adjusted because of faculty meetings. I am also readily reachable via e-mail.

A teaching assistant may be assigned to me for this course. If so and when known, I will post a revision to this syllabus on **CourseCompass** containing this person’s name, office and hours.

You can also receive assistance from the Math & Science Resource Center, located at 1810 Liacouras Walk. For its hours and availability of qualified tutors for this course see <http://www.temple.edu/msrc/>

What this course is about

Although labeled a statistics course, Stat C011 is a mathematics course. Its prerequisite is a sufficient score on the Math Placement Exam or a passing grade in Math 0045 or a passing grade on a transferred course deemed equivalent to Math 0045. The Catalogue description reads: *Fundamentals of finite mathematics necessary for a business student to pursue statistics and other quantitatively oriented business courses. Topics and illustrations are specifically directed to applications in business and economics. Topics include algebraic concepts; linear, quadratic, polynomial and rational functions; logarithm and exponential functions; elementary matrix manipulations, and fitting of*

curves. Interest rate calculations, and present and future values of annuities are some of the specific applications. Use of a graphics calculator.

There are three additional required Stat courses in the FSBM undergraduate curriculum. Stat C012 covers rudimentary calculus. Stat C021 and 0022 cover elementary applied statistics. A grade of C– or better in this course is a prerequisite for C012, C012 is a prerequisite or corequisite for C021, and C021 is a prerequisite for 0022. Beginning in Fall 2008, a 4-credit course as yet unnumbered will replace the two 3-credit courses Stat C021 and Stat 0022.

The Ten Most Important Learning Outcomes in Stat C011:

1. Basic algebra operations.
2. Solve linear equations and linear inequalities.
3. Write the equation of a line given two points or given a point and the slope.
4. Read and interpret graphs. Graph linear functions and quadratic functions.
5. Find the roots and the vertex of a quadratic function. Apply these concepts to maximizing profit or minimizing cost, and to break-even analysis.
6. Use logarithmic and exponential functions.
7. Matrices: sum, product, inverse of a matrix.
8. Solve systems of linear equations. Applications to market equilibrium problems.
9. Interest rate calculations. Compound interest: present value and future value.
10. Annuities: present value and future value.

Required purchases or possessions

The text for this course, selected by the Department, is *Mathematics with Business Applications, Third Custom Edition for Temple University*, by Lial, Hungerford and Holcomb, published in 2007 by Pearson Custom Publishing, a division of Addison-Wesley. I will use Addison-Wesley’s on-line tool **CourseCompass** for postings and regular on-line homework assignments. These on-line assignments are in addition to the pencil and paper homework assigned at the end of this syllabus. **CourseCompass** looks and acts very much like **Blackboard**. The use of **CourseCompass** will be explained by an Addison-Wesley employee towards the end of the January 16 class. To set up your account on **CourseCompass**, you will need the Course ID. It is **holland77333**. You will also need a “Student Access Code” which comes bundled with the course text when it is purchased new from a Temple bookstore. If you don’t already have this Card, you will have to purchase one on-line for \$39.95. Give **CourseCompass** the e-mail address you check most regularly.

A graphical calculator is required. Class presentations will use the TI-83. The CASIO *CFX-9850Gb+* has similar keystrokes. If your calculator is other than one of these, you are responsible for learning its keystrokes. Instruction in the use of graphics calculators is available at

<http://www.aw-bc.com/MWA8/>

Bring your graphical calculator to every class and make sure that its batteries are fresh. Quizzes and exams will require the use of your graphical calculator. Calculators may NOT be shared during quizzes and exams.

Your responsibilities

Students are responsible for everything stated, written on the board, projected on the screen, posted on **CourseCompass**, or handed out in all classes, including the January 16 class. If you miss class, you should get class notes from another student who attended. Forming study buddies or study groups is a pleasant way to learn this material. I strongly recommend this approach. Please do not contact me to determine missed material when you miss class. Instead, contact a study buddy.

