Mata Kuliah ***Course***	Nama MK *Name*	:	Persamaan Differensial Biasa dan Parsial *Partial and Ordinary Differential Equations*
	Kode MK *Code*	:	EE184304
	Kredit *Credits*	:	3 sks
	Semester *Semester*	:	III (Wajib) *III (Compulsory)*
	Beban Belajar *Workload*	:	Kuliah : 3 x 50 = 150 menit/minggu Latihan/tugas : 3 x 60 = 180 menit/minggu Belajar mandiri : 3 x 60 = 180 menit/minggu *Lectures : 3 x 50 = 150 min/week* *Exercises/Assignments : 3 x 60 = 180 min/week* *Self learning : 3 x 60 = 180 min/week*
	Tingkatan *Module Level*	:	Sarjana (S1) *Undergraduate*
	Penanggung Jawab *PIC*	:	Dr. I Gusti Ngurah Satriyadi Hernanda, ST, MT
	Pengajar *Lecturer*	:	Dr. I Gusti Ngurah Satriyadi Hernanda, ST, MT Dr. Dimas Fajar Uman Putra, ST, MT Ir. Ali Fatoni, MT Mochammad Sahal, ST, M.Sc Dr.Ir. Suwadi, MT Dr.Ir. Wirawan, DEA Dr. Ir. Hendra Kusuma, M.Eng.
	Bahasa *Language*	:	Bahasa Indonesia dan Bahasa Inggris *Bahasa Indonesia and English*
	Persyaratan dan Peraturan *Requirement and Regulation*	:	Setiap mahasiswa harus menghadiri setidaknya 75% dari jumlah perkuliahan untuk dapat mengikuti ujian *A student must have attended at least 75% of the lectures to sit in the exams*

Deskripsi Mata Kuliah
Description of Course

Mata Kuliah Persamaan Diferensial Biasa dan Parsial membahas tentang konsep dan metode penyelesaian Persamaan Diferensial Biasa dan Parsial , Integral Vektor (Integral garis dan Permukaan), serta penggunaannya dalam penyelesaian permasalahan teknik elektro.

Ordinary Differential Equations and Partials discusses the concepts and methods of solving Ordinary and Partial Differential Equations, Integral Vector (Integral lines and Surfaces), and their use in solving electrical engineering problems.

CPL Prodi yang Dibebankan
Learning Outcomes

(CPL-01) Mampu menerapkan ilmu pengetahuan alam dan matematika pada bidang teknik elektro

(PLO-1) Capable to apply knowledge of natural sciences and mathematics to solve electrical engineering problem

(CPL-09) Mampu belajar mandiri untuk menumbuhkan kemampuan belajar sepanjang hayat
(PLO-9) Capable to learn independently to foster lifelong learning abilities

Capaian Pembelajaran Mata Kuliah
Course Learning Outcomes

(CPMK-01) Menguasai konsep, prosedur dan prinsip penyelesaian permasalahan dalam bentuk Persamaan Diferensial Biasa dan Parsial, Integral Vektor (Integral Garis dan Permukaan).
(CLO-01) Mastering concepts, procedures and principles of problem solving in the Ordinary and Partial Differential Equations forms, Integral Vector (Lines and Surfaces Integral).

(CPMK-02) Mampu memformulasikan permasalahan dalam bentuk Persamaan Diferensial Biasa dan Parsial, Integral Vektor (Integral Garis dan Permukaan).
(CLO-02) Able to formulate problems in the form of Ordinary and Partial Differential Equations, Integral Vector (Lines and Surfaces integration).

(CPMK-03) Mampu melakukan proses evaluasi untuk mendapatkan penyelesaian permasalahan dalam bentuk Persamaan Diferensial Biasa dan Parsial, Integral Vektor (Integral Garis dan Permukaan).
(CLO-03) Able to carry out an evaluation process to get a solution to the problem in the form of Ordinary and Partial Differential Equations, Integral Vector (Lines and Surfaces integration).

(CPMK-04) Menunjukkan sikap bertanggungjawab atas pekerjaan di bidang keahliannya secara mandiri.
(CLO-04) Demonstrating attitude of responsibility on work in his/her field of expertise independently.

(CPMK-05) Bekerja sama untuk dapat memanfaatkan semaksimal mungkin potensi yang dimiliki.
(CLO-05) Working together to be able to make the most of his/her potential.

Topik/Pokok Bahasan
Main Subjects

1. PD Biasa (PD Orde 1, PD Orde 2 dan PD Orde Tinggi).
   Ordinary Differential Equation (ODE 1, ODE 2, and higher).
2. Sistem Persamaan Diferensial
   Differential Equation System
3. Deret Fourier dan Integral Fourier
   Fourier and Integral Fourier series
4. PD Parsial
   Partial Differential Equation
5. Integral Vektor (Integral Garis, integral Permukaan)
   Integral Vector (Lines and Surface Integral)

Pembelajaran dan ujian
Study and examination

- Latihan di kelas
  In-class exercises
- Tugas 1, 2, 3
  Assignment 1, 2, 3

- Ujian tengah semester
  Mid-term examination
- Ujian akhir semester
  Final examination

Pustaka

Reference(s)

[1] Kreyszig, Erwin : "Advanced Engineering Mathematics, 10th Edition", John Wiley & Sons, Inc, 2011

[2] Robinson, James C, " An Itroduction to Ordinary Differential Equation", Cambridge University Press, 2004.

Prasyarat

Prerequisite(s)

EE184201 Aljabar Linier dan Struktur Diskrit

EE184201 Linear Algebra and Discrete Structures