**Instructor:** Sheng Xiong

Thack 508

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**Goals:** To introduce certain actuarial models and their applications to insurance and other financial risks by covering the mathematical content of Exam MFE/3F offered jointly by the Society of Actuaries (SOA) and the Casualty Actuarial Society (CAS).

**Grading:** Quizzes (weekly) and Assignments – 25%

Midterm Exam (Thursday, March 2, 2017) – 35%

Final Exam (Tuesday, April 25, 2017 from 12:00 p.m. - 1:50 p.m) – 40%

**Textbooks:** McDonald, R.L., *Derivatives Markets* (Third Edition), 2013, Addison Wesley

Chapter 9,

Chapter 10, (excluding “Options on Commodities” on pages 315 and 316),

Chapter 11, Sections 11.1–11.3, Appendices 11.A and 11.B,

Chapter 12, Sections 12.1–12.5, Appendix 12.A,

Chapter 13, including Appendix 13.B,

Chapter 14,

Chapter 18,

Chapter 19, Sections 19.1–19.5,

Chapter 20, Sections 20.1–20.3 (up to but excluding “Modeling Correlated Asset

Prices” on pages 612-613), 20.4 (excluding “Multivariate Itô’s Lemma” on

pages 616-617), 20.5–20.6 (up to but excluding “Valuing a Claim on S^aQ^b

on pages 621-622)

Chapter 21, Sections 21.1–21.2 (excluding “What If the Underlying Asset Is Not

an Investment Asset” on pages 635–637) and 21.3 (excluding “The

Backward Equation” on pages 637–638, and excluding the last two

paragraphs of the section on page 639),

Chapter 23, Section 23.1 (but with only those definitions in Tables 23.1 and 23.2

that are relevant to Section 23.1),

Chapter 24, Sections 24.1 – 24.2 (up to the second paragraph on page 721, but

including footnote 4 on page 721 and the top panel in Figure 24.3 on

page 723),

Chapter 25, Sections 25.1 – 25.4 (up to the first paragraph on page 773), 25.5

(excluding “LIBOR Market Model” on pages 781-783), Appendix 25.A

(this appendix contains only a reference to the following site for

download, http://wps.aw.com/wps/media/objects/14728/15081864/appendices/McDo

nald-web-25-A.pdf ),

Appendix B.1, Appendix C.

Unless otherwise stated chapter appendices are not included in the required readings from this text.

**Study Guide: ASM MFE Study Manual for the Exam MFE/3F, 9th Edition 6th Printing**

**Author:**[Abraham Weishaus, Ph.D., FSA, CFA, MAAA](http://www.actexmadriver.com/contributorinfo.cfm?ContribID=743)

**For the official Exam MFE syllabus and registration information, visit the Be An Actuary website at**

**http://www.beanactuary.org/exams/preliminary/?fa=financial-economics-exam**

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact your instructor and Disability Resources and Services, 140 William Pitt Union, 412-648-7890 as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course.