UF | UNIVERSITY *of* FLORIDA

STA 4183	**Theory of Interest**	**Fall 2018**

Instructor: John Seppala
116A Griffin-Floyd Hall
jseppala@ufl.edu
352-273-2971
MTWR 12:15pm-1:15pm

The instructor is your sole point of contact for matters regarding course administration, course policy, and examination and course grades. The instructor is also your secondary point of contact for assistance with course material, homework grades, and the use of technology.

TA: David Lindberg
105 Griffin-Floyd Hall
dlindberg@ufl.edu
MW 2:00pm-5:00pm

The excellent and experienced TA is your primary point of contact for assistance with course material, homework grades, and the use of technology.

Class: Section 1A61
G086 McCarty Hall B
T 1:55pm-2:45pm (Period 7)
R 1:55pm-3:50pm (Periods 7 and 8)

Textbooks: *The Theory of Interest* (3e), by Stephen G. Kellison (required)
Mathematical Interest Theory (2e), by Vaaler and Daniel (reference)
A Basic Course in the Theory of Interest and Derivatives Markets: A Preparation for Exam FM/2, by Marcel B. Finan (supplemental)

Description: A study of basic interest concepts with applications. Topics include simple and compound interest, equations of value, annuities-certain, loan amortization, bond valuation, calculation of yield rates, the term structure of interest rates, and interest rate sensitivity. Course content is designed to align closely with the syllabus for the Society of Actuaries Financial Mathematics Exam. Credits: 3. Prerequisite: MAC 2312 or the equivalent.

Homework: Nine homework assignments will be submitted in paper form at the beginning of class on selected days. Homework assignments and their due dates will be posted in Canvas. Late homework will not receive credit. The lowest homework score will be dropped. Homework is assigned to help reinforce the material learned in class—not just to get the right answer and improve your course grade! Homework solutions must show all formulas and steps used and be the sole work of each individual student.

Exams: Three two-hour exams will be given in class on the following dates:

Thu Sep 20   Thu Oct 25   Tue Dec 11 (730am)

The exams will each have a combination of free response and multiple-choice questions. The multiple-choice questions are intended to be similar to questions on the Society of Actuaries Exam FM. Also in accordance with SOA exams, no formulas or formula sheets will be given for the exams, and only calculators from the TI-30 series (TI-30Xa, TI-30X II, or TI-30XS) or TI-BA series (BA-35, BA II Plus, or BA II Plus Professional) may be used. A review session will be held during class time prior to each exam. Although many concepts learned early in the course continue to be used later in the course, the exams are not designed to be cumulative. There is not a final exam for the course. Make-up exams will not be given, except for documented cases of extreme illnesses and emergencies. Proper notification should be given to the instructor as soon as possible.

Canvas: Students should log in to Canvas regularly to view and download class files, check announcements, and view and participate in discussions. Visit https://elearning.ufl.edu or call 352-392-4357 for help with Canvas.

Attendance: Attendance is not a direct component of the course grade. However, poor attendance is a major contributor to low grades. I encourage every student to arrive to class prepared to engage in the learning process that unfolds during each day's lesson.

Grading: Numeric grading will be on a point system as follows:

Exams   3 x 100   = 300 points
Homework   8 x 15   = 120 points
Total   = 420 points

The minimum points required to earn each letter grade will be as follows:

A = 360   B = 310   C = 260   D = 210

Some grades in the high B range may be rounded to A- or B+, and some grades in the high C range may be rounded to B- or C+.

Florida Actuarial Student Society:

The Florida Actuarial Student Society (FASS) is run by UF students dedicated to informing other students about the actuarial profession and helping them network with their peers. FASS also links students interested in the profession with representatives from companies that recruit students for actuarial internships and full-time entry-level actuarial positions. Visit http://users.stat.ufl.edu/~fass/ or contact president Ashton Putnal fasspresident@gmail.com to learn more about FASS.

Student Honor Code:

UF students are required to adhere to both the Student Conduct Code and the Student Honor Code, https://sccr.dso.ufl.edu/students/student-conduct-code/. On all exams and mini-projects, students will write and sign the Honor Pledge: "On my honor, I have neither given nor received unauthorized aid on this [homework/ exam]." Students are also bound by honor to report academic misconduct to the instructor. Thank you in advance for making a personal commitment to integrity, and for maintaining the high standard that is a hallmark of the actuarial profession.

Students with Disabilities:

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor in order for the accommodations to be implemented in the course.

Faculty Course Evaluations:

Student feedback is welcomed by the instructor and beneficial to future students in the course. Students are requested to provide feedback on the quality of instruction in this course by completing a brief confidential evaluation towards the end of the semester at https://evaluations.ufl.edu. Summaries of the evaluation results can be found at https://evaluations.ufl.edu/results.

Tentative Course Schedule:

Day	Section(s)	Topic(s)
R Aug 23	1.1-1.6	Interest and present value
R Aug 23	1.7-1.8	Discount and nominal rates
T Aug 28	1.9-1.10	Continuous and varying interest
R Aug 30	2.1-2.3	Equations of value
R Aug 30	2.4-2.5	Unknown time and interest
T Sep 4	2.6-2.7	Time period conventions
R Sep 6	3.1-3.2	Annuities-immediate
R Sep 6	3.3	Annuities-due
T Sep 11	3.4-3.5	Perpetuities
R Sep 13	3.6	Unknown time
R Sep 13	3.7-3.8	Unknown interest
T Sep 18	Review	
R Sep 20	Exam #1	
R Sep 20	Exam #1	
T Sep 25	4.1-4.3	Annuities with less frequent payments
R Sep 27	4.4	Annuities with more frequent payments
R Sep 27	4.6	Annuities in arithmetic progression
T Oct 2	4.7	Annuities in geometric progression
R Oct 4	4.5, 4.8-4.9	Continuous and varying annuities
R Oct 4	5.1-5.3	Loan balances and amortization
T Oct 9	5.5-5.6	Varying periods and payments
R Oct 11	6.1-6.3	Bond pricing
R Oct 11	6.4	Premiums and discounts
T Oct 16	6.5	Valuation between coupon payments
R Oct 18	6.6	Bond yield rates
R Oct 18	6.7, 6.10	Callable and putable bonds and stocks
T Oct 23	Review	
R Oct 25	Exam #2	
R Oct 25	Exam #2	
T Oct 30	7.1-7.3	Discounted cash flow analysis
R Nov 1	7.4	Reinvestment rates
R Nov 1	7.5	Dollar-weighted interest rates
T Nov 6	7.6	Time-weighted interest rates
R Nov 8	7.9-7.10	Capital budgeting
R Nov 8	10.1-10.3	Yield curves and spot rates
T Nov 13	10.4-10.5	Bond yields and forward rates
R Nov 15	11.1-11.2	Duration
R Nov 15	11.3	Convexity
T Nov 20	FLEX	
R Nov 22		
R Nov 22		
T Nov 27	11.5-11.6	Asset matching
R Nov 29	11.7-11.8	Immunization
R Nov 29	Supplement	Interest rate swaps
T Dec 4	Review	
R Dec 6		
R Dec 6		
T Dec 11	Exam #3	7:30am-9:30am