

MATH 496T: Special Topics in Financial Mathematics, Spring 2017

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Class meetings: 12:00 – 12:50 MWF in Harvill 240.

Textbook: Mathematics of Investment and Credit, 5th Edition, by S.A. Broverman (Note: there is a newer 6th edition that is very expensive, and an older 3rd edition that is relatively cheap. For this year's Math496T purposes any of these editions is OK.)

Also for reference the text we use for Math368, by Mendel, Lovelock, and Wright "Introduction to the Mathematics of Money". Free download available through UA Library website.

Office hours: Tuesdays 1-3, Thursdays 11-1, in lounges of Arizona-Sonora or Coronado dorms, alternate weeks. I'll announce in class on Mondays which dorm I'm in that week.

HOMEWORK, EXAMS, GRADES

Homework: There will be both written and online homework through WileyPLUS, the web site maintained by the textbook publisher. Homework will count for 20% of your course grade

Exams: There will be two 50-minute long in-class exams on Fridays 10 March and 28 April, worth 20% of your course grade each. If you have to miss one of these exams for a University-approved reason I will use your (Final exam score)/2 as the score for that exam.

Final Exam: Scheduled for Wednesday 10 May from 10:30 – 12:30, worth 40% of grade.

Course grade: Final percentages above 90, 80, 70, or 60 guarantee letter grades of A, B, C, or D respectively. These cutoff percentages may also be revised downward at my discretion.

Academic Integrity: University policy will apply.

Major topics: This is a rough outline – we will cover most topics in most chapters of Broverman, but details will depend on class progress, interest etc..

Chapter 1: Interest (simple, compound, effective, internal, nominal ...)

Chapter 2: Annuities (ordinary, due, perpetual, continuous, variable payment,)

Chapter 3: Loans (amortized, sinking funds, accelerated payoff schedule,)

Chapter 4: Bonds (coupons, price, yield, premium, discount, ...)

Chapter 5: Rates of return (net present value, internal rate of return, ...)

Chapter 6: More on interest!

Chapter 7: Duration and Immunization (duration, convexity, risk, ...)

Chapter 8: Stock valuation, buying and selling (buying on margin, short selling, ...)

Chapter 9: Derivatives (forwards, futures, swaps, options, ...)