



**Universitas Negeri Surabaya**  
**Faculty of Social and Legal Sciences**  
**Geography Education Undergraduate Study Program**

Document Code

**SEMESTER LEARNING PLAN**

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Oceanography	8720202110		T=2	P=0	ECTS=3.18	4	July 17, 2024
AUTHORIZATION	SP Developer		Course Cluster Coordinator			Study Program Coordinator	
	Drs. Bambang Hariyanto, M.Pd. / Dr. Nugroho Hari Purnomo, M.Si.		Drs. Bambang Hariyanto, M.Pd.			Dr. Nugroho Hari Purnomo, S.P., M.Si.	

<b>Learning model</b>	Case Studies
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<b>Program Learning Outcomes (PLO)</b>	<b>PLO study program that is charged to the course</b>																																																																																																					
	<b>PLO-3</b>	Develop logical, critical, systematic and creative thinking in carrying out specific work in their field of expertise and in accordance with work competency standards in the field concerned																																																																																																				
	<b>PLO-7</b>	Able to make appropriate decisions to resolve regional problems in a spatial context based on an integrated geographic approach																																																																																																				
	<b>PLO-8</b>	Able to obtain, process, analyze, present geosphere data and information using geospatial technology in integrated geographic studies with in-depth urban studies that support regional sustainability																																																																																																				
	<b>Program Objectives (PO)</b>																																																																																																					
	<b>PO - 1</b>	Synthesize the concepts of geography and oceanography																																																																																																				
	<b>PO - 2</b>	Synthesizing coastal areas																																																																																																				
	<b>PO - 3</b>	Synthesize coastal environments and marine environments																																																																																																				
	<b>PO - 4</b>	Synthesizing marine dynamics																																																																																																				
	<b>PLO-PO Matrix</b>																																																																																																					
		<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>P.O</th> <th>PLO-3</th> <th>PLO-7</th> <th>PLO-8</th> </tr> </thead> <tbody> <tr> <td>PO-1</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> <td></td> </tr> <tr> <td>PO-2</td> <td></td> <td></td> <td style="text-align: center;">✓</td> </tr> <tr> <td>PO-3</td> <td style="text-align: center;">✓</td> <td></td> <td style="text-align: center;">✓</td> </tr> <tr> <td>PO-4</td> <td style="text-align: center;">✓</td> <td></td> <td style="text-align: center;">✓</td> </tr> </tbody> </table>	P.O	PLO-3	PLO-7	PLO-8	PO-1	✓	✓		PO-2			✓	PO-3	✓		✓	PO-4	✓		✓																																																																																
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<b>PO Matrix at the end of each learning stage (Sub-PO)</b>																																																																																																						
	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2">P.O</th> <th colspan="16">Week</th> </tr> <tr> <th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th><th>13</th><th>14</th><th>15</th><th>16</th> </tr> </thead> <tbody> <tr> <td>PO-1</td> <td style="text-align: center;">✓</td><td style="text-align: center;">✓</td><td style="text-align: center;">✓</td><td></td><td></td><td></td><td></td><td style="text-align: center;">✓</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>PO-2</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">✓</td><td style="text-align: center;">✓</td><td></td> </tr> <tr> <td>PO-3</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">✓</td><td style="text-align: center;">✓</td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>PO-4</td> <td></td><td></td><td></td><td style="text-align: center;">✓</td><td style="text-align: center;">✓</td><td style="text-align: center;">✓</td><td style="text-align: center;">✓</td><td></td><td></td><td></td><td style="text-align: center;">✓</td><td style="text-align: center;">✓</td><td style="text-align: center;">✓</td><td></td><td></td><td style="text-align: center;">✓</td> </tr> </tbody> </table>	P.O	Week																1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	PO-1	✓	✓	✓					✓									PO-2														✓	✓		PO-3									✓	✓							PO-4				✓	✓	✓	✓				✓	✓	✓			✓
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<b>Short Course Description</b>	Able to make conclusions about the physical and chemical conditions of sea water through identifying the characteristics of sea waters correctly; able to map ocean current conditions throughout the world through precise performance; able to assess the potential of marine waters in terms of biology, marine resources and exclusive economic zones with the help of precise maps and marine potential data, able to explain the physical conditions of coastal areas through identifying coastal waters phenomena with precise cross-sectional images. Learning is carried out for one semester using a discovery inquiry approach with demonstration methods, practicums and individual and group LKM assignments. Assessment is carried out through written tests and portfolios.
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<b>References</b>	<b>Main :</b>
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1. Ross, David A, 1977, Introduction to Oceanography, New York : Prentice Hall
2. Sverdrup, Keith A, Armbrust E. Virginia, 2009, An Introduction to The World Oceans, Mc Graw Hill International Ed, (Tenth Edition), New York et al
3. Anugrah Nontji. 1987. Laut Nusantara. Jakarta : Penerbit Djambatan.
4. Sahala Hutabarat dan Stewart M.Evans. 1986. Pengantar Oseanografi. Jakarta: Penerbit Universitas Indonesia (UI-Press).
5. Thurman, Harold.V. 1983. Essentials Of Oceanography. Ohio: Charies E. Merrill Publishing Company.
6. Defri Yona dkk.; Fundamental Oseanografi; UB Press
7. Wibisono;Pengantar Ilmu Kelautan; Grasindo

