

STA 3032 Engineering Statistics – Summer A 2011

Prerequisite: MAC2311

Section 1024 Monday to Friday 9:30 – 10:45 in CSE E222

Instructor:

Dr. Yasar Yesilcay (yy@stat.ufl.edu)

Office: Griffin Floyd 101B, **Phone:** (352) 273 – 1839

Office Hours: MTWR 11:00 – 12:00 and by appointment,

Course Documents at www.stat.ufl.edu/~yy/STA3032

Teaching Assistants:

Peter Calhoun (pcalhoun@stat.ufl.edu) (352) 273 – 2965

Office Hours: MTWR 12:00 – 2:00 and by appointment,

Office: Griffin Floyd 105

Anestis Touloumis (anestis@stat.ufl.edu) (352) 273 – 1849

Office Hours: MTWR 2:00 – 4:00 and by appointment,

Office: Griffin Floyd 116D

Course Description:

In this course we will a survey of the basic concepts in probability and statistics with engineering applications. Topics include descriptive statistics, probability, discrete and continuous random variables, estimation, hypothesis testing and linear and multiple regression.

[General Education: Mathematics (M), Math Requirement (MR)]

Course Materials Required:

1) Navidi, William *Statistics for Engineers and Scientists 3rd Ed.*, 2010, McGraw Hill
[ISBN: 978-0-07-337633-2]

2) Calculator capable of calculating means (\bar{X}) and standard deviations (S and σ , some calculators show these as σ_{n-1} and σ_n respectively). If your calculator also estimates the intercept (a) and slope (b) in $y = a + bX$ and the correlation coefficient (r) (in simple linear regression) it is much better. DO NOT INVEST TOO MUCH IN ANY FANCY CALCULATOR.

Statistical software:

Some assignments require the use of statistical software, such as Minitab (a statistical computing package) and tests and lecture notes will use Minitab printouts. Minitab can be found on the CIRCA lab computers, may be purchased at the campus bookstore. You may also download Minitab free for 30 days at www.minitab.com.

Tests: Three multiple choice tests will be given in class on the dates listed below.
Exam dates are fixed; contents may change depending on what we can cover.

Tests	Dates	Coverage	Weight
Test - 1	Friday, 5/20/2011	Chapters 1, 2, 4	30%
Test - 2	Friday, 6/3/2011	Chapters 5, 6	40%
Test - 3	Friday, 6/17/2011	Chapters 7, 8, 10	30%

Make sure to bring your calculator, pencils, eraser and A PICTURE ID to the tests. You will need to use a calculator in these exams. Make sure you know how to use your calculator. There will be no final exam for this course.

Grading Scale: Your average points for the semester will be rounded up
The grading scale will be as follows:

- A: (89 – 100] %
- B+: (84 – 89] %,
- B: (79 – 84] %,
- C+: (74 – 79] %
- C: (64 – 74] %,
- D+ Not given as department policy.
- D: (59 – 64] %
- E1: [0 – 59] %.

No minus grades (like B- or C-) will be given. To see the effect of the + and – grades on your GPA, look at the following link: <http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>.

Makeup Exam:

If a student is unable to take an exam at the scheduled time, s/he must get in touch with me at least one week prior to the exam for any arrangements to be made for a makeup. Each case will be reviewed individually. Valid and detailed documentation is a prerequisite under such extenuating circumstances. In case of illness, the instructor must be notified before the day of the exam by 8 am and must receive a medical excuse.

Course Policies

Students with disabilities: Students requesting classroom accommodation must first register with the Dean of Students office. The Dean of Students will provide documentation to the students who must then provide this documentation to the Instructor when requesting information.

Academic Dishonesty: I adhere to the University of Florida rules and guidelines for handling instances of academic dishonesty. Please refer to the Office of Students Services for detailed information about the current policies.

Instructor's Honor Code: We the members of the University of Florida community pledge to hold ourselves and our peers to the highest standards of honesty and integrity.

Grading: Grades will be changed only when an error has been made by the instructor.

Incomplete: Incompletes are only assigned when extraordinary circumstances, arising after the date for dropping off the course, prevent the student from completing the course requirements. **The student must be currently passing the course and discuss the circumstances with the instructor before the final exam takes place.** *Having a failing grade in the course is not a valid reason for requesting an incomplete.*

Getting Help: Students may ask questions during the lectures (preferred) or the office hours. The teaching assistants will answer questions during their office hours. A list of private tutors (if needed) may be obtained from the Statistics Department Secretary in Griffin Floyd 103.

Tentative schedule:

Days	Subject	Sections
M 5/9	Introduction, Sampling	1.1
T 5/10	Numerical Summaries	1.2
W 5/11	Graphical Summaries	1.3
R 5/12	Probability I	2.1 – 2.2
F 5/13	Probability II	2.3, 2.4
M 5/16	Distribution of Some Random variables	Lecture Notes
T 5/17	The Binomial Distribution	Notes & 4.1 - 4.2
W 5/18	The Normal Distribution	Notes & 4.5
R 5/19	Distributions and CLT	Notes & 4.11
F 5/20	TEST - 1	Chapters 1, 2 and Notes for Chapter 4
M 5/23	Inferences about a population mean (I)	5.1, 5.3
T 5/24	Inferences about a population mean (II)	6.1, 6.2, 6.4
W 5/25	Inferences about a population proportion	5.2, 6.3
R 5/26	Inferences about $\mu_1 - \mu_2$ (I)	5.4, 5.6,
F 5/27	Inferences about $\mu_1 - \mu_2$ (II)	6.5, 6.7,
M 5/30	Inferences about $\pi_1 - \pi_2$	5.4, 5.5, 6.6
T 5/31	Inferences from dependent samples (I)	5.7
R 6/1	Inferences from dependent samples (II)	6.8
R 6/2	Miscellaneous topics on inference	6.13
F 6/3	TEST - 2	Sections 5.1 – 5.7 and 6.1 – 6.8
M 6/6	Chi-square Tests (I)	6.10 and notes
T 6/7	Chi-square Tests (II)	6.10 and notes
W 6/8	Simple Linear Regression (I)	7.1, 7.2
R 6/9	Simple Linear Regression (II)	7.3, 7.4
F 6/10	Multiple Linear Regression (I)	8.1 and notes
M 6/13	Multiple Linear Regression (II)	8.2 and notes
T 6/14	Multiple Linear Regression (III)	8.3 and notes
W 6/15	Statistical Quality Control (I)	10.1, 1.2
R 6/16	Statistical Quality Control (II)	10.3, 10.4, 10.5
F 6/17	TEST 3	