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 :	*Analisis Real II* Real Analysis II
Module level :	Bachelor degree/Undergraduate Program
Course Code :	4420103019
Abbreviation, if applicable:	-
Courses included in the module, if applicable:	Not Applicable
Semester/Term	5th/ third year
Module coordinator(s)	Prof. Dr. Manuharawati, M.Si
Lecturer(s):	Prof. Dr. Manuharawati, M.Si Dwi Nur Yunianti, S.Si., M.Sc. Muhammad Jakfar, S.Si., M.Si.
Language:	Bahasa Indonesia (Indonesian Language)
Classification within the curriculum:	Compulsory/ ~~Elective~~
Teaching format/class hours per week during the semester:	3 contact hours of lectures (*sks* or credit unit*)
Workload :	3 x 50 minutes lectures, 3 x 60 minutes structured activity, and 3 x 60 minutes individual activity per week, 14 weeks per semester 119 total hours per semester ~ 4.77 ECTS**
Credit Unit:	3 credit unit (4.77 ECTS)
Requirements:	Real Analysis

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Learning goals/competencies:	**Knowledge (KNO-1)** CLO-1: Demonstrate the ability to think structured, reasoned, proof based on deductive-axiomatic analysis, and proof of mathematical induction; understand the concept of regular and uniform continuity in the real function, the compactness of a set, the derivative of the real function at a point, the real metric space and its topology, and the Riemann integral. **Skill (SKI-2)** CLO-2: use basic mathematical principles (regarding regular and uniform continuity in the real function, the compactness of a set, the derivative of the real function at a point, the real metric space and its topology, and the Riemann integral) in solving problems.
Content	This course discusses about continuity of a real function (the concept of ordinary continuity of a real function at a point, uniform continuity of a real function on a set), compactness of a set, derivative of a real function at a point, real metric space and its topology, Riemann's integral and its application in solving related problems. 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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Grade conversion of 0-100 scale into 0-4 scale is set as below:

Letter	Number	Grade Interval
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	$0 \leq E < 40$

Learning Methods :	Student-centered approach; project-based learning; lecturer and discussion; and presentations (structured activities)
Form of Media:	Power point slides; video; worksheets, and textbooks
Literature (primary references):	1. Bartle, R.G. Sherbert Donald R. 2011. Introduction to Real Analysis (Fourth Edition), New York, John Wiley and Sons. 2. Manuharawati. 2014. Analisis Real. Zifatama: Surabaya. 3. Heil, C. 2019. Introduction to Real Analysis (Graduate Texts in Mathematics, 280), Springer. 4. Stoll, M. 2021. Introduction to Real Analysis (Text Book in Mathematics), CRC Press.
Notes:	*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.

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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 |