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MODULE HANDBOOK

Module designation	Advanced Linear Systems Theory: Linear Systems over Rings
Code, if applicable	MMM 7207
Subtitle, if applicable	-
Course, if applicable	Linear Systems over Rings
Semester(s) in which the module is taught	1st or 2nd Semester
Person responsible for the module	Head of Algebra Research Group
Language	Bahasa Indonesia
Relation to curriculum	Elective course
Teaching methods	Lecture, project.
Workload (incl. contact hours, self-study hours)	Total workload is 232 hours per semester, which consists of 50 minutes lectures per week, 120 minutes structured activities per week, 120 minutes individual study per week, in total is 16 weeks per semester, including mid exam and final exam
Credit points in ECTS	7 ECTS
Required and recommended prerequisites for joining the module	Students should have prior knowledge such as matrix theory and linear algebra.

Module objectives/intended learning outcomes	Upon successful completion, students are able to • CO1: analyze the concept of linear system over commutative rings , namely the background to the emergence of linear systems over commutative rings and the definition of linear systems over commutative rings. • CO2: analyze the concept of reachability and observability of linear system over commutative rings and characterize reachability and observability of linear system over commutative rings. • CO3: analyze concept of pole assignability and coefficient assignability of the linear system over the commutative ring and solve the problem of pole assignability and coefficient assignability of linear system over commutative rings. • CO4: analyze the concept of parametric stabilization and solve the problem of parametric stabilization.
Content	The theory of systems over rings is motivated by considering integer systems, systems with time delays, parameter-dependent systems, and multidimensional systems including spatially-distributed systems. Further topics and syllabus depend on the research.
Examination forms	Oral présentation, essai.
Study and examination requirements	The final mark will be computed from a proportional weight of assignments, mid examination and final examination. The final mark will be weighted as follows: No Assessment methods (components, activities) Weight (percentage) 1 Final Examination 20 - 30% 2 Mid-Term Examination 20 - 30% 3 Class Activities: Quiz, Homework, etc. 50 - 55% Minimum final mark to pass : B
Media employed	Whiteboard, screen, laptop.
Reading list	Papers and references related to the research.

CO-PLO Mapping

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
CO-1	V		V		V	
CO-2		V		V		V
CO-3	V		V		V	
CO-4		V		V		V

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