UNIVERSITAS NEGERI PADANG
FACULTY OF MATHEMATICS AND NATURAL SCIENCES MATHEMATICS DEPARTMENT, MATHEMATICS STUDY PROGRAM
Main Campus Universitas Negeri Padang.
Jalan Prof. Dr. Hamka Air Tawar Padang, Sumatera Barat
Telepon: +62 751 7053902, Fax: +62 751 7055628
Email: humas@unp.ac.id

Module name:	Real Analysis 1
Module level,if applicable:	Bachelor
Code:	MAT1.62.5002
Subheading, if applicable:	-
Classes,if applicable:	Real Analysis 1
Semester:	5th (Fifth)
Module coordinator:	Head of Analysis Expertise Group
Lecturer(s):	Dr. Arnellis M.Si., Dra. Helma, M.Si., and Muhammad Subhan, M.Si.
Language:	Indonesian Language and English
Classification within the curriculum:	Compulsory course in the 3rd years bachelor degree
Teaching format / class hours per-week during the semester:	a. Lectures : Cooperative learning with methods such as expository, drill, and discussion. (3 x 50 minutes = 150 minutes) b. Structured assignment : Weekly individual written assignment. (3 x 60 minutes = 180 minutes) c. Individual study (3 x 60 minutes = 180 minutes)
Workload:	The total workload is 136 hours per semester, which consists of 150 minute lectures, 180 minute structured activities, and 180 minutes of self-study. In total, there are 16 weeks per semester, including midterm and final exams.
Credit points:	3 sks = 4.53 ECTS
Prerequisites course(s):	Calculus, Introduction to Foundation of Mathematics
Course outcomes:	After taking this course the students have ability to: ● CO1. Prove the validity of statements that are given in terms of the natural numbers. ● CO2. Prove the essential properties of the real number system. ● CO3. Analyze convergence of the real number sequence.

	● CO4. Analyze the limit of the real number function.
Content:	1. Real Numbers: Algebraic Properties, Order Properties, Absolute Value, Completeness Properties. 2. Sequence of Real Numbers: Limit of Sequence, Limit Theorems, Monotone Sequences, Sub-sequence and Bolzano-Weierstrass Theorem, Cauchy Criterion, Divergent Sequence. 3. Limits of Functions: Limits of Functions, Limits Theorems, Extensions of Limit Concepts.
Study/ exam achievements:	The final grade will be weighted as follows: The assessment consists of a final exam (35%), a mid-term exam (35%), individual reports (20 %), and class activities: participation, attitude, and presence (10%). The final and midterm exams are essay tests with a closed book (120 minutes). Individual reports are completed in class through exercises.
Forms of media:	White Board, laptop, Projector, e-learning via elearning2.unp.ac.id, and zoom meeting.
Literature:	Main: 1. Bartle, Robert G & Sherbert, Donald R. 2011. *Introduction to Real Analysis, Second Edition*. John Wiley & Sons, Inc Singapore. Supporters: 1. Rudin, W (1976). *Principles of Mathematical Analysis*. Mc- Graw Hills.

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12
CO1				✓								
CO2				✓								
CO3									✓			
CO4									✓			