**Supporters:**

1. Nybakken. 1992. Biologi laut. PT. Gramedia, Jakarta
2. Rohmin Dahuri dkk;Pengelolaan Sumberdaya Wilayah Pesisir dan Lautan Secara Terpadu; Pradnya Paramita
3. Direktorat Bina Sumber Hayati. 1983. Hasil Evaluasi Potensi Sumber Daya Hayati Perikanan Laut di Perairan Indonesia Dan Perairan ZEE Indonesia.

**Supporting lecturer** Drs. Bambang Hariyanto, M.Pd.  
Dr. Nugroho Hari Purnomo, S.P., M.Si.

Week-	Final abilities of each learning stage (Sub-PO)	Evaluation		Help Learning, Learning methods, Student Assignments, [ Estimated time]		Learning materials [ References ]	Assessment Weight (%)
		Indicator	Criteria & Form	Offline ( offline )	Online ( online )		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Analyze the concept of Oceanography based on the development of geographic science	accuracy in explaining the ocean system of Indonesia and the world	<b>Criteria:</b> Completed >69  <b>Forms of Assessment :</b> Participatory Activities, Project Results Assessment / Product Assessment, Tests	lecture, discussion, question and answer 2 X 50		<b>Material:</b> Indonesian Seas <b>Reference:</b> Anugrah Nontji. 1987. Archipelago Sea. Jakarta: Djangkat Publishers.  <b>Material:</b> world ocean <b>Bibliography:</b> Sverdrup, Keith A, Armbrust E. Virginia, 2009, An Introduction to The World Oceans, Mc Graw Hill International Ed, (Tenth Edition), New York et al	10%
2	Understand oceanographic concepts based on developments in oceanographic science and research	Accuracy in explaining oceanographic concepts based on developments in oceanographic science and research	<b>Criteria:</b> Completed >69  <b>Form of Assessment :</b> Participatory Activities	questions and answers, discussion 2 X 50		<b>Material:</b> oceanographic concepts <b>Reference:</b> Ross, David A, 1977, Introduction to Oceanography, New York : Prentice Hall  <b>Material:</b> development and research of oceanography <b>References:</b> Thurman, Harold.V. 1983. Essentials Of Oceanography. Ohio: Charies E. Merrill Publishing Company.	10%

3	Understand oceanographic concepts based on developments in oceanographic science and research	Accuracy in explaining oceanographic concepts based on developments in oceanographic science and research	<b>Criteria:</b> Completed >69  <b>Form of Assessment :</b> Participatory Activities	questions and answers, discussion 2 X 50		<b>Material:</b> oceanographic concepts <b>Reference:</b> Ross, David A, 1977, <i>Introduction to Oceanography</i> , New York : Prentice Hall  <b>Material:</b> development and research of oceanography <b>References:</b> Thurman, Harold.V. 1983. <i>Essentials Of Oceanography</i> . Ohio: Charies E. Merrill Publishing Company.	5%
4	Examining the configuration of ocean waters and its relationship to climate	Accurately understanding the configuration of ocean waters and its relationship to climate	<b>Criteria:</b> Completed >69  <b>Form of Assessment :</b> Participatory Activities	question and answer, discussion, presentation 2 X 50		<b>Material:</b> seabed <b>Bibliography:</b> Sahala Hutabarat and Stewart M.Evans. 1986. <i>Introduction to Oceanography</i> . Jakarta: University of Indonesia Publishers (UI-Press).  <b>Material:</b> sea <b>Bibliography:</b> Ross, David A, 1977, <i>Introduction to Oceanography</i> , New York : Prentice Hall  <b>Material:</b> ocean atmosphere <b>Bibliography:</b> Thurman, Harold.V. 1983. <i>Essentials Of Oceanography</i> . Ohio: Charies E. Merrill Publishing Company.	5%

