

MODULE HANDBOOK

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| Module Name: | Real Analysis II |
| Module Level: | Sarjana (S-1) / Bachelor |
| Abbreviation, if applicable: | 8420203012 |
| Sub-heading, if applicable: | - |
| Course included in the module, if applicable: | - |
| Semester/term: | 8/ Fourth year |
| Module Coordinator(s): | Prof. Dr. Manuharawati, M.Si |
| Lecturer(s): | Prof. Dr. Manuharawati, M.Si Dwi Nur Yuniati, S.Si., M.Sc. Muhammad Jakfar, S.Si., M.Si. |
| 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. 3 x 170 minutes = 510 minutes = 8.5 hours lectures |
| Workload: | 15 weeks per semester consisting of: <ul style="list-style-type: none"> ➤ 2.5 hours lectures (3 x 50 minutes) per week, ➤ 3 hours tutorial assignments (3 x 60 minutes) per week, ➤ 3 hours individual study (3 x 60 minutes) per week, Total workload : 14x3x170 minutes = 7,140 minutes = 4.76 ECTS* |
| Credit Point: | 3 |
| Requirements: | Real Analysis I (8420203012) |
| Learning Goals: | <p>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.</p> <p>Skill (SKI-2) CLO-2: use basic mathematical principles (regarding regular and uniform continuity in the real function, the compactness of a set,</p> |

| | the derivative of the real function at a point, the real metric space and its topology, and the Riemann integral) in solving problems. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------|--|----------------------|-----------------|-------------|---|------|----------------------|----|------|-------------------|----|------|-------------------|---|------|------------------|----|------|-------------------|----|------|-------------------|---|------|------------------|---|------|------------------|---|------|-----------------|
| Content: | 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Study/exam achievements | <ul style="list-style-type: none"> ➤ Students are considered competent and pass if the final score calculated from the score of midterm exam, assignments, participation, and final exam is at least 55 or C. ➤ Final score is calculated as follows: ➤ 20% midterm exam + 30% assignments + 20% participation + 30% final exam ➤ Final index is defined as follow: <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Index</th> <th>Converted Score</th> <th>Score Range</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>4.00</td> <td>$85 \leq A \leq 100$</td> </tr> <tr> <td>A-</td> <td>3.75</td> <td>$80 \leq A- < 85$</td> </tr> <tr> <td>B+</td> <td>3.50</td> <td>$75 \leq B+ < 80$</td> </tr> <tr> <td>B</td> <td>3.00</td> <td>$70 \leq B < 75$</td> </tr> <tr> <td>B-</td> <td>2.75</td> <td>$65 \leq B- < 70$</td> </tr> <tr> <td>C+</td> <td>2.50</td> <td>$60 \leq C+ < 65$</td> </tr> <tr> <td>C</td> <td>2.00</td> <td>$55 \leq C < 60$</td> </tr> <tr> <td>D</td> <td>1.00</td> <td>$40 \leq D < 55$</td> </tr> <tr> <td>E</td> <td>0.00</td> <td>$0 \leq E < 40$</td> </tr> </tbody> </table> | 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 | $0 \leq E < 40$ |
| 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 | <p>[1] Bartle, R.G. Sherbert Donald R. 2011. Introduction to Real Analysis (Fourth Edition), New York, John Wiley and Sons.</p> <p>[2] Manuharawati. 2014. Analisis Real. Zifatama: Surabaya.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Note | <p>*Total hours per 1 credit in 1 semester={ (1 credit x 170 minutes x 14 weeks)/60 minutes}=39,67 hours.</p> <p>Each ECTS equals with 25 hours therefore 1 credit in 1 semester equals 1,59 ECTS.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |