

MODULE HANDBOOK

MATHEMATICS 1

Module name	Mathematics 1	
Module level	Undergraduate	
Code	KM184101	
Course (if applicable)	Mathematics 1	
Semester	First Semester (Gasal)	
Person responsible for the module	Drs. I.G.Ngurah Rai Usada, M.Si	
Lecturer		
Language	Bahasa Indonesia and English	
Relation to curriculum	Undergraduate degree program, mandatory , 1 st semester.	
Type of teaching, contact hours	Lectures, <60 students	
Workload	1. Lectures : 3 x 50 = 150 minutes per week. 2. Exercises and Assignments : 3 x 50 = 150 minutes per week. 3. Private learning : 3 x 50 = 150 minutes per week.	
Credit points	3 credit points (sks)	
Requirements according to the examination regulations	A student must have attended at least 75% of the lectures to sit in the exams.	
Mandatory prerequisites	-	
Learning outcomes and their corresponding PLOs	<p>Course Learning Outcome (CLO) after completing this module,</p> <p>CLO 1: Students are able to apply basic mathematical concepts related to matrices and determinants.</p> <p>CLO 2: Students are able to apply equations or inequalities and graphs of parabolic, circle or ellipse functions.</p> <p>CLO 3: Students are able to apply complex variable forms in polar form and determine the roots of the equation.</p> <p>CLO 4: Students are able to determine the continuity of functions and its derivatives.</p>	<p>PLO-01, PLO-02, PLO-04</p> <p>PLO-02, PLO-03, PLO-04</p> <p>PLO-03, PLO-04, PLO-05</p>

	CLO 5: Students are able to apply integrals through the fundamental theorem of calculus.	PLO-02, PLO-03, PLO-04 PLO-04, PLO-05, PLO-04
Content	This course studies matrices and their determinants, equations, inequalities, graphs of parabolic functions, circles or ellipses, complex numbers and their polar forms, continuity of functions and its derivatives, integrals and fundamental theorems of calculus.	
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> ● In-class exercises ● Assignment 1, 2, 3 ● Mid-term examination ● Final examination 	
Media employed	LCD, whiteboard, websites (myITS Classroom), zoom.	
Reading list	<p>Main :</p> <ol style="list-style-type: none"> 1. Tim Dosen Jurusan Matematika ITS, Buku Ajar Kalkulus 1 , Edisi ke-4 Jurusan Matematika ITS, 2018. 2. Anton, H. dkk, Calculus, 10-th edition, John Wiley & Sons, New York, 2012. <p>Supporting :</p> <ol style="list-style-type: none"> 1. Kreyzig, E, Advanced Engineering Mathematics, 10-th edition, John Wiley & Sons, Singapore, 2011. 2. Purcell, J, E, Rigdon, S., E., Calculus, 9-th edition, Prentice-Hall, New Jersey, 2006. 3. James Stewart , Calculus, ed.7, Brooks/cole-Cengage Learning, Canada,2012. 	