5	Examining the configuration of ocean waters and its relationship to climate	Accurately understanding the configuration of ocean waters and its relationship to climate	<b>Criteria:</b> Completed >69  <b>Forms of Assessment :</b> Participatory Activities, Practical Assessment, Practical / Performance	question and answer, discussion, presentation 2 X 50		<b>Material:</b> seabed <b>Bibliography:</b> Sahala Hutabarat and Stewart M.Evans. 1986. <i>Introduction to Oceanography.</i> Jakarta: University of Indonesia Publishers (UI-Press). <b>Material:</b> sea <b>Bibliography:</b> Ross, David A, 1977, <i>Introduction to Oceanography,</i> New York : Prentice Hall <b>Material:</b> ocean atmosphere <b>Bibliography:</b> Thurman, Harold.V. 1983. <i>Essentials Of Oceanography.</i> Ohio: Charies E. Merrill Publishing Company.	5%
6	Analyzing Ocean Crustal Structure and changes in geological basins	- Explain the theory of ocean formation - Analyze the structure of the ocean crust Analyze changes in ocean basins	<b>Criteria:</b> answers according to the answer key  <b>Form of Assessment :</b> Participatory Activities, Portfolio Assessment	Discussion and questions and answers, 2 X 50 assignments		<b>Material:</b> sea <b>References:</b> Defri Yona et al.; <i>Oceanography Fundamentals;</i> UB Press <b>Material:</b> sea <b>Bibliography:</b> Thurman, Harold.V. 1983. <i>Essentials Of Oceanography.</i> Ohio: Charies E. Merrill Publishing Company.	5%
7	Analyzing Ocean Crustal Structure and changes in geological basins	- Explain the theory of ocean formation - Analyze the structure of the ocean crust Analyze changes in ocean basins	<b>Criteria:</b> answers according to the answer key  <b>Form of Assessment :</b> Participatory Activities, Portfolio Assessment	Discussion and questions and answers, 2 X 50 assignments		<b>Material:</b> sea <b>References:</b> Defri Yona et al.; <i>Oceanography Fundamentals;</i> UB Press <b>Material:</b> sea <b>Bibliography:</b> Thurman, Harold.V. 1983. <i>Essentials Of Oceanography.</i> Ohio: Charies E. Merrill Publishing Company.	5%
8	UTS	accuracy of analysis	<b>Criteria:</b> Completed >69  <b>Form of Assessment :</b> Test	2 X 50 test		<b>Material:</b> basics of oceanography <b>Reference:</b> Ross, David A, 1977, <i>Introduction to Oceanography,</i> New York : Prentice Hall	5%

9	Understanding the marine environment, marine biology, sea water	accurate understanding of the marine environment, marine biology, sea water	<b>Criteria:</b> Completed >69  <b>Form of Assessment :</b> Participatory Activities	discussion, question and answer 2 X 50		<b>Material:</b> biology <b>Bibliography:</b> Nybakken. 1992. <i>Marine biology</i> . PT. Gramedia, Jakarta  <b>Material:</b> biological <b>Reference:</b> Directorate of Biological Resources Development. 1983. <i>Results of Evaluation of the Potential of Marine Fisheries Biological Resources in Indonesian Waters and Indonesian EEZ Waters</i> .	5%
10	Understanding the marine environment, marine biology, sea water	accurate understanding of the marine environment, marine biology, sea water	<b>Criteria:</b> Completed >69  <b>Form of Assessment :</b> Participatory Activities	discussion, question and answer 2 X 50		<b>Material:</b> biology <b>Bibliography:</b> Nybakken. 1992. <i>Marine biology</i> . PT. Gramedia, Jakarta  <b>Material:</b> biological <b>Reference:</b> Directorate of Biological Resources Development. 1983. <i>Results of Evaluation of the Potential of Marine Fisheries Biological Resources in Indonesian Waters and Indonesian EEZ Waters</i> .	5%

