Department of Mathematics
Institut Teknologi Sepuluh Nopember
email : matematika@its.ac.id – web : https://www.its.ac.id/matematika

Course	**Course Name**	**: Multivariable Calculus**
	Course Code	**: KM184301**
	Credit	**: 4**
	Semester	**: 3**

Description of Course
In this course students will learn about the functions of two or more independent variables, limit and continuity, partial derivatives, maximum and minimum, double and triple integrals, double integral applications, . In learning in the class students will learn and be equipped to understand and to be able to explain the material taught in accordance with the teaching materials. Besides, students are given tasks that lead to independent study and team work.

Learning Outcome	
PLO 1	[C2] Students are able to identify and explain foundations of mathematics that include pure, applied, and the basic of computing
PLO 2	[C3] Students are able to solve simple and practical problems by applying basic mathematical statements, methods and computations

Course Learning Outcome

1. Students are able to apply vector algebra especially related to equation of line and field in space.
2. Students are able to understand the concept of multi variable functions, especially related to differentiation and integration.
3. Students are able to apply maximum and minimum problems in real phenomena.
4. Students are able to apply multiple integrals in solving real problems.

Main Subject
Vector algebra, functions of two or more independent variables, limit and continuity, partial derivatives, maximum and minimum problems, maximum and minimum with additional terms (Lagrange multiplier), double and threel integrals and its application.
Prerequisites
Mathematics II
Reference
1. Howard Anton, IRL Bivens, Stephen Davis, "Multivariables Calculus", 9th Edition, Jhon Wiley & Sons, Inc, Singapore, 2009
Supporting Reference
1. Pulcell J.E., Rigdon S.E., Vargerg D. "Calculus", Prentice Hall, New Jersey, 2000