The cumulative 120 minute multiple choice departmental final exam is scheduled for Thursday May 3, from 8:30 a.m. sharp to 10:30 a.m. in a location to be announced. Midterm exams of duration 75 minutes will take place on Tuesday Feb 20 and Tuesday April 3. In addition, there will be two brief multiple choice quizzes mandated by the FSBM Dean's Office. These will take place on Thursday March 15 (covering Sections 1.6, 1.7, 2.1, 2.2, 3.3, 3.4, and 3.5), and Thursday April 12 (covering Sections 5.2, 5.3 and 5.4). Moreover, there may be unannounced quizzes to encourage your keeping up-to-date with the syllabus and maintaining regular attendance. By Department Policy, all exams and quizzes are closed-book, closed-notes.

Your course grade will be based on your course average. The final will count 29%, the two midterms will each count 18%, and the two multiple choice quizzes will each count 4%. The remaining 27% will include **CourseCompass** homework, homework to be done with pencil and paper and submitted at the beginning of the following class, and possible additional quizzes — both announced and unannounced. The pencil and paper homeworks are take-home exams – you may not consult with any other person in completing them.

There is no possibility for you to provide additional inputs to improve your grade, and I will not respond to requests to consider or provide additional inputs. Having said this, it would be highly inappropriate for you to request such an option. One reason for this firm policy is the principle that all students must be given the same opportunity to demonstrate their knowledge, and any accommodation I make for one student would have to be offered to all students.

The correspondence between your course average and letter grade, mandated by the Department of Statistics, is the following:

93–100	A
90–92	A-
87–89	B+
83–86	B
80–82	B-
77–79	C+
73–76	C
70–72	C-
67–69	D+
63–66	D
60–62	D-
0–59	F

Course averages are rounded to the nearest whole number. For example, 69.50 is rounded to 70 but 69.49 is rounded to 69.

Note from the foregoing that you will do poorly in this course if you ignore homeworks and quizzes.

Please have your graphics calculator with you and in working condition at all times; you will not be permitted to share a calculator with another student or borrow mine. You may need your calculator to work questions on unannounced quizzes. Please bring paper and a pen or pencil to all classes in case there is a quiz.

If you miss an exam, a quiz, or homework submission deadline, you will receive a grade of zero unless you document a medical emergency or non-economic personal disaster to my satisfaction. Similar documentation is required to take a make-up final exam. It is my policy not to offer makeups for excused midterm exam or quiz absences or excused non-submitted homeworks. Instead I record such occurrences as “missing data” in calculating your course average. To be eligible for an Incomplete grade, you must have completed both midterm exams with an average grade of at least 70%.

If you decide to withdraw from this course, you must do so by the University deadline date, Mon Mar 26. Thereafter you cannot withdraw with a passing grade.

The exams and pencil and paper homework assignments (equivalent to short take-home exams) are to be strictly your own work. I will seek a penalty more severe than an F in this course for any cheating incidents. Please be prepared to show me your Temple ID during exams. If you don't have it in your possession, you may be barred from taking the exam.

I usually keep very careful track of the class ending time. It is distracting to your fellow students and to me if you arrive late or pack up to leave or stand while I am lecturing. If you must leave early, please sit as close as possible to the doorway. If you arrive late, please step to the rear of the classroom immediately after entering the room in order to minimize distracting me or other students. Please turn off your cell phone ringer before entering class.

Course documentation and regular mandatory on-line homework assignments will be placed on CourseCompass, www.coursecompass.com

You are responsible for checking CourseCompass frequently for homework assignments, course announcements and course documents. CourseCompass will automatically post your homework activity and grades to my faculty CourseCompass site. In addition, I may broadcast e-mail messages to the class. You need to be sure that your e-mail address given to CourseCompass is one you check frequently. The same goes for Blackboard. Your Blackboard e-mail address is editable by going to TUMAIL at <https://tumail.temple.edu>. After you are logged on, click Options on the left and carefully add your forwarding e-mail address where indicated.

Topical outline

This course will contain roughly 26 75-minute lectures. The approximate correspondence of these lectures with Lial & Hungerford chapters is shown below. There should be time for brief reviews in the class immediately preceding all exams.

chapter	description	number of lectures
	Overview	1
1	Algebra and equations	3
2	Graphs, lines, inequalities; use of graphics calculator	4
3	Functions and graphs (skip Sections 3.6 and 3.7)	4
4	Exponential and logarithmic functions	5
5	Mathematics of finance	4
6	Systems of linear equations and matrices (skip Section 6.2 and the middle on page 326 onward.)	4
	Review	1

Lectures and homework

Students learn statistics by doing problems on their own. **You will learn little or nothing by merely watching the instructor do problems!** During my lectures, I will solve many of the homework problems listed at the end of this document. You should attempt these in advance of the class where they apparently will be covered. I strongly recommend that you do unassigned problems as well, particularly in parts of the course where you feel you need extra practice. Answers to the exercises appear in an Appendix. A manual with printed solutions to all exercises may be made available in the Reserve Section in Paley Library's Basement.

