

MODULE HANDBOOK

CHEMISTRY 1

Module name	Mathematics 2	
Module level	Undergraduate	
Code	KM184201	
Course (if applicable)	Mathematics 2	
Semester	Second Semester (Genap)	
Person responsible for the module	Dra. Rinurwati, M.Si.	
Lecturer	ITS Mathematics Lecturer Team	
Language	Bahasa Indonesia	
Relation to curriculum	Undergraduate degree program, mandatory , 2 nd semester.	
Type of teaching, contact hours	Presentation, <60 students	
Workload	1. Presentation : 3 x 50 = 150 minutes per week. 2. Exercises and Assignments : 2 x 60 = 120 minutes (2 hours) per week. 3. Private learning : 2 x 60 = 120 minutes (2 hours) per week.	
Credit points	3 credit points (sks)	
Requirements according to the examination regulations	A student must have attended at least 75% of the presentation to sit in the exams.	
Mandatory prerequisites	-	
Learning outcomes and their corresponding PLOs	Course Learning Outcome (CLO) after completing this module, CLO 1 Students are able to apply basic concept of mathematics related to transcendent functions CLO 2 Students are able to apply integration techniques CLO 3 Students are able to apply it in the form of Cartesian coordinate function, and polar coordinates and parametric equations CLO 4 Students are able to determine the convergence of infinite sequences and infinite series and the number of convergent infinite series CLO 5 Students are able to transform functions into Taylor series or the Mac Laurint series	PLO 1,2,4 PLO 3 PLO 3,4,5 PLO 2,3,4 PLO 4,5
Content	In this course, students will study the following subjects:	

	<ol style="list-style-type: none"> 1. Transcendent function, differential and integral. 2. Integral and improper integral. 3. Application of certain integral in a plane, volume of object, arc length and surface area, center of mass, application of Guldin theorem. 4. Polar coordinate systems and parametric equations, graphical sketches, and their applications. 5. Convergences of infinite sequences and series, and calculate the number of convergence infinite series, Taylor series or Mac Laurint series
Study and examination requirements and forms of examination	Independent Assignments, Written Exams (Quiz, ETS, EAS).
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 2 , Edisi ke-4 Jurusan Matematika ITS, 2012 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