MODULE HANDBOOK
MATHEMATICAL LOGIC

BACHELOR DEGREE PROGRAM
DEPARTMENT OF MATHEMATICS
FACULTY OF SCIENCE AND DATA ANALYTICS

INSTITUT TEKNOLOGI SEPULUH NOPEMBER

MODULE HANDBOOK
MATHEMATICAL LOGIC

Module name	**Mathematical Logic**
Module level	Undergradute
Code	KM184102
Course (if applicable)	Mathematical Logic
Semester	Fall (Gasal)
Person responsible for the module	Dr. Drs. Mahmud Yunus, M.SI
Lecturer	Dr. Drs. Mahmud Yunus, M.Si Drs. Soetrisno, MIKomp Drs. Sadjidon, M.Si
Language	Bahasa Indonesia and English
Relation to curriculum	Undergradute degree program, **mandatory**, 1st semester.
Type of teaching, contact hours	Lectures, <60 students Tuesdays, 11.00-12.50 (GMT+7)
Workload	1. Lectures : 3 x 50 = 150 minutes per week. 2. Exercises and Assignments : 3 x 60 = 180 minutes (3 hours) per week. 3. Private learning : 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks)
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Mandatory prerequisites	
Learning outcomes and their corresponding ILOs	Course Learning Outcome (CLO) after completing this module, CLO-1 : Students are able to compile and compare logical true statements. CLO-2 : Students are able to apply inference rules to prove the validity of an argument in propositional logic. CLO-3 : Students are able to apply predicate logic inference rules to prove the validity of an argument involving universal or existential quarters. CLO-4 : Students are able to apply the basic characteristics of set theory in proof of argumentation.	

	CLO-5 : Students are able to explain the relation of fundamental concepts of mathematical logic and with other branches of science.	
Content	In this course students will learn about the basic terms of logic, Sentential Logic, truth tables and tautology, Inference Theory: argumentation, proof; Predicate Logic: use of quarters, inference involving quanters and introduction to set theory. In classroom learning, students will be given an understanding and explanation related to the material being taught according to the teaching material. Besides that, they were given tasks that lead to independent study and group work.
Study and examination requirements and forms of examination	- Assignment 1 & 2 - Mid-term examination - Final examination
Media employed	LCD, whiteboard, websites (myITS Classroom), zoom.
Reading lists	Main : 1. Howard Anton and Chris Rorrers, "Elementary Linear Algebra, Tenth Edition", John Wiley and Sons, (2010). Supporting : 1. C.D. Meyer,"Matrix Analysis and Applied Linear Algebra", SIAM, (2000) 2. Steven J. Leon, "Linear Algebra with Applications", Seventh Edition, Pearson Prentice Hall, (2006). 3. Stephen Andrilli and David Hecker,"Elementary Linear Algebra, Fourth Edition", Elsevier, (2010) 4. Subiono.,"Ajabar Linier", Jurusan Matematika FMIPA-ITS, 2016