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MODULE HANDBOOK

Module name	Discrete Mathematics I
Module level, if applicable	Bachelor
Code, if applicable	MMM-1206
Subtitle, if applicable	
Courses, if applicable	
Semester(s) in which the module is taught	II (first year)
Person responsible for the module	Chair of the Lab. of Algebra
Lecturer(s)	Dr. Al. Sutjijana, M.Sc. Dr. rer. nat. Yeni Susanti, M.Si.
Language	Bahasa Indonesia
Relation to curriculum	Bachelor Degree, Compulsory, 2nd semester
Type of teaching, contact hours	100 minutes lectures and 120 minutes structured activities per week.
Workload	Total workload is 90.67 hours per semester, which consists of 100 minutes lectures per week for 14 weeks, 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	2
Requirements according to the examination regulations	Students have taken Discrete Mathematics I course (MMM-1206) and have an examination card where the course is stated on.
Recommended prerequisites	Students have taken Introduction to Mathematical Logic course (MMM-1208) and have participated in the final examination of the course.
Module objectives/intended learning outcomes	After completing this course the students should have : CO 1. ability to identify combinatorial problems and ability to solve using appropriate principles of combinatorics CO 2. ability to use and prove some binomial identities CO 3. ability to solve discrete problems using pigeonhole principle.
Content	Mathematical induction, permutation and combination, Binomial Theorem, inclusion and exclusion principle, pigeonhole principle.
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	Board, LCD Projector, Laptop/Computer
Reading List	1. C. L. Liu, 1977, *Elements of Discrete Mathematics*, McGraw-Hill Book Company. 2. Richard A. Brualdi, R., 2009, *Introduction to Combinatoric,* 5th edition, Pearson 3. L. Lovasz, J. Pelikan, K. Vesztergombi, 2003, *Discrete Mathematics Elementary and Beyond*, Springer-Verlag, New York. 4. R.C. Bose, B. Manvel, 1984, *Introduction to Combinatorial Theory*, John Wiley and Sons.

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						
CO 3		V			V				