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MODULE HANDBOOK

Module name	Introduction to Boundary Value Problems
Module level, if applicable	Bachelor
Code, if applicable	MMM-3307
Subtitle, if applicable	-
Courses, if applicable	Introduction to Boundary Value Problems
Semester(s) in which the module is taught	5th (fifth)
Person responsible for the module	Chair of the Lab. of Applied Mathematics
Lecture(s)	Drs. Moch Tari, M.Si
Language	Bahasa Indonesia
Relation to curriculum	Elective course in the third year (5th 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 Introduction to Boundary Value Problems course (MMM-3307) and have an examination card where the course is stated on.
Recommended prerequisites	Students have taken Introduction to partial differential equations course (MMM-2310) and have participated in the final examination of the course.
Module objectives/intended learning outcomes	After completing this course the students have ability to CO1 classify linear second order PDE's CO2 model the vibrating string and solve the model model the vibration of the circular membrane and solve the model CO3 solve boundary value problem by Fourier-Legendre series solve initial value problems by the Laplace Transform
Content	Linear second order partial differential equations. Vibrating String, Fourier series for multivariable functions, Vibrations of the circular membrane. Fourier-Legendre series and its aplications. Laplace Transform and its aplications.
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 — 40% 2 — Mid-Term Examination — 30% 3 — Class Activities: Quiz, Homework, etc. — 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	White/Black Board, LCD Projector, Laptop/Computer
Reading List	[1] Paul DuChateau, and David W. Zachmann, 1986, Partial Differential Equations, McGraw-Hill, New York. [2] J. Ray Hanna and John H. Rowland 1990, Fourier Series and Integrals of Boundary Value Problems, 2nd Edition, Dover Publication, Inc., New York. [3] K. M. Humi, and W. B. Miller, 1992, Boundary Value Problems and Partial Differential Equations, PWS-KENT Publishing Company, Boston.

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			v
CO 3					v	v			v