INSTITUT TEKNOLOGI SEPULUH NOPEMBER
FACULTY OF SCIENCE AND DATA ANALYTICS
DEPARTMENT OF STATISTICS
STATISTICS UNDERGRADUATE PROGRAM

Course	Course Name	:	**Actuarial**
	Course Code	:	SS234635
	Credit	:	3 SKS
	Semester	:	VI

COURSE DESCRIPTION

Actuarial is a course in the field of Economics, Finance and Actuaria which has as one of the areas of study determining insurance premiums, policies and reserves. The aim of studying Actuarial is to understand and apply financial mathematical concepts and opportunities to analyze problems in life insurance. Topics that will be studied include: survival function, life and selective tables, insurance benefits, life annuities, premium value calculations, policy value calculations, and reserves.

PROGRAM LEARNING OUTCOME

PLO-4	Able to apply science and mathematics to support understanding of statistical methods
PLO-5	Able to apply statistical theory to statistical methods
PLO-7	Able to use modern computing devices to solve statistical problems
PLO-9	Able to apply statistical methods to analyze theoretical and real problems

COURSE LEARNING OUTCOME

CLO.1	Able to understand and apply financial mathematical concepts and opportunities to analyze problems in life insurance
CLO.3	Able to analyze data by applying mathematics and statistics in insurance
CLO.4	Able to identify, formulate and solve statistical problems in the insurance industry
CLO.6	Have knowledge of current and future issues related to insurance midwives
CLO.7	Able to communicate effectively and collaborate in interdisciplinary and multidisciplinary teams
CLO.8	Have professional responsibility and ethics
CLO.9	Able to motivate oneself to think creatively and learn throughout life

MAIN SUBJECT

1. Understanding actuarial and insurance
2. Financial mathematics review: compound interest, cash value (present value), annuity
3. Survival models, actuarial functions of mortality, Mortality table
4. Life Insurance and Annuities: Stochastic Cash Flow, Pure Endowments, life insurance, Endowments, life annuities
5. Premium: Net Premiums; Gross Premiums (Gross Premiums)
6. Reserves: Net Premium Reserves, Mortality Profit,

7. Modified Reserves

PREREQUISITE

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REFERENCES

1. Gupta, A.K., Varga, T., (2002), An Introduction to Actuarial Mathematics, Springer, USA Lyun, Yuh-Dueh. (2002). Financial Engineering and Computation, Principles, Mathematics, Algorithms. Cambridge.
2. Cunningham, R., Herzog, T. and R. London,(2006), Models for Quantifying Risk, 3rd edition