



Universitas Negeri Surabaya
Faculty of Economics and Business
Bachelor of Economics Study Program

Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date																																																																																																														
Natural Resource Economics	8722003045	Study Program Elective Courses	T=3	P=0	ECTS=4.77	7	April 27, 2023																																																																																																														
AUTHORIZATION		SP Developer	Course Cluster Coordinator			Study Program Coordinator																																																																																																															
		Dr. Lucky Rachmawati S.E., M.Si.	Dr. Lucky Rachmawati S.E., M.Si.			Dr. Tony Seno Aji, S.E., M.E.																																																																																																															
Learning model	Case Studies																																																																																																																				
Program Learning Outcomes (PLO)	PLO study program that is charged to the course																																																																																																																				
	PLO-3	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																																																																																																																			
	PLO-4	Develop yourself continuously and collaborate.																																																																																																																			
	PLO-6	Able to analyze economic potential empowerment strategies																																																																																																																			
	PLO-7	Able to communicate effectively orally and in writing in the field of economics																																																																																																																			
	Program Objectives (PO)																																																																																																																				
	PO - 1	Understanding the relationship between Economics and Natural Resources for the future.																																																																																																																			
	PO - 2	Understanding the allocation of use of "renewable" and "non-renewable" natural resources.																																																																																																																			
	PO - 3	Understanding that natural resources can be recycled, replaceable, reproducible, storable and common property.																																																																																																																			
	PO - 4	Analyze the natural resource market, the role of energy, forest management, water resource systems, sustainable development, and natural resource policy in Indonesia.																																																																																																																			
	PLO-PO Matrix																																																																																																																				
		<table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <thead> <tr> <th>P.O</th> <th>PLO-3</th> <th>PLO-4</th> <th>PLO-6</th> <th>PLO-7</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td>PO-1</td> <td>✓</td> <td>✓</td> <td></td> <td></td> <td colspan="2"></td> </tr> <tr> <td>PO-2</td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td colspan="2"></td> </tr> <tr> <td>PO-3</td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td colspan="2"></td> </tr> <tr> <td>PO-4</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td colspan="2"></td> </tr> </tbody> </table>						P.O	PLO-3	PLO-4	PLO-6	PLO-7			PO-1	✓	✓					PO-2	✓		✓				PO-3	✓		✓				PO-4		✓		✓																																																																													
	P.O	PLO-3	PLO-4	PLO-6	PLO-7																																																																																																																
	PO-1	✓	✓																																																																																																																		
	PO-2	✓		✓																																																																																																																	
PO-3	✓		✓																																																																																																																		
PO-4		✓		✓																																																																																																																	
PO Matrix at the end of each learning stage (Sub-PO)																																																																																																																					
	<table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <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>✓</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></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></td><td></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></td><td></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></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> </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						✓			✓					✓	✓	✓
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						✓			✓					✓	✓	✓																																																																																																					
Short Course Description	This course focuses on understanding various types of natural resources. The aim of this course is to provide an in-depth understanding of how to manage natural resources efficiently and sustainably for human welfare and environmental sustainability. This course includes a discussion of the concepts of renewable and non-renewable natural resources, recyclable and replaceable natural resources, reproducible and storable natural resources, jointly owned natural resources, cost benefit analysis, natural resource markets, the role of energy and demand-supply analysis, forest management, water resource systems, development sustainability and evaluation of natural resource policies in Indonesia.																																																																																																																				
References	Main :																																																																																																																				
	<ol style="list-style-type: none"> 1. Suparmoko, M. 2008. Ekonomi Sumber Daya Alam dan Lingkungan. 2. Perman, Roger et al. 2003. Natural Resources and Environmental Economics: 3rd. Edition. London: Pearson Education Limited. 3. Sukanto R & Dibyo, P. 1985. Pengantar Ekonomi Sumberdaya Alam. Yogyakarta: BPFPE 4. Sukanto, Reksohadiprojo. 1988. Ekonomi Energi . Yogyakarta: PAU-UGM 5. Tietenberg, Tom, 2009. Environmental and Natural Resource Economics. Boston: Pearson 6. Akhmad, Fauzi. 2010. Ekonomi Sumber Daya Alam dan Lingkungan. Jakarta: PT. Gramedia Pustaka Utama 7. Daly, Herman E. And Farley, Joshua. 2010. Ecological Economics: Principles and Application. London: Island Press 8. Howe, Charles. 1980. Natural Resource Economics : Issues, Analysis and Policy. New York: John Wiley & Sons 																																																																																																																				

