



MODULE HANDBOOK

Vector Calculus

BACHELOR DEGREE PROGRAM
DEPARTMENT OF MATHEMATICS
FACULTY OF SCIENCE AND DATA ANALYTICS
INSTITUT TEKNOLOGI SEPULUH NOPEMBER

MODULE HANDBOOK

VECTOR CALCULUS

Module name	Vector Calculus	
Module level	Undergraduate	
Code	KM184502	
Course (if applicable)	Vector Kalkulus	
Semester	Fall(Gasal)	
Person responsible for the module	Drs. Suhud Wahyudi, M.Si	
Lecturer	Drs. Suhud Wahyudi, M.Si Drs. Sentot Didik Surjanto, M.Si Dra. Nur Asiyah, M.Si	
Language	Bahasa Indonesia and English	
Relation to curriculum	Undergraduate degree program, mandatory , 5 th semester.	
Type of teaching, contact hours	Lectures, <60 students Tuesdays, 11.00-12.50 (GMT+7)	
Workload	<ol style="list-style-type: none"> 1. Lectures : 2 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	2 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	Kalkulus Peubah Banyak <i>Multiple variable calculus</i>	
Learning outcomes and their corresponding ILOs	<p>Course Learning Outcome (CLO) after completing this module,</p> <ol style="list-style-type: none"> 1. Mahasiswa mampu memahami , melakukan diferensial dan integral fungsi bernilai vector <i>Student are able to understand and use differential and integral vector</i> 2. Mahasiswa mampu menentukan gradien, divergensi dan curl suatu fungsi bernilai vector 	

	<p><i>Student are able to determine the gradient, divergence and curl of vector funcation</i></p> <p>3. Mahasiswa mampu membuktikan teorma Green, teorema Stokes dan teorema divergensi <i>Student able to prove Green theorem, Stokes theorem and Divergence theorem</i></p>	
Content	<p>Pada mata kuliah ini dipelajari tentang ruang vector, fungsi bernilai vector, differensial dan integral vector, gradien, divergensi dan curl serta teorema-teorema yang terkait seperti teorema Green dan teorema Stokes.</p> <p><i>This course studies vector space, vector-valued functions, vector differentials and integrals, gradients, divergences and curls, and other related theorems such as Green's theorem and Stokes' theorem.</i></p>	
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> <p>Howard Anton, IRL Bivens, Stephen Davis, "Multivariables Calculus", 9th Edition, Jhon Wiley & Sons, Inc, Singapore, 2009</p> <p>Supporting :</p> <p>Pulcell J.E., Rigdon S.E., Vargerg D. "Calculus", Prentice Hall, New Jersey, 2000</p>	