Each lecture will begin with a call for questions on material from the preceding lecture, including the exercises. Thereafter I will introduce new material, usually illustrated with problems and applications, and go over the relevant assigned homework exercises. I suggest that you read the material and attempt the homework exercises for the next

lecture before coming to class, then after class reread the material and reattempt the exercises.

Contacting me

I am available during office hours to further explain course material or course procedures, or to discuss your progress. You are welcome and encouraged to see me during these times. I usually respond promptly to e-mail or voice mail messages.

Suggested exercises from Lial, Hungerford, & Holcomb

chapter.section	exercises
1.1	11, 14, 20, 23, 29, 30, 33, 34, 35, 39, 42, 45, 46, 47, 52, 54, 59, 62, 71
1.2	1, 3, 5, 8, 17, 21, 23, 27, 31, 35, 37, 39, 41, 44, 53
1.3	1, 2, 5, 7, 11, 16, 17, 21, 37, 39, 55, 57, 58, 69, 79
1.4	1, 7, 15, 18, 31, 35, 37, 49, 51, 54
1.5	1, 13, 22, 23, 26, 39, 43, 47, 63, 65, 106, 108, 109
1.6	1, 4, 7, 10, 19, 25, 27, 30, 51, 64, 69, 71, 76, 77
1.7	1, 2, 3, 6, 8, 11, 17, 19, 25, 33, 50, 51, 61, 62, 64
page 66	14, 18, 20, 22, 27, 31, 35, 37, 45, 58, 61, 65, 69, 73, 77, 103, 112, 114, 115, 116, 118, 121, 123, 132, 143, 144, 149
2.1	1, 5, 7, 11, 12, 13, 14, 15, 16, 17, 21, 27, 29, 38, 41, 42, 43, 44, 39, 41, 44, 51, 64, 67, 69, 71, 74, 81
2.2	1, 4, 9, 13, 16, 19, 22, 24, 25, 26, 29, 33, 37, 41, 45, 49, 52, 56, 57, 59, 63, 66, 67, 71, 73, 77, 78
2.3	1, 2, 5, 12, 20
2.4	7, 11, 15, 23, 25, 27, 30, 33, 34, 36, 38, 39, 40, 45, 51, 52, 57, 63
2.5	2, 3, 15, 16, 22, 25, 42
3.1	1, 3, 4, 8, 9, 10, 11, 12, 13, 20, 23, 27, 32, 29, 36, 39, 41, 46, 57
3.2	1, 6, 17, 22, 23, 33, 34, 35, 36, 37, 38, 47, 49
3.3	1, 3, 5, 7, 9, 11, 13, 17, 19, 23, 29, 35, 37, 38, 45 to 48, 52
3.4	1, 7, 9, 13, 15, 16, 43, 45
3.5	7c, 7e, 8, 10, 14, 19, 22, 33, 34
4.1	13, 16, 17, 19, 20, 35, 37, 39, 40a
4.2	1, 3, 5, 10, 15, 19
4.3	1, 2, 4, 7, 8, 19, 21, 22, 23, 27, 28, 29, 30, 31, 32, 33, 38, 39, 51, 52, 60, 61, 64
4.4	9, 25, 31, 37, 64, 73
5.2	7, 12, 17, 23 to 27, 34, 35, 39, 54, 61, 63
5.3	11, 15, 17, 23, 31, 49, 54, 62, 63, 64
5.4	1, 5, 9, 11, 22, 25, 26, 46, 48
6.1	1, 2, 3, 14, 21, 24, 45, 47
6.3	1 to 9, 11, 15
6.4	1 to 9, 11, 15, 19, 29, 45, 47
6.5	1, 3, 7, 11, 13, and others as you have time.