11	Understand marine dynamics (tides, currents, waves, up & down welling)	Accurate understanding of marine dynamics (tides, currents, waves, up & down welling)	<b>Criteria:</b> Completed >69  <b>Form of Assessment :</b> Participatory Activities	questions and answers, discussions, assignments 2 X 50		<b>Material:</b> dynamics <b>References:</b> <i>Ross, David A, 1977, Introduction to Oceanography, New York : Prentice Hall</i> ----- <b>Material:</b> dynamics <b>References:</b> <i>Defri Yona et al.; Oceanography Fundamentals; UB Press</i> ----- <b>Material:</b> dynamics <b>Reader:</b> <i>Sahala Hutabarat and Stewart M.Evans. 1986. Introduction to Oceanography. Jakarta: University of Indonesia Publishers (UI-Press).</i> ----- <b>Material:</b> dynamics <b>References:</b> <i>Thurman, Harold.V. 1983. Essentials Of Oceanography. Ohio: Charies E. Merrill Publishing Company.</i>	5%
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12	Understand marine dynamics (tides, currents, waves, up & down welling)	Accurate understanding of marine dynamics (tides, currents, waves, up & down welling)	<b>Criteria:</b> Completed >69  <b>Form of Assessment :</b> Participatory Activities, Portfolio Assessment	questions and answers, discussions, assignments 2 X 50		<b>Material:</b> dynamics <b>References:</b> <i>Ross, David A, 1977, Introduction to Oceanography, New York : Prentice Hall</i> ----- <b>Material:</b> dynamics <b>References:</b> <i>Defri Yona et al.; Oceanography Fundamentals; UB Press</i> ----- <b>Material:</b> dynamics <b>Reader:</b> <i>Sahala Hutabarat and Stewart M.Evans. 1986. Introduction to Oceanography. Jakarta: University of Indonesia Publishers (UI-Press).</i> ----- <b>Material:</b> dynamics <b>References:</b> <i>Thurman, Harold.V. 1983. Essentials Of Oceanography. Ohio: Charies E. Merrill Publishing Company.</i>	10%
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13	Understand marine dynamics (tides, currents, waves, up & down welling)	Accurate understanding of marine dynamics (tides, currents, waves, up & down welling)	<b>Criteria:</b> Completed >69  <b>Form of Assessment :</b> Participatory Activities, Portfolio Assessment	questions and answers, discussions, assignments 2 X 50		<b>Material:</b> dynamics <b>References:</b> <i>Ross, David A, 1977, Introduction to Oceanography, New York : Prentice Hall</i> <hr/> <b>Material:</b> dynamics <b>References:</b> <i>Defri Yona et al.; Oceanography Fundamentals; UB Press</i> <hr/> <b>Material:</b> dynamics <b>Reader:</b> <i>Sahala Hutabarat and Stewart M.Evans. 1986. Introduction to Oceanography. Jakarta: University of Indonesia Publishers (UI-Press).</i> <hr/> <b>Material:</b> dynamics <b>References:</b> <i>Thurman, Harold.V. 1983. Essentials Of Oceanography. Ohio: Charies E. Merrill Publishing Company.</i>	10%
14	Understand the characteristics of coastal areas and environments	Achievement of understanding the characteristics of coastal areas and environments	<b>Criteria:</b> Completed >69  <b>Form of Assessment :</b> Portfolio Assessment	questions and answers, discussion 2 X 50		<b>Material:</b> coast <b>Bibsono ;</b> <i>Introduction to Marine Science; Grasindo</i> <hr/> <b>Material:</b> coast <b>Reference:</b> <i>Rohmin Dahuri et al; Integrated Management of Coastal and Marine Area Resources; Pradnya Paramita</i>	5%
15	Understand the characteristics of coastal areas and environments	Achievement of understanding the characteristics of coastal areas and environments	<b>Criteria:</b> Completed >69  <b>Form of Assessment :</b> Participatory Activities, Portfolio Assessment	questions and answers, discussion 2 X 50		<b>Material:</b> coast <b>Bibsono ;</b> <i>Introduction to Marine Science; Grasindo</i> <hr/> <b>Material:</b> coast <b>Reference:</b> <i>Rohmin Dahuri et al; Integrated Management of Coastal and Marine Area Resources; Pradnya Paramita</i>	5%



16	final exams	accuracy of analysis	<b>Criteria:</b> Completed > 65  <b>Form of Assessment :</b> Test	2 X 50 test		<b>Material:</b> applied oceanography <b>References:</b> <i>Rohmin Dahuri et al;</i> <i>Integrated Management of Coastal and Ocean Resources;</i> <i>Pradnya Paramita</i>	5%
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#### Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
1.	Participatory Activities	57.5%
2.	Project Results Assessment / Product Assessment	3.33%
3.	Portfolio Assessment	22.5%
4.	Practical Assessment	1.67%
5.	Practice / Performance	1.67%
6.	Test	13.33%
		100%

#### Notes

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- Forms of assessment:** test and non-test.
- 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.
- 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.
- Learning materials** are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
- 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%.
- TM=Face to face, PT=Structured assignments, BM=Independent study.