Module Description of Special Topics in Applied Mathematics

Module Name	:	Special Topics in Applied Mathematics
Module Level	:	Bachelor
Code, if applicable	:	23H01131903
Subtitle, if applicable	:	-
Courses, if applicable	:	Special Topics in Applied Mathematics
Semester(s) in which the module is taught	:	5 (Fifth Semester)
Module coordinator(s)	:	Prof. Dr. Kasbawati, S.Si., M.Si.
Lecturer(s)	:	Prof. Dr. Syamsuddin Toaha, M.Sc., Prof. Dr. Kasbawati, 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 Advanced Mathematics, Differential Equations, Real Analysis, and Mathematical Modeling
Module objectives/intended learning outcomes	:	After the completion of this module, the student will be able to: CLO 1. Able to master the fundamentals of science and their applications, as well as the fundamentals of mathematics and their applications; CLO 2. Able to master mathematical methods and communicate mathematical concepts effectively in modeling real-world problems; CLO 3. 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 5</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>
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<tr><td>Content</td><td>:</td><td>This course is an elective in the field of applied mathematics that specifically discusses recent topics in the application of mathematics across various fields. The discussion of these topics is carried out by reviewing and analyzing recent papers related to applied mathematics in real-world contexts.</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: Presentation (38%), Quizzes (15%), and Report (47%).

Reports measure analytical and writing skills. 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>
<tr><td>60 - < 65</td><td>C+</td><td>2.5</td></tr>
<tr><td>50 - < 60</td><td>C</td><td>2.00</td></tr>
<tr><td>40 - < 50</td><td>D</td><td>1.00</td></tr>
<tr><td>< 40</td><td>E</td><td>0.00</td></tr>
</table></td></tr>
<tr><td>Reading list</td><td>:</td><td>1. The latest published papers originating from reputable international journals (papers published by reputable /indexed journals) as well as various reading sources relating to the topic of the paper's discussion.)</td></tr>
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		2. Harvesting Strategies in the Migratory Prey-Predator Model with a Crowley-Martin Type Response Function and Constant Efforts 3. https://e-ndst.kiev.ua/v23n1.htm
Last revision date	:	July 28th, 2025