	Supporters:						
Supporting lecturer	Dr. Lucky Rachmawati, S.E., M.Si. Aprillia Nilasari, S.Pd., M.S.E. Nurul Hanifa, S.E., M.Si. Wenny Restikasari, S.E., M.S.E.						
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	Able to explain the relationship between Economics and Natural Resources for the future	1. Able to identify the relationship between humans and the environment 2. Able to explain the environment as an asset 3. Able to identify assessments of assets 4. Able to explain regulations and policies 5. Able to identify problems and conclusions	Criteria: 1. Students are able to answer the case study questions given about the relationship between Economics and Natural Resources for the future orally. 2. According to scoring guidelines Form of Assessment : Participatory Activities	Interactive lectures, discussions, case studies 3 X 50	Interactive lectures, discussions, case studies	Material: 1. Human relationship with the environment 2. Environment as an asset 3. Assessment of assets 4. Regulations and policies 5. Problems and conclusions Bibliography: <i>Akhmad, Fauzi. 2010. Natural Resources and Environmental Economics. Jakarta: PT. Gramedia Pustaka Utama</i>	3%
2	Able to explain the concept of Stock Natural Resources	1. Able to identify SDA Authorized Capital 2. Able to explain SDA Stock 3. Able to identify Motivation for reserves 4. Able to explain Interpretation of Reserve Use Ratio	Criteria: 1. Students are able to answer the case study questions given about the concept of Stock Natural Resources 2. According to scoring guidelines Form of Assessment : Participatory Activities	Interactive lectures, discussions, case studies 3 X 50	Interactive lectures, discussions, case studies	Material: The concept of natural resources is stock Reference: <i>Suparmoko, M. 2008. Economics of Natural Resources and the Environment.</i>	3%
3	Able to explain the concept of Cost Benefit Analysis	1. Able to identify Cost Benefit Analysis 2. Able to explain Benefit estimation issues 3. Able to identify Cost estimation approaches 4. Able to explain Treatment of risks 5. Able to identify Impact analysis 6. Able to explain examples of cost benefit analysis 7. Able to identify Discussion and conclusion	Criteria: 1. Students are able to solve problems and make written reports related to the case study questions given regarding Cost Benefit Analysis 2. According to scoring guidelines Form of Assessment : Participatory Activities	Interactive lectures, discussions, case studies 3 X 50	Interactive lectures, discussions, case studies	Material: Cost Benefit Analysis References: <i>Akhmad, Fauzi. 2010. Natural Resources and Environmental Economics. Jakarta: PT. Gramedia Pustaka Utama</i>	3%

4	Able to explain the concept of "renewable" and "non-renewable" natural resources	1. Able to identify types of renewable R and non-renewable R 2. Able to explain efficient allocation 3. Able to identify market allocation 4. Able to explain fuel price controls 5. Able to identify cartel problems 6. Able to explain conservation and depletion and management 7. Able identify examples and conclusions	Criteria: 1. Students are able to answer the case study questions given about 2. According to scoring guidelines Form of Assessment : Participatory Activities	Interactive lectures, discussions, case studies 3 X 50	Interactive lectures, discussions, case studies	Material: Renewable and Non Renewable Reader: Akhmad, Fauzi. 2010. <i>Natural Resources and Environmental Economics</i> . Jakarta: PT. Gramedia Pustaka Utama	3%
5	Able to explain that natural resources can be recycled and replaced	1. Able to identify the efficiency of "Recyclable R" and "replaceable" allocations 2. Able to explain strategies and problems 3. Able to identify waste and damage 4. Able to explain limited water potential	Criteria: 1. Students are able to answer the case study questions given about 2. According to scoring guidelines Form of Assessment : Participatory Activities	Interactive lectures, discussions, case studies 3 X 50	Interactive lectures, discussions, case studies	Material: Recyclable and Replaceable References: Perman, Roger et al. 2003. <i>Natural Resources and Environmental Economics: 3rd. Edition</i> . London: Pearson Education Limited.	3%
6	Able to describe reproducible and Storable SDA	1. Able to identify Reproducible: global scarcity 2. Able to explain policies in the agricultural sector 3. Able to identify forest management 4. Able to explain examples and discussions	Criteria: 1. Students are able to answer the case study questions given about 2. According to scoring guidelines Form of Assessment : Participatory Activities	Interactive lectures, discussions, case studies 3 X 50	Interactive lectures, discussions, case studies	Material: Reproducible and Storable Natural Resources References: Tietenberg, Tom, 2009. <i>Environmental and Natural Resource Economics</i> . Boston: Pearson	3%
7	Able to explain shared natural resources: marine fisheries	1. Able to identify efficient allocations 2. Able to explain fisheries control rights	Criteria: According to scoring guidelines Form of Assessment : Participatory Activities	Interactive lectures, discussions, case studies 3 X 50		Material: Commonly owned natural resources: marine fisheries Reference: Akhmad, Fauzi. 2010. <i>Natural Resources and Environmental Economics</i> . Jakarta: PT. Gramedia Pustaka Utama	4%
8	MIDDLE SEMESTER EXAMINATION (UTS)	Can do questions well and correctly	Criteria: According to scoring guidelines Form of Assessment : Test	Written test 3 X 50		Material: 1-7 References: Akhmad, Fauzi. 2010. <i>Natural Resources and Environmental Economics</i> . Jakarta: PT. Gramedia Pustaka Utama	20%
9	Able to analyze the Natural Resources Market	1. Able to identify demand and supply of natural resources: non-renewable 2. Able to explain demand and supply of natural resources: renewable	Criteria: According to scoring guidelines Form of Assessment : Participatory Activities	Lecture/Lecture Discussion/Presentation 3 X 50		Material: Natural Resources Market Reference: Daly, Herman E. And Farley, Joshua. 2010. <i>Ecological Economics: Principles and Application</i> . London: Island Press	4%

