

		<b>Universitas Negeri Surabaya</b> <b>Faculty of Mathematics and Natural Sciences</b> <b>Undergraduate Mathematics Study Program</b>					<b>Document Code</b>																																										
<b>SEMESTER LEARNING PLAN</b>																																																	
<b>Courses</b>		<b>CODE</b>	<b>Course Family</b>	<b>Credit Weight</b>			<b>SEMESTER</b>	<b>Compilation Date</b>																																									
Geometry		4420103041		T=3	P=0	ECTS=4.77	3	July 17, 2024																																									
<b>AUTHORIZATION</b>		<b>SP Developer</b>		<b>Course Cluster Coordinator</b>			<b>Study Program Coordinator</b>																																										
		.....		.....			Prof. Dr. Raden Sulaiman, M.Si.																																										
<b>Learning model</b>	<b>Case Studies</b>																																																
<b>Program Learning Outcomes (PLO)</b>	<b>PLO study program that is charged to the course</b>																																																
	<b>Program Objectives (PO)</b>																																																
	<b>PLO-PO Matrix</b>																																																
		<div style="border: 1px solid black; padding: 5px; display: inline-block;">P.O</div>																																															
	<b>PO Matrix at the end of each learning stage (Sub-PO)</b>																																																
	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td rowspan="2" style="padding: 5px;">P.O</td> <td colspan="16" style="text-align: center; padding: 5px;">Week</td> </tr> <tr> <td style="padding: 5px;">1</td> <td style="padding: 5px;">2</td> <td style="padding: 5px;">3</td> <td style="padding: 5px;">4</td> <td style="padding: 5px;">5</td> <td style="padding: 5px;">6</td> <td style="padding: 5px;">7</td> <td style="padding: 5px;">8</td> <td style="padding: 5px;">9</td> <td style="padding: 5px;">10</td> <td style="padding: 5px;">11</td> <td style="padding: 5px;">12</td> <td style="padding: 5px;">13</td> <td style="padding: 5px;">14</td> <td style="padding: 5px;">15</td> <td style="padding: 5px;">16</td> </tr> </table>																P.O	Week																1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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<b>Short Course Description</b>	This lecture discusses plane geometry with a focus on Euclidean geometry and transformation geometry using axiomatic and analytical approaches. Apart from discussing the proof of various important theorems in Euclidean geometry and the position of points, lines and planes (via a vector approach), we also discuss the concept of isometry, isometry groups, isometry classification and its properties, and its application in wallpaper, tessellation and solving related problems.																																																
<b>References</b>	<b>Main :</b>																																																
	<ol style="list-style-type: none"> <li>1. Walter J. Meyer. 2006. Geometry and Its Applications . San Diego: Academic Press, Elsevier.</li> <li>2. Patrick J. Ryan. 2008. Euclidean and Non-Euclidean Geometry: An Analytic Approach . New York: Cambridge University Press.</li> <li>3. Michele Audin. 2007. Geometry . Berlin: Springer-Verlag</li> <li>4. Marvin J. Greenberg. 1993. Euclidean and non-Euclidean Geometry: Development and History . New York: W H Freeman.</li> </ol>																																																
	<b>Supporters:</b>																																																
<b>Supporting lecturer</b>	Prof. Dr. Dwi Juniati, M.Si. Muhammad Jakfar, S.Si., M.Si.																																																
<b>Week-</b>	<b>Final abilities of each learning stage (Sub-PO)</b>	<b>Evaluation</b>		<b>Help Learning, Learning methods, Student Assignments, [ Estimated time]</b>		<b>Learning materials [ References ]</b>	<b>Assessment Weight (%)</b>																																										
		<b>Indicator</b>	<b>Criteria &amp; Form</b>	<b>Offline ( offline )</b>	<b>Online ( online )</b>																																												
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)																																										

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**Evaluation Percentage Recap: Case Study**

No	Evaluation	Percentage
		0%

**Notes**

- 1. Learning Outcomes of Study Program Graduates (PLO - Study Program)** are the abilities possessed by each Study Program graduate which are the internalization of attitudes, mastery of knowledge and skills according to the level of their study program obtained through the learning process.
- 2. The PLO imposed on courses** are several learning outcomes of study program graduates (CPL-Study Program) which are used for the formation/development of a course consisting of aspects of attitude, general skills, special skills and knowledge.
- 3. Program Objectives (PO)** are abilities that are specifically described from the PLO assigned to a course, and are specific to the study material or learning materials for that course.
- 4. Subject Sub-PO (Sub-PO)** is a capability that is specifically described from the PO that can be measured or observed and is the final ability that is planned at each learning stage, and is specific to the learning material of the course.
- 5. Indicators for assessing** abilities in the process and student learning outcomes are specific and measurable statements that identify the abilities or performance of student learning outcomes accompanied by evidence.
- 6. Assessment Criteria** are benchmarks used as a measure or measure of learning achievement in assessments based on predetermined indicators. Assessment criteria are guidelines for assessors so that assessments are consistent and unbiased. Criteria can be quantitative or qualitative.
- 7. Forms of assessment:** test and non-test.
- 8. Forms of learning:** Lecture, Response, Tutorial, Seminar or equivalent, Practicum, Studio Practice, Workshop Practice, Field Practice, Research, Community Service and/or other equivalent forms of learning.
- 9. Learning Methods:** Small Group Discussion, Role-Play & Simulation, Discovery Learning, Self-Directed Learning, Cooperative Learning, Collaborative Learning, Contextual Learning, Project Based Learning, and other equivalent methods.
- 10. Learning materials** are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
- 11. The assessment weight** is the percentage of assessment of each sub-PO achievement whose size is proportional to the level of difficulty of achieving that sub-PO, and the total is 100%.
- 12. TM=Face to face, PT=Structured assignments, BM=Independent study.**

