

MATH 438 / 538
Actuarial Models (3 Units)

Course Outline

Topics	# of weeks
Introduction to Life Insurance Life insurance and annuity contracts The Roles of the actuary Typical problems	0.5
Survival Models Future life time random variable The force of mortality Actuarial notations	2.0
Life Table and Selection Life tables and fractional age assumptions Select and ultimate life table Mortality trend	2.0
Insurance Benefits Valuation of life insurance benefits	3.0
Annuities Valuation of life annuities	2.5
Premium Calculation The present value of future loss random variables Premium principles	3.0
Exams	1.0

Textbook: Actuarial Mathematics for Life Contingent Risks, by D.C.M. Dickson, M.R. Hardy, and H.R. Waters

Prerequisite: MATH 331 and MATH 312

Note: This course together with Math 448/548 covers the SoA exam MLC