Course Outline — Summer Term B 2010

STA 4322 (Section 5283) **Introduction to Statistics Theory**
STA 5328 (Section 4048) **Fundamentals of Statistical Theory**

Class:
MTWThF Period 2 (9:30 a.m. - 10:45 a.m.)
Little Hall 121
(No class on Monday, July 5)

Instructor:
Dr. Andrew Rosalsky
Griffin-Floyd Hall 206
273 - 2983
rosalsky@stat.ufl.edu

Office Hours: MTWTh 11:00 a.m. - 12:00 noon

Graduate Assistant:
Subhadip Pal
Griffin-Floyd Hall 105
273-2965
subhadippal@stat.ufl.edu

Office Hours: MTWTh 1:00 p.m. – 4:00 p.m.

Course Objective:
This course is designed to provide a firm foundation in the basic theory of statistical inference. It covers the classical theory of estimation and hypothesis testing, as well as the theory of linear models and least squares. The probability theory developed in STA 4321 (or STA 5325) is used in developing the theory of estimation and hypothesis testing in the course.

General Education Credits:
This course satisfies General Education Credits in the mathematical sciences. Students learn how to summarize data and how to make appropriate decisions based on data.

Prerequisites:
STA 4321 or STA 5325

Attendance:
Classroom attendance is fully expected.

Text:
D. D. Wackerly, W. Mendenhall, and R. L. Scheaffer Mathematical Statistics with Applications (Seventh Edition) Duxbury 2008.

Course Coverage:
The topics covered will be those from Chapters 7-11 with additional topics from Chapters 12 and 13 if time permits.

Grading Policy:
Course grades will be determine by performance on three in-class exams, all equally weighted. Problems on exams will be similar to examples done in class, homework exercises, and some of the derivations done in class.

Exam 1 (100 points) Chapters 7 and 8 Friday July 9
Exam 2 (100 points) Chapter 9 Thursday July 22
Exam 3 (100 points) Chapters 10 and 11
(and perhaps parts of 12 and 13) Friday August 6

A student must notify her/his instructor prior to the time of an exam if the student cannot be present for the exam because of illness. Documentation must be provided. The Department of Statistics' policy toward make-up exams is firm: In particular, we are not able to provide make-up exams for students who would like to attend or participate in graduations, weddings, anniversaries, class reunions, family reunions, vacations, or other activities of a personal nature.

A total of 300 points may thus be accumulated. The determination of the range of scores for each letter grade is made after Exam 3 is graded and points are totaled, but past experience has shown that the following modification of the standard grading system provides an approximation:

A =270-300 A- =261-269 B+ =252-260 B =240-251 B- =231-239
C+ =222-230 C =190-221 D =169-189 E =0-168

In any case, the numerical scores required for the various letter grades will not be higher than those given above. It is the policy of the Department of Statistics that there will be no C-, D+, or D- grades.

While the official textbook for this course is the Seventh Edition of Mathematical Statistics with Applications, some students may wish to use instead the Sixth Edition of this textbook if they have it available. Below the homework exercises are listed in the format (x, y) where x signifies the problem number for the corresponding Seventh Edition and y signifies the corresponding problem number for the Sixth Edition. While in the vast majority of places the Seventh and Sixth Edition problems are identical, for a small number of problems there are small differences. (x = Seventh Edition, y = Sixth Edition)

Homework Exercises: A large number of homework exercises from the text will be assigned. Although the solutions to these problems will not be collected, it is strongly recommended that the student work on as many of the exercises as possible.

