UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF MATHEMATICS EDUCATION
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Bachelor of Education in Mathematics **MODULE HANDBOOK**

Module name:	Study of Secondary School Mathematics
Module level, if applicable:	Undergraduate
Code:	PMA6308
Sub-heading,if applicable:	-
Classes,if applicable:	-
Semester:	5th
Module coordinator:	Ariyadi Wijaya, Dr.
Lecturer(s):	Ariyadi Wijaya, Dr. Ilham Rizkianto, M.Sc
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory Course
Teaching format / class hours per week during the semester:	150 minutes lectures and 180 minutes structured activities per week.
Workload:	Total workload is 136 hours per semester which consists of 150 minutes lectures, 180 minutes structured activities, and 180 minutes self study per week for 16 weeks.
Credit points:	3
Prerequisites course(s):	-
Course Outcomes	After taking this course the students have ability to CO1. Demonstrate an attitude of responsibility and independence in carrying out individual tasks and group assignments

	CO2. Communicate ideas in solving mathematical problems in writing or verbally CO3. Demonstrate the ability to cooperate in carrying out group assignments CO4. Explain advanced mathematical concepts using school mathematics approach and its relevance CO5. Solve problems using advanced mathematical concepts and school mathematics CO6. Develop learning trajectory and simple learning scenarios for selected math topics
Content:	This course discusses mathematical topics that studied in secondary schools. The topics are: intuition and proof, the basics of number theory, equation theory, measurement (area and volume), triangles, trigonometry, real number systems, functions and modeling, geometric transformation, data analysis and probability, mathematical understanding and mathematical connections . In general, the focus of this course is to relate mathematics in higher education and mathematics in high school, such that students have adequate mathematical knowledge and skills. Furthermore, by discussing various mathematical topics in this course students are expected to be able to better understand the learning trajectory of various topics
Study/examachievements:	Attitude assessment is carried out at each meeting by observation and / or self-assessment techniques using the assumption that basically every student has a good attitude. The student is given a value of very good or not good attitudeif they show it significantlycompared to other students in general. The result of attitude assessment is not a component of the final grades, but as one of therequirements to pass the course. Students will pass from this course if at least have a good attitude.

<table>
<tr>
<td></td>
<td>The final mark will be weight as follow:
<table>
<tr><th>No</th><th>CO</th><th>Assessment Object</th><th>Assessment Technique</th><th>Weight</th></tr>
<tr><td>1</td><td>CO2
CO3</td><td>Presentation</td><td>Observation</td><td>10%</td></tr>
<tr><td>2</td><td>CO4
CO5</td><td>a. Individual assignment
b. Group assignment
c. Quiz
d. Mid exam
e. Post exam</td><td>Written test</td><td>10%
10%
20%
20%
25%</td></tr>
<tr><td>3</td><td>CO6</td><td>Learning trajectory or simple learning scenario</td><td>Observation</td><td>5%</td></tr>
<tr><td colspan="4">Total</td><td>100%</td></tr>
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<tr><td>Formsof media:</td><td>Board, LCD Projector, Laptop/Computer</td></tr>
<tr><td>Literature:</td><td>1. Sultan, A., & Artzt, A.F. 2011. The Mathematics that Every Secondary School Math Teacher Needs to Know. New York: Routledge.
2. Goos, M., Stilman, G., & Vale, C. 2007. Teaching Secondary School Mathematics: Research and Practice for the 21st Century. Crows Nest: Allen & Unwin.
3. Johnston-Wilder, S., Johnston-Wilder, P., Pimm, D., & Lee, C. 2011. Learning to Teach Mathematics in the Secondary School: A companion to school experience (3rd Edition). New York: Routledge.</td></tr>
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PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12
CO1		✓										
CO2			✓									
CO3			✓									
CO4					✓							
CO5							✓					
CO6								✓				