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

Course	Course Name	:	**Financial Mathematics**
	Course Code	:	SS234632
	Credit	:	3 SKS
	Semester	:	VI

COURSE DESCRIPTION

Financial mathematics is one of the courses in the field of Economics, Finance and Actuarial Statistics. Financial Mathematics study field to understand the concept of compensation related to financial lending / investment and its application. The purpose of studying financial mathematics is to be able to understand and apply / take into account various types of interest rates, present value, future value, basic annuities and general annuities (more general annuities), amortization and the amortization schedule and sinking fund method, bonds and yield rates. To achieve this goal, the learning method used is interactive lecture discussions and question exercises. As a subject that can be equated by the Indonesian Actuarial Association (PAI), the practice questions are derived from PAI exam questions and Society of Actuaries (SOA) questions so that students can sharpen their understanding and are trained to face cases of applying the concepts they have learned.

PROGRAM LEARNING OUTCOME

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
PLO-10	Able to apply business, industrial, economic, social, environmental or health statistical methods to real problems

COURSE LEARNING OUTCOME

CLO.1	Able to explain the concept of Financial Mathematics
CLO.2	Able to formulate procedural problem solving
CLO.3	Able to analyze data by applying the Statistical method in Financial Mathematics
CLO.4	Able to identify, formulate, and solve statistical problems in the field of Financial Mathematics
CLO.5	Able to use computational techniques and modern computer equipment needed to solve financial math problems
CLO.6	Have knowledge of current and upcoming issues related to the field of Financial Mathematics
CLO.7	Able to communicate effectively and work together in interdisciplinary and multidisciplinary teams
CLO.8	Have professional responsibilities and ethics
CLO.9	Able to motivate yourself to think creatively and learn throughout life

MAIN SUBJECT

1. Interest Rate 2. Application of Interest Rates 3. Specific Annuity 4. General Annuity 5. Amortization and Reserve Methods for Settlement of Accounts Payable 6. Bounds 7. Rate of Return on Capital
PREREQUISITE
Introduction to Statistical Method
REFERENCES
1. Kellison, S.G. 2008. The Theory of Interest. 3th edition. Mcgraw Hill. 2. Lyun, Y. 2002. Financial Engineering and Computation, Principles, Mathematics, Algorithms. Cambridengane.