Chapter 7: (1,3), (13,5), (20,10), (21,11), (26,12), (29,13),(33, 15), (36,18), (37,19), (38,20), (39,21), (43,23), (49,29), (56,36), (57,37), (58,38), (59,39), (72,46), (73,47), (87,61), (88,62), (89,63), (93,67), (94,68), (97,71), (104,78)

Chapter 8: (1,1), (6,2), (7,3), (8,4), (9,5), (10,6), (12,8), (13,9), (19,15), (21,17), (28,24), (36,32), (39,35), (40,36), (41,37), (42,38), (43,39), (44,40), (45,41), (58,44), (61,47), (65,53), (74,62), (75,63), (76,64), (77,65), (83,71), (84,72), (92,78), (101,87), (103,89), (125,109), (129,111), (130,112), (133,113)

Chapter 9: (1,1), (2,2), (5,5), (6,6), (17,11), (18,12), (19,13), (20,14), (25,19), (26,20), (30,24), (31,25), (33,27), (36,28), (39,31), (40,32), (42,34), (44,36), (45,37), (46,38), (48,40), (58,50), (59,51), (65,57), (69,61), (70,62), (72,64), (74,66), (76,68), (80,72),(81,73), (82,74), (83,75), (86,78), (88,80), (89,81)

Chapter 10: (20,10), (21,11), (29,19), (30,20), (33,23), (34,24), (38,28), (39,29), (41,31), (42,32), (46,36), (48,38), (50,40), (51,41), (55,45), (57,47), (63,51), (64,52), (73,61), (79,67), (80,68) (82,70), (94,82), (95,83), (99,87), (101,89), (102,90)

Chapter 11:	(3,1), (4,2), (8,4), (10,6), (12,8), (13,9), (15,11), (16,12), (19,15), (20,16), (22,18), (23,19), (24,20), (25,21), (35,31), (36,32), (39,35), (42,38), (46,42), (48,44), (51,45), (55,47), (66,54), (68,56), (73,61), (92,70), (99,77), (102,80)
Chapters 12 and 13:	Will be assigned later, if at all.
Academic Honesty:	University of Florida students are expected to abide by the following: "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."
Classroom Accommodations:	Students requesting classroom accommodations must first register with the Dean of Students Office. The Dean of Students Office will provide the student a letter to be given to the instructor when requesting accommodation.
About the Department of Statistics:	The Department of Statistics at the University of Florida is one of the nation's largest and leading statistics departments. In the April 2008 *U.S. News & World Report* rating of statistics graduate programs, the UF Department of Statistics was ranked number 9 in the nation among all statistics departments and number 5 in the nation among statistics departments at public universities. The Department awards approximately 15 Bachelors degrees, 10 Masters degrees, and 2 Ph.D. degrees per year. The Statistics Department, chaired by Professor Michael Daniels, has a faculty of national and international reputation for their research. The research interests of the 20 faculty members include both theoretical and applied statistics. We welcome inquiries about our program. The Statistics Department's main office is 102 Griffin-Floyd Hall (telephone 392-1941). You are welcome to check out the Department's web site at http://www.stat.ufl.edu.
About the Instructor:	Dr. Andrew Rosalsky received the Bachelors degree and Masters degree in Mathematics from Indiana University in 1970 and 1972, respectively. He received the Ph.D. degree in Statistics from Rutgers University in 1978. Dr. Rosalsky's research area is limit theorems in probability theory. He spent the 1977-78 academic year as a Visiting Assistant Professor of Mathematics at Indiana University and then joined the UF Statistics faculty as an Assistant Professor in the fall of 1978. He was promoted to Associate Professor in 1984 and to Professor of Statistics in 1990. Dr. Rosalsky has published over 95 articles on probability theory in professional journals including the *Annals of Probability*, the *International Journal of Mathematics and Mathematical Sciences*, the *Journal of Multivariate Analysis, Statistics & Probability Letters, Stochastic Analysis and Applications, Stochastic Processes and Their Applications*, the *Theory of Probability and Mathematical Statistics*, the *Journal of Theoretical Probability, Theory of Probability and its Applications, Journal of Statistical Planning and Inference, Proceedings of the American Mathematical Society*, and others. Since 1989 he has been an Associate Editor of the *Journal of Applied Mathematics and Stochastic Analysis* and in 1994 he joined the Editorial Board of the *International Journal of Mathematics and Mathematical Sciences*. Dr. Rosalsky has lectured widely on his research throughout many parts of the United States and he has also given talks in Canada, the Soviet Union, Greece, and Italy. Dr. Rosalsky, his wife Mercedes, and their daughter Rachel Natasha (age 17 years and a beginning UF Freshman) are proud and pleased to be members of the University of Florida community.