

A. RENCANA PEMBELAJARAN SEMESTER (RPS) BERDASARKAN PERMENRISTEKDIKTI NO. 44/2015 SNPT PASAL 12

RENCANA PEMBELAJARAN SEMESTER

MATA KULIAH	:	NUMERICAL METHODS
SKS	:	2
KODE	:	1565013
PROGRAM STUDI	:	TEKNIK INFORMATIKA
SEMESTER	:	4
NAMA DOSEN PENGAMPU	:	
COURSE LEARNING OUTCOMES (Capaian Pembelajaran Mata Kuliah)	:	<ol style="list-style-type: none"> <li>1. Students are able to explain the importance of numerical methods compared to analytical approach.</li> <li>2. Students are able to perform computation &amp; to find solution from a set of data based on numerical methods.</li> <li>3. Students are able to implement numerical methods using computer program.</li> </ol>

Minggu Ke-	Kemampuan yang Diharapkan pada Setiap Pertemuan	Bahan Kajian	Metode Pembelajaran	Waktu Belajar (Menit)	Pengalaman Belajar Mahasiswa (Deskripsi Tugas)	Kriteria, Indikator dan Bobot Penilaian	Daftar Referensi yang digunakan
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Ke-1	Mampu memahami Numerical methods vs analytical approach : numerical error.	Numerical methods vs analytical approach : numerical error.	Pertemuan di kelas	2 x 50 menit	memahami Numerical methods vs analytical approach : numerical error.	6.25 %	
Ke-2	Mampu memahami konsep Empirical function : linear & non linear function (polinomial, logaritmik, exponential, etc).	Empirical function : linear & non linear function (polinomial, logaritmik, exponential, etc).	Pertemuan di kelas	2 x 50 menit	memahami konsep Empirical function : linear & non linear function (polinomial, logaritmik, exponential, etc).	6.25 %	
Ke-3	Mampu memahami Transcendental algebraic equations : bisection	Transcendental algebraic equations : bisection	Pertemuan di kelas	2 x 50 menit	memahami Transcendental algebraic equations : bisection	6.25 %	
Ke-4	Mampu memahami Transcendental algebraic equations : iteration	Transcendental algebraic equations : iteration	Pertemuan di kelas	2 x 50 menit	memahami Transcendental algebraic equations : iteration	6.25 %	
Ke-5	Mampu memahami Transcendental algebraic equations : Regula-Falsi	Transcendental algebraic equations : Regula-Falsi	Pertemuan di kelas	2 x 50 menit	memahami Transcendental algebraic equations : Regula-Falsi	6.25 %	
Ke-6	Mampu memahami Transcendental algebraic equations : Newton-Raphson.	Transcendental algebraic equations : Newton-Raphson.	Pertemuan di kelas	2 x 50 menit	memahami Transcendental algebraic equations : Newton-Raphson.	6.25 %	

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Ke-7	Mampu memahami Interpolation : Newton	Interpolation : Newton	Pertemuan di kelas	2 x 50 menit	memahami Interpolation : Newton	6.25 %	
Ke-8	Mampu memahami Interpolation :Lagrange, Cubic spline.	Interpolation :Lagrange, Cubic spline.	Pertemuan di kelas	2 x 50 menit	memahami Interpolation :Lagrange, Cubic spline.	6.25 %	
Ke-9	Mampu memahami Curve fitting	Curve fitting	Pertemuan di kelas	2 x 50 menit	memahami Curve fitting	6.25 %	
Ke-10	Mampu memahami Simultaneous algebraic equations : Gauss elimination, Gauss-Jordan	Simultaneous algebraic equations : Gauss elimination, Gauss-Jordan	Pertemuan di kelas	2 x 50 menit	memahami Simultaneous algebraic equations : Gauss elimination, Gauss-Jordan	6.25 %	
Ke-11	Mampu memahami Simultaneous algebraic equations : matrix inversion, Gauss-Seidel.	Simultaneous algebraic equations : matrix inversion, Gauss-Seidel.	Pertemuan di kelas	2 x 50 menit	memahami Simultaneous algebraic equations : matrix inversion, Gauss-Seidel.	6.25 %	
Ke-12	Mampu memahami Eigen values.	Eigen values.	Pertemuan di kelas	2 x 50 menit	memahami Eigen values.	6.25 %	
Ke-13	Mampu memahami Differentiation & integration : Stirling, Newton-Cotes	Differentiation & integration : Stirling, Newton-Cotes	Pertemuan di kelas	3 x 50 menit	memahami Differentiation & integration : Stirling, Newton-Cotes	6.25 %	
Ke-14	Mampu memahami Differentiation & integration : Trapezoidal, Romberg, Simpson.	Differentiation & integration : Trapezoidal, Romberg, Simpson.	Pertemuan di kelas	2 x 50 menit	memahami Differentiation & integration : Trapezoidal, Romberg, Simpson.	6.25 %	
Ke-15	Mampu memahami Differential equation : Taylor, Picard	Differential equation : Taylor, Picard	Pertemuan di kelas	2 x 50 menit	memahami Differential equation : Taylor, Picard	6.25 %	
Ke-16	Mampu memahami Differential equation : Euler. Runge-Kutta, Predictor-Corrector.	Differential equation : Euler. Runge-Kutta, Predictor-Corrector.	Pertemuan di kelas	3 x 50 menit	memahami Differential equation : Euler. Runge-Kutta, Predictor-Corrector.	6.25 %	

Malang, \_\_\_\_\_  
Dosen Pengampu Mata Kuliah

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