



MISSOURI S&T

Formerly University of Missouri–Rolla

DEPARTMENT of MATHEMATICS and STATISTICS

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Math 5737/Econ 5337 “Financial Mathematics”, Fall 2022.

Lecture: Monday, Wednesday, and Friday online synchronous (zoom) or Fulton 220 from 1 to 1:50 in the afternoon. The web site for this class is

<http://web.mst.edu/~bohner/math5737-22/math5737.html>.

Office Hours: Monday, Wednesday, and Friday from 3 to 3:50 in the afternoon (zoom), if requested by e-mail. Also by appointment.

Text: “Options, Futures, and other Derivatives” by John C. Hull, 11th edition (students are not required to buy this book, power point presentation is available).

Description: Risk-free assets, interest rates, risky assets, discrete time market models, portfolio management, forward and futures contracts, interest rate futures, swaps, options, options pricing, binomial trees, Cox–Ross–Rubinstein analysis, Black–Scholes–Merton model, Wiener processes, Itô’s lemma, financial engineering, options on stock indices, options on currencies, options on futures, the Greek letters, volatility smiles, basic numerical procedures, exotic options.

Homework Assignments: There will be 10 weekly homework assignments. They are available as PDF Files on the lecture’s web site. Homeworks need to be uploaded to Canvas before the deadline as one single pdf file (in correct order) and selected problems will be graded. Instead of collection of homeworks, there may be a quiz during class on the homework material.

Hour Exams: There will be 3 exams during class. These exams will be announced at least one week in advance.

Final Exam: The final exam is comprehensive and will be on Friday, December 16, from 10 to noon in the morning.

Attendance Policy: You are expected to attend every class period. With two absences from class, you receive an academic alert. With four absences from class, you will be dropped from the class.

Grading Policy: Each of the ten homework assignments is worth 50 points, each of the three hour exams 100 points, and the final exam 200 points. Hence the emphasis on the final amount of points is weighted as follows:

Homework	Hour Exams	Final
50%	30%	20%

Altogether 1000 points are available. If p is the final amount of points, the final grade will be determined according to the following table (as a final grade of “D” is not allowed for a graduate student, for them the level to pass is 650):

F	D	C	B	A
$p < 600$	$600 \leq p < 700$	$700 \leq p < 800$	$800 \leq p < 900$	$p \geq 900$