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MODULE HANDBOOK

Module name	Calculus II
Module level, if applicable	Bachelor
Code, if applicable	MMM-1102
Subtitle, if applicable	-
Courses, if applicable	Calculus II
Semester(s) in which the module is taught	2nd (second)
Person responsible for the module	Chair of the Lab. of Analysis
Lecturers	Team
Language	Bahasa Indonesia
Relation to curriculum	Compulsory course in the first year (2nd semester) Bachelor Degree
Type of teaching, contact hours	150 minutes lectures and 180 minutes structured activities per week.
Workload	Total workload is 136 hours per semester, which consists of 150 minutes lectures per week for 14 weeks, 180 minutes structured activities per week, 180 minutes individual study per week, in total is 16 weeks per semester, including mid exam and final exam.
Credit points	3
Requirements according to the examination regulations	Students have taken Calculus II course (MMM-1102) and have an examination card where the course is stated on.
Recommended prerequisites	Students have taken Calculus I (MMM-1101) and have participated in the final examination of the course.
Module objectives/intended learning outcomes	After completing this course the students should have : 1. CO 1. ability to solve indefinite integral problems with suitable methods. 2. CO 2. ability to determine the integral value of a function on interval [a, b] by using the definition of the definite integral. 3. CO 3. ability to use the Fundamental Theorem of Calculus and Change of Variable method in integration. 4. CO 4. ability to characterize and solve the improper integral. 5. CO 5. ability to apply the definite integral to determine the area, volume of solids of revolution, arc length, area of surface of solids of revolution, center of mass, and moment of inertia.
Content	• Indefinite integral: definition, properties, methods. • The Definite integral: definition, properties, The Fundamental Theorem of Calculus, Change of Variable in a Definite Integral, Improper integrals. • Applications of Integration: area, volume of solids of revolution, arc length, surface area of a solid of revolution, center of mass, Pappus-Guldin's Theorem, moment of inertia.
Study and examination requirements and forms of examination	The final mark will be weighted as follows: No — Assessment methods (components, activities) — Weight (percentage) 1 — Final Examination — 35% – 45% 2 — Mid-Term Examination — 30% – 35% 3 — Class Activities: Quiz, Homework, etc. — 25% – 30% The initial cut-off points for grades A, B, C, and D should not be less than 80%, 70%, 50%, and 40%, respectively.

Media employed	Board, LCD Projector, Laptop/Computer
Reading List	1. Abe Mizrahi and Michael Sullivan, 1990, *Calculus and Analytic Geometry,* Wadsworth 2. James Stewart, 1999, *Calculus,* 4th edition, Brooks/Cole Pub. Comp. 3. Robert A. Adam and Christopher Essex, 2010, *Calculus, A Complete Course*, Pearson. 4. Tim Pengajar Kalkulus, *Diktat Kuliah Kalkulus II,* FMIPA UGM.

PLO AND CO MAPPING

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9
CO 1		v					v		
CO 2		v					v		
CO 3		v					v		
CO 4		v							
CO 5					v		v		