Module Description of Special Topics in Analysis

Module Name	:	Special Topics in Analysis
Module Level	:	Bachelor
Code, if applicable	:	23H01131703
Subtitle, if applicable	:	-
Courses, if applicable	:	Special Topics in Analysis
Semester(s) in which the module is taught	:	5 (Fifth Semester)
Module coordinator(s)	:	Naimah Aris, S.Si.,M.Math.
Lecturer(s)	:	Prof. Dr. Budi Nurwahyu, MS., Naimah Aris, S.Si.,M.Math., Dr. Muh. Nur, S.Si., M.Si.
Language	:	Bahasa (Indonesian language)
Relation to curriculum	:	Elective course in third year for Bachelor degree in Mathematics and Set Theory
Type of teaching/teaching method	:	Lecturing, Small Group Discussion, Cooperative Learning, Self-Directed Learning
Contact hours	:	150 minutes lectures per week, 180 minutes structured activities per week, and 180 minutes independent study per week
Workload	:	Total workload is 135 hours per semester which consists of 40 hours per semester for Learning and Teaching, 47.5 hours per semester for Self-Study, and 47.5 hours per semester for Structured Works
Credit points	:	3 (4.8 ECTS)
Requirements according to the examination regulations	:	Students are required to attend at least 80% of the total meetings which is recorded via the attendance menu at https://sikola-v2.unhas.ac.id/, complete all mandatory assignments, and obtain permission from the lecturer to participate in the written examination.
Recommended prerequisites	:	Students have completed and taken the exams for Introduction to Real Analysis and Real Analysis
Module objectives/intended learning outcomes	:	After the completion of this module, the student will be able to: CLO 1. Students are able to understand the fundamentals of science and their applications, as well as the fundamentals of mathematics and their applications; CLO 2. Students are able to master mathematical methods and communicate mathematical concepts in modeling real-world problems; CLO 3. Students are able to communicate and collaborate in reviewing discussed topics, while demonstrating discipline and self-development based on maritime character principles.

<table>
<tr><td></td><td></td><td>The following is the mapping of the ILO and the CLO of this course:
<table>
<tr><th></th><th>ILO 2</th><th>ILO 4</th><th>ILO 7</th></tr>
<tr><td>CLO 1</td><td>X</td><td></td><td></td></tr>
<tr><td>CLO 2</td><td></td><td>X</td><td></td></tr>
<tr><td>CLO 3</td><td></td><td></td><td>X</td></tr>
</table></td></tr>
<tr><td>Content</td><td>:</td><td>Special Topics in Analysis is an elective course in the field of mathematical analysis that specifically discusses recent developments, particularly in Fourier analysis, functional analysis, operator theory, and dynamical systems. The course emphasizes reviewing and analyzing the latest research papers related to these areas, with the aim of providing insights, fostering analytical and systematic thinking, and exploring new models or theoretical developments in analysis. Furthermore, it highlights the applications of analysis in science and engineering, especially in applied mathematics. The learning activities include:studying and reading the most recent journal papers, summarizing selected papers from various journals, preparing a proposal, and presenting the work through class presentations.</td></tr>
<tr><td>Study and examination requirements</td><td>:</td><td>Study and examination requirements:
Students must attend 15 minutes before the class starts.
Students must switch off all electronic devices.
Students must inform the lecturer if they will not attend the class due to sickness, etc.
Students must submit all class assignments before the deadline.
Students must attend the exam to get final grade.</td></tr>
<tr><td>Exams and assessment formats</td><td>:</td><td>Participants are marked based on their performance in theory: Quizzes (5%), and Presentation (95%).

Presentations evaluate oral communication, organization of ideas, and confidence in delivering academic material. Quizzes are used to test continuous understanding of weekly content. Altogether, these components account for 100% of the final grade.

Students are marked based on their percentage of points obtained and based on the following grade scale:
<table>
<tr><th>Percentage of Achievement</th><th>Grade</th><th>Conversion Value</th></tr>
<tr><td>85 – 100</td><td>A</td><td>4.00</td></tr>
<tr><td>80 - <85</td><td>A-</td><td>3.75</td></tr>
<tr><td>75 - < 80</td><td>B+</td><td>3.5</td></tr>
<tr><td>70 - < 75</td><td>B</td><td>3.0</td></tr>
<tr><td>65 - < 70</td><td>B-</td><td>2.75</td></tr>
</table></td></tr>
</table>

			60 - < 65	C+	2.5	
			50 - < 60	C	2.00	
			40 - < 50	D	1.00	
			< 40	E	0.00	
Reading list	:	1. The most recent Paper in journal with topic in analysis of mathematics 2. Nur, M., Al Azhary Masta, M. B., & Firman, A. I. (2024). On the 2-normed Orlicz space. Computer Science, 19(4), 1377-1387.				
Last revision date	:	July 28th, 2025				