Actuarial Science II
Life Contingencies Segment
Syllabus

Instructor: Dr. Jaya Bishwal

Homepage: http://www.math.uncc.edu/$\sim$ jpbishwa

Office : Fretwell 345B

E-mail: J.Bishwal@uncc.edu

Phone: 704-687-2566

Class Time and Location: MW 12:30-1:45 pm, McEniry 127

Office Hours: Wed 3:00-5:00pm

This course is the main part of Exam 3 of Society of Actuaries.

Homework: There will be homework assignments approximately every week. Homework assignments will be posted online on my webpage.

Grading: The grade will consist of homework, two tests and a final exam. The weights for the final grade are as follows: Homework will 10%, Test 1 will be 25%, Test 2 will be 25%, and final will be 40%.

There is no curve. The following method will be followed. Letter Grade- A: 85%-100%, B: 75%-85%, C: 65%-75%, F: 0%-65%

Exam Dates: Test 1: Sept 26, 12:00-1:45 pm, Test 2: October 31, 12:00-1:45pm, Final: Wed Dec 12, 11:00-1:45 pm

Text: Actuarial Mathematics (Second Edition, The Society of Actuaries 1997) by Bowers, Gerber, Hickman, Jones, Nesbitt

Contents:

Chapters 3, 4 (4.1-4.4), 5 (5.1-5.4), 6 (6.1-excluding utility theory approach, 6.2-6.4), 7 (7.1-excluding utility theory approach, 7.2-7.6), 8 (8.1-8.4).

Course Description:

Survival Models:

Survival function, Time-until-death for a person, Curtate-Future-Lifetimes, Force of Mortality, Life Table, Deterministic survivorship group, Life table characteristics, Recursion formulas, Assumptions for fractional age, Analytical Laws of Mortality, Select and Ultimate tables

Life Insurance:

Insurance payable at the moment of death, Level Benefit Insurance, Endowment Insurance, Deferred Insurance, Varying Benefit Insurance, Insurance payable at the end of the year of death, Relationship between Insurance payable at the moment of death and the end of the year of death

Life Annuities:

Continuous Life Annuities, Discrete Life Annuities, Life annuities by m-thly payments

Benefit Premiums:

Fully Continuous Premiums, Fully Discrete Premiums, True m-thly payment premiums

Benefit Reserves:

Fully Continuous Benefit Reserves, Fully Discrete Benefit Reserves, Benefit Reserves on a semicontinuous basis, Benefit Reserves on a true m-thly benefit premiums

Analysis of Benefit Reserves:

Benefit Reserves on a General Insurance, Recursion Relations for Fully Discrete Benefit Reserves, Benefit Reserves at Fractional Durations