10	1. Able to evaluate the role of energy in Indonesia	2. Able to identify foreign exchange earnings 3. Able to explain energy contributions 4. Able to identify energy marketing 5. Able to explain job opportunities in the energy sector	Criteria: According to scoring guidelines Form of Assessment : Participatory Activities	Interactive lectures, discussions, case studies 3 X 50		Material: The Role of Energy in Indonesia References: <i>Sukanto, Reksohadiprojo. 1988. Energy Economics. Yogyakarta: PAU-UGM</i>	4%
11	Able to analyze Energy Demand and Supply	1. Able to identify the Energy Demand Model 2. Able to explain the Energy Supply Model 3. Able to identify Energy Price Determination 4. Able to explain the Elasticity of Energy Supply 5. Able to identify the Role of Technology and Quotas	Criteria: According to scoring guidelines Form of Assessment : Participatory Activities	Interactive lectures, discussions, case studies 3 X 50		Material: Energy Supply and Demand Bibliography: <i>Howe, Charles. 1980. Natural Resource Economics: Issues, Analysis and Policy. New York: John Willey & Sons</i>	4%
12	Able to analyze forest management	1. Able to identify the Role of Forests in the economy 2. Able to explain the Use of Forest Resources 3. Able to identify Optimum Exploitation Policy 4. Able to explain Optimum Rotation Sensitivity Analysis 5. Able to identify the Concept of Forest Management	Criteria: According to scoring guidelines Form of Assessment : Participatory Activities	Interactive lectures, discussions, case studies 3 X 50	Interactive lectures, discussions, case studies	Material: forest management Reference: <i>Sukanto R & Dibyo, P. 1985. Introduction to Natural Resource Economics. Yogyakarta: BPFE</i>	4%
13	Able to analyze Water Resources Systems	1. Able to identify Characteristics of Water Resources and Demand 2. Able to explain Economic Aspects of Water Resources 3. Able to identify Water Quality Management 4. Able to explain Minimum Standard Cost of Raw Water	Criteria: According to scoring guidelines Form of Assessment : Participatory Activities	Interactive lectures, discussions, case studies 3 X 50	Interactive lectures, discussions, case studies	Material: Water Resource Systems References: <i>Suparmoko, M. 2008. Economics of Natural Resources and the Environment.</i>	4%
14	Able to analyze sustainable development	1. Able to identify sustainable growth (market allocation, efficiency, trade and environment) 2. Able to explain various options (agriculture, energy, final results)	Criteria: According to scoring guidelines Form of Assessment : Participatory Activities	Interactive lectures, discussions, case studies 3 X 50	Interactive lectures, discussions, case studies	Material: Sustainable development References: <i>Daly, Herman E. And Farley, Joshua. 2010. Ecological Economics: Principles and Application. London: Island Press</i>	4%

15	Able to evaluate natural resource policies in Indonesia	1. Able to identify Natural Resources Policy 2. Able to explain a review of critical factors for natural resources in the future 3. Able to identify market forces 4. Able to explain government institutions 5. Able to identify basic guidelines for responsible natural resources policies.	Criteria: Students are able to answer the case study questions given about Form of Assessment : Participatory Activities	Interactive lectures, discussions, case studies 3 X 50	Interactive lectures, discussions, case studies	Material: natural resource policy in Indonesia Reference: <i>Howe, Charles. 1980. Natural Resource Economics: Issues, Analysis and Policy. New York: John Willey & Sons</i>	4%
16	FINAL SEMESTER EXAMINATION (UAS)	Can do questions well and correctly	Criteria: According to scoring guidelines Form of Assessment : Test	Written Test 3 X 50		Material: 9-15 References: <i>Suparmoko, M. 2008. Economics of Natural Resources and the Environment.</i>	30%

Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
1.	Participatory Activities	50%
2.	Test	50%
		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** ability in the process and student learning outcomes are specific and measurable statements that identify the ability 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.