MINISTRY OF EDUCATION, CULTURE, RESEARCH, AND TECHNOLOGY
UNIVERSITAS NEGERI SURABAYA
FACULTY OF MATHEMATICS AND NATURAL SCIENCE
UNDERGRADUATE PROGRAM OF MATHEMATICS
Ketintang Campus, C8-C9 Buildings of FMIPA, Surabaya
Email: s1-mat@unesa.ac.id

Module Handbook

Module Name :	*Pengantar Kriptografi* Introduction of Cryptography
Module level :	Bachelor degree/Undergraduate Program
Course Code :	442010209
Abbreviation, if applicable:	-
Courses included in the module, if applicable:	Not Applicable
Semester/Term	5th/ third year
Module coordinator(s)	Dr. R. Sulaiman, M.Si
Lecturer(s):	Dr. R. Sulaiman, M.Si
Language:	Bahasa Indonesia (Indonesian Language)
Classification within the curriculum:	~~Compulsory~~/ Elective
Teaching format/class hours per week during the semester:	2 contact hours of lectures (*sks* or credit unit*)
Workload :	2 x 50 minutes lectures, 2 x 60 minutes structured activity, and 2 x 60 minutes individual activity per week, 14 weeks per semester 79.33 total hours per semester ~ 3.18 ECTS**
Credit Unit:	2 credit unit (3.18 ECTS)
Requirements:	Elementary Number Theory

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Learning goals/competencies:	**Knowledge (KNO-1):** Demonstrating mathematical knowledge and mathematical insight. CLO-1: Demonstrate mastery of the concept of cryptosystem, Non- Mathematical Ciphers and Mathematical ciphers. **Skill (SKI-1) :** Formulating and solving fundamental mathematical problems. CLO-2: Solve the problems by using ciphers.
Content	This course discusses Cryptosystem (encrypt, decrypt), Non-Mathematical Ciphers and Mathematical ciphers. Lecture activities are carried out in a student center with discussions, observations, project assignments, and presentations.

Attribute Soft skill:	Active communication; Discipline; Collaboration; Responsibility; and Argumentation in class.
Study/exam achievements:	The final grade (*NA*) is calculated based on the following ratio:

Assessment Components	Percentage of contribution
Participation	20%
Assignment	30%
Mid-semester test	20%
Final semester test	30%

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<table>
<tr><td></td><td>Grade conversion of 0-100 scale into 0-4 scale is set as below:
<table>
<tr><th>Letter</th><th>Number</th><th>Grade Interval</th></tr>
<tr><td>A</td><td>4,00</td><td>85 ≤ A ≤ 100</td></tr>
<tr><td>A-</td><td>3,75</td><td>80 ≤ A- < 85</td></tr>
<tr><td>B+</td><td>3,50</td><td>75 ≤ B+ < 80</td></tr>
<tr><td>B</td><td>3,00</td><td>70 ≤ B < 75</td></tr>
<tr><td>B-</td><td>2,75</td><td>65 ≤ B- < 70</td></tr>
<tr><td>C+</td><td>2,50</td><td>60 ≤ C+ < 65</td></tr>
<tr><td>C</td><td>2,00</td><td>55 ≤ C < 60</td></tr>
<tr><td>D</td><td>1,00</td><td>40 ≤ D < 55</td></tr>
<tr><td>E</td><td>0,00</td><td>0 ≤ E < 40</td></tr>
</table></td></tr>
<tr><td>Learning Methods :</td><td>Student-centered approach; project-based learning; lecturer and discussion; and presentations (structured activities)</td></tr>
<tr><td>Form of Media:</td><td>Power point slides; video; worksheets, and textbooks</td></tr>
<tr><td>Literature (primary references):</td><td>1. Mollin, Richard A. 2007. An Introduction to Cryptography, second edition. New York: Chapman & Hall.
2. Buchmann, Johannes A. 2002. An Introduction to Cryptography. New York: Springer Verlag..
3. Garrett, Paul. 2001. Making, Breaking Codes, An Introduction to Cryptography. Upper Sedle River: Prentice Hall.
4. Baigneres, Thomas. 2006. Classical Introduction to Cryptography, exercise book. New York: Springer.</td></tr>
<tr><td>Notes:</td><td>*1 credit unit or sks in learning process = three periods consist of: (a) scheduled instruction in a classroom or laboratory (50 minutes); (b) structured activity (60 minutes); and (c) individual activity (60 minutes) according to the Regulation of Indonesia Ministry of Research, Technology, and Higher Education No. 44 Year 2015 jo. the Regulation of Indonesia Ministry of Research,
Technology, and Higher Education No. 50 Year 2018.</td></tr>
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	**1 credit unit or *sks* = 1.59 ECTS according to Rector Decree Of Universitas Negeri Surabaya No. 598/UN38/HK/AK/2019