MINISTRY OF HIGHER EDUCATION, SCIENCE, AND TECHNOLOGY
UNIVERSITAS NEGERI SURABAYA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
UNDERGRADUATE PROGRAM OF MATHEMATICS EDUCATION
Ketintang Campus, Jalan Ketintang, C8 C9 Building, Surabaya 60231
Phone: +62 895335466373, email: s1-pmat@unesa.ac.id
Website: https://pendidikan-matematika.fmipa.unesa.ac.id/

Module Name:	Teori Bilangan / Number Theory
Module Level:	Sarjana (S-1) / Undergraduate
Abbreviation, if applicable:	8420202220
Sub-heading, if applicable:	-
Course included in the module, if applicable:	-
Semester/term:	7th / Fourth year
Module Coordinator(s):	Dr. Abdul Haris Rosyidi, M.Pd.
Lecturer(s):	Liza Puspita Yanti, S.Pd., M.AE.
Language:	Indonesia
Classification within the curriculum:	~~Compulsory course/~~elective studies
Teaching format/class hours per week during the semester	Teaching format: lectures, tutorial assignment, and individual Study/ 2 x 170 minutes = 340 minutes = 5.7 hours lectures
Workload:	16 weeks per semester consisting of: • 1 hour lectures (1 x 50 minutes) per week, • 1 hours assignments (1 x 60 minutes) per week, • 1 hours individual study (1 x 60 minutes) per week, Total workload : 16 x 2 x 170 minutes = 5,440 minutes = 90,67 hours = 3.1 ECTS*
Credit Point:	2
Requirements:	N/A
Learning Goals:	**PLO 5:** Apply the basic principles of mathematics to solve simple mathematical problems **PLO 6:** Design, implement and evaluate mathematics learning using IT
Content:	This Number Theory course serves as an advanced continuation of Elementary Number Theory, designed to deepen students' understanding of advanced arithmetic structures, higher-order congruence theory, and their applications in modern computation. The curriculum begins with the analysis of multiplicative arithmetic functions, the Möbius Inversion Formula, properties of

	the greatest integer function, the order of an integer modulo m, primitive roots, index theory, and the resolution of polynomial congruences using Hensel's Lemma.
Study/exam achievements	• Students are considered competent and pass if the final score is at least 55 or C. • Final score is calculated as follows:

Week	Course Learning Outcomes (CLO)	Programme Learning Outcomes (PLO)	Evaluation (%)
1	CLO-1	PLO-5	5
2	CLO-1	PLO-5	5
3	CLO-1	PLO-5	8
4	CLO-2	PLO-5	5
5	CLO-2	PLO-5	5
6	CLO-2	PLO-5	8
7	CLO-3	PLO-5	5
8	CLO-3	PLO-5	7
9	CLO-4	PLO-5	5
10	CLO-4	PLO-5	5
11	CLO-4	PLO-5	5
12	CLO-4	PLO-5	8
13	CLO-5	PLO-5	5
14	CLO-5	PLO-5	5
15	CLO-5	PLO-5	7
16	CLO-6	PLO-6	12

• Final index is defined as follow:

Index	Converted Score	Score Range
A	4.00	$85 \leq A \leq 100$
A-	3.75	$80 \leq A- < 85$
B+	3.50	$75 \leq B+ < 80$
B	3.00	$70 \leq B < 75$
B-	2.75	$65 \leq B- < 70$
C+	2.50	$60 \leq C+ < 65$
C	2.00	$55 \leq C < 60$
D	1.00	$40 \leq D < 55$

	E | 0.00 | $0 \leq E < 40$
Forms of Media	Slides and LCD projectors, whiteboard
Literature	1. Effinger, G., & Mullen, G. L. (2021). *Elementary number theory*. CRC Press. 2. Silverman, J. H. (2012). *A friendly introduction to number theory* (4th ed.). Pearson. 3. Yan, S. Y. (2013). *Number theory for computing* (2nd ed.). Springer.
Note	Based on the regulation of the minister of education and culture of Indonesia number 3 of 2020 concerning national higher education standards, it is state 1 CU equals to 170 minutes per week. Therefore, in one semester (16 weeks, including midterm a final exam) 1 CU = 170 X 16 = 2.720 minutes or 45.3 hours. Therefore, workhours in 144 CU x 45.3 hours = 6.523,2 hours. Unesa decided that 1 ECTS with 144 CU, 6.523,2/229 ECTS = 28.48 hours, so that 1 CU = 1.59 ECTS