



BEPP 452/STAT 452. BEPP 852/STAT 852

Fundamentals of Actuarial Science II

Spring 2014

Textbook: Dickson, Hardy, Waters: Actuarial Mathematics for Life Contingent Risks  
(Bookstore) First or second edition.

Course pack: Same as BEPP / STAT 451

Office hours: Tuesdays, Thursdays, 3:00-5:00, 459 JMHH

Note: If you hit “**Reply**” on an e-mail from me to the class, you are replying  
to the whole class.

Lesson 1: Dickson chapter 5: Basic annuities

Jan 16

Lesson 2: Dickson chapter 5: Basic annuities

Jan 21

Lesson 3: Dickson chapter 5: Annuities payable  $m$  times per year

Jan 23

Lesson 4: Dickson chapter 5: Calculation of annuity functions

Jan 28

Lesson 5: Dickson chapter 6: Net future loss: means and variances

Jan 30

Lesson 6: Dickson chapter 6: Past exam questions

Feb 4

Lesson 7: Dickson chapter 6: Gross annual premiums

Feb 6

Lesson 8: Dickson chapter 6: Profit; extra risks

Feb 11

Lesson 9: Dickson chapter 7: Policy values; examples

Feb 13

Lesson 10: Dickson chapter 7: Prospective and retrospective reserves

Feb 18

Lesson 11: Dickson chapter 7: Recursive formulas, discrete policies

Feb 20

Lesson 12: Dickson chapter 7: Recursive formulas, examples

Feb 25

Lesson 13: Dickson chapter 7: Asset shares

Feb 27

Lesson 14: Dickson chapter 7: Fractional durations; non-forfeiture laws.

Mar 4

Lesson 15: Mar 6	Dickson chapter 7: Modified premium reserves <b>Homework due: B6-2, B6-4, B6-5, B7-1, B7-6, B7-9, B7-10</b>	
Lesson 16: Mar 18	Dickson chapter 8: Joint-life and last-survivor benefits	
Lesson 17: Mar 20	Dickson chapter 8: Two-life policies: examples	
Lesson 18: Mar 25	Dickson chapter 8: Two-life policies: exam questions <b>End of mid-term material</b>	
Lesson 19: Mar 27	Dickson chapter 8: Dependent probabilities <b>Homework due: B9-19, B9-20, B9-21, B9-22</b>	
Lesson 20: Apr 1	<b>Mid-term exam.</b> You can have in class: your class notes, the textbook, and an SoA calculator	
Lesson 21: Apr 3	Dickson chapter 8: Independent probabilities	
Lesson 22: Apr 8	Dickson chapter 8: Exam questions	
Lesson 23: Apr 10	Application: Gun violence and life expectancies	Course pack
Lesson 24: Apr 15	Dickson chapter 9: Introduction to pension plans	
Lesson 25: Apr 17	Dickson chapter 9: Present value of employee benefits	
Lesson 26: Apr 22	Dickson chapter 9: Funding plans	
Lesson 27: Apr 24	Dickson chapter 9: Setting the Defined Contribution	
Lesson 28: Apr 29	Examples: The practice of pension plans <b>Homework due: B10-10, B11-16, B11-18, B11-19</b>	

Solutions to exam questions since 2000: [www.soa.org](http://www.soa.org), click: Education, Exams and Requirements, ASA, Exam MLC, Past Exams and Solutions; find the exam session and click solution.

Take-home project

Final grade: 45% mid-term  
40% take-home project  
15% assigned problems