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MODULE HANDBOOK

Module name	Introduction of Module Theory
Module level, if applicable	Bachelor
Code, if applicable	MMM-4207
Subtitle, if applicable	
Courses, if applicable	
Semester(s) in which the module is taught	Third year (Odd semester).
Person responsible for the module	Chair of Algebra Research Group
Lecturer(s)	Dr. Indah Emilia Wijayanti
Language	Bahasa Indonesia
Relation to curriculum	Elective Course
Type of teaching, contact hours	150 minutes lectures, 180 minutes supervised activities, and 180 minutes individual learning 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 of Module Theory course (MMM-4207) and have an examination card where the course is stated on.
Recommended prerequisites	Students have taken Introduction to Linear Algebra course (MMM-2202) and have participated in the final examination of the course.
Module objectives/intended learning outcomes	Upon successful completion, students able to: CO 1 : recognize the fundamental properties of modules and submodules CO 2 : recognize the concept of module homomorphism CO 3 : develop the concepts of generator and linear independence in modules CO 4 : recognize the concept of exact sequence and its use for further analysis
Content	1. Modules and Submodules, 2. Generators, 3. Direct sums, 4. Factor modules, 5. Module homomorphism 6. Module homomorphism theorem, 7. Finitely generated modules, 8. Modules over Principal Ideal Domain, 9. Annihilators, torsion modules and torsion free modules. 10. Free modules and projective modules, 11. Exact sequences.
Study and examination requirements and forms of examination	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 — 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	Boards, projectors.
Reading List	[1] William Adkins and Steven H. Weintraub, 1992, *Algebra An Approach via Module Theory,* Springer-Verlag, [2] Serge Lang, 1965, *Algebra*, Addison-Wesley Publishing Company, Massachusetts. [3] Thomas W. Hungerford, 1974, *Algebra*, Springer-Verlag, New York. [4] Saunders MacLane, Garrett Birkhoff, 1979, *AlgebraSecond Edition*, Macmillan Publishing Co., New York

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			v
CO 2			v			v			v
CO 3			v			v			v
CO 4			v			v			v