Graduate Program in Mathematics

Telp   : +62 274 552243
Email   : maths2@ugm.ac.id;
Website : http://s2math.fmipa.ugm.ac.id

MODULE HANDBOOK

Module Name	Proses Stokastik (*Stochastic Processes*)
Module level, if applicable	Master Program
Code, if applicable	MMM-5403
Subtitle, if applicable	-
Courses, if applicable	Proses Stokastik (*Stochastic Processes*)
Semester(s) in which the module is taught	second
Person responsible for the module	Chair of Statistics Laboratory
Lecturer(s)	Drs. Danardono, MPH, Ph.D.
Language	Bahasa Indonesia
Relation to curriculum	Elective *for* Master Degree in Mathematics
Teaching methods	3 hours lecture
Workload (incl. contact hours, self-study hours)	3 hours lectures, 6 hours individual study, 14 weeks per semester, and a total of 126 hours a semester
Credit points	3
Required and recommended prerequisites for joining the module	Competencies in undergraduate Calculus and mathematical statistics

Module objectives/intended learning outcomes	On successful completion of this course, students should be able to: CO1 explain the concept of Markov Chain, Poisson Process, Birth and Death Process, Continuous-time Markov Chain, Brownian Motion; Queueing models CO2 determine appropriate models for specific processes and use the concepts, theorems, and computational methods to describe the models; CO3 appraise advanced models/methods to describe certain random process
Content	Markov Chain; Classification of states and chains; Limiting distribution of chains; Inference on Markov Chain data and simulations; Poisson Process; Birth and Death Process; Continuous-time Markov Chain; Brownian Motion; Queueing models.
Examination forms	*essay, project report and presentations*
Study and examination requirements	The weight of assignments will be as follows: 1. Final examination 30% 2. Mid examination 30% 3. Project 25% 4. Quiz, homework, presentation 15%
Media employed	*LCD projectors, whiteboards, online platforms, LMS (learning management system) - eLOK*
Reading list	1. Ross, S.M., 2010, Introduction to Probability Models, 10th ed., Academic Press 2. Stirzaker, D, 2005, Stochastic Processes and Models, Oxford University Press.

CO-PLO Mapping

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7
CO 1			X				
CO 2			X				
CO 3					X		

Compilation Date   :   8/9/2022

Modified Date   :   8/9/2022