



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

Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Ergonomics	6120103037	HR Management	T=3	P=0	ECTS=4.77	7	June 12, 2022
AUTHORIZATION	SP Developer		Course Cluster Coordinator			Study Program Coordinator	
	Zainur Rahman, S.E., M.Sc		Dwiarko Nugrohoseno, S.Psi., M.M			Yuyun Isbanah, S.E., M.SM.	

Learning model	Case Studies																																																																																																				
Program Learning Outcomes (PLO)	PLO study program which is charged to the course																																																																																																				
	PLO-14 (PLO 1) Graduates are able to master management theory as a whole																																																																																																				
	Program Objectives (PO)																																																																																																				
	PO - 1 C3. Students are able to implement ergonomics theory correctly																																																																																																				
	PO - 2 P4. Students are able to integrate science and technology in the field of HR management appropriately																																																																																																				
	PO - 3 P5. Students are able to make strategic decisions based on information analysis to improve organizational work performance.																																																																																																				
	PO - 4 A5. Students are able to show the character of faith, intelligence, independence, honesty, caring and toughness in ergonomics learning activities.																																																																																																				
	PLO-PO Matrix																																																																																																				
	<table border="1"> <tr> <td>P.O</td> <td>PLO-14</td> </tr> <tr> <td>PO-1</td> <td></td> </tr> <tr> <td>PO-2</td> <td></td> </tr> <tr> <td>PO-3</td> <td></td> </tr> <tr> <td>PO-4</td> <td></td> </tr> </table>	P.O	PLO-14	PO-1		PO-2		PO-3		PO-4																																																																																											
	P.O	PLO-14																																																																																																			
PO-1																																																																																																					
PO-2																																																																																																					
PO-3																																																																																																					
PO-4																																																																																																					
PO Matrix at the end of each learning stage (Sub-PO)																																																																																																					
<table border="1"> <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> <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> </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 provides an understanding of ergonomics as a science about the harmony of tools, work methods and work environments with human capabilities and limitations in efforts to increase comfort in the work environment, as well as being able to design products and work systems that comply with ergonomic rules so that working conditions & environments are achieved. which is healthy, safe, comfortable and efficient which ultimately creates productivity at work. The learning approach method is to analyze the physical relationship between humans and work facilities.																																																																																																				
References	Main :																																																																																																				

1. Nurmianto, E. Ergonomi. 2004. Konsep Dasar dan Aplikasinya. Penerbit GunaWidya. Surabaya
2. Sedarmayanti. 1996. Tata Kerja&ProduktivitasKerja.Penerbit MandarMaju. Bandung.
3. Niebel, B; Freivalds, A. 2004. Methods, Standards & Work Design. McGraw Hill.
4. Syafei, Y. 2007. Aplikasi Konsep Ergonomi Dalam Pengembangan Desain Produk akan Memberikan Jual Produk Yang Tinggi & Keunggulan Bersaing. Seminar Nasional : Ergonomic in ProductDevelopment
5. Effendi, F. 2007. Ergonomi Bagi Pekerja Informal. Cermin Dunia Kedokteran. No.154.

Supporters:

Supporting lecturer
 Dwiarko Nugrohoseno, S.Psi., M.M.
 Dr. Andre Dwijanto Witjaksono, S.T., M.Si.
 Agus Frianto, S.T., S.E., M.M.
 Khoirur Rozaq, S.E.Sy., M.M.
 Zainur Rahman, S.E., M.Sc.
 Dr. Riedel Paulus Jacobis, S.E., M.M.

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	Can describe Ergonomics	1.Explain the meaning of ergonomics 2.Mention the scope of ergonomics	Criteria: Perfect score if answered correctly Form of Assessment : Participatory Activities	Read literature and listen to explanations of learning 3 X 50		Material: Describing Ergonomics Reference: Nurmianto, E. Ergonomics. 2004. Basic Concepts and Applications. GunaWidya Publisher. Surabaya	2%
2	Describing Human Machine Systems	1. Explain the meaning 2. State 3. Explain the relationship	Criteria: Perfect score if answered correctly Form of Assessment : Participatory Activities	Reading literature and peer discussions 3 X 50		Material: Describing human machine systems Reader: Sedarmayanti. 1996. Work Procedures & Work Productivity. MandarMaju Publishing. Bandung.	2%
3	Can describe Motion Study & Work Design	1. Explain the meaning 2. State 3. Explain the principles of economic movement 4. Explain the procedures	Criteria: Excellent marks if answered correctly Form of Assessment : Participatory Activities	Reading literature and listening to learner explanations and peer discussions 3 X 50		Material: Motion study and work design References: Niebel, B; Freivalds, A. 2004. Methods, Standards & Work Design. McGraw Hill.	4%
4	Can describe Anthropometry	1. Explain the meaning 2. Mention types of anthropometric data 3. Explain anthropometric procedures 4. Measure using anthropometric methods	Criteria: Perfect score if answered correctly	Reading literature and listening to learner explanations and peer discussions 3 X 50		Material: understanding Anthropometry References: Niebel, B; Freivalds, A. 2004. Methods, Standards & Work Design. McGraw Hill.	4%
5	Can describe Anthropometry	1. Explain the meaning 2. Mention the types of anthropometric data 3. Explain anthropometric procedures 4. Measure using anthropometric methods	Criteria: Excellent value if answered correctly Form of Assessment : Participatory Activities	Reading literature and listening to learner explanations and peer discussions 3 X 50		Material: Types of anthropometric data and procedures References: Niebel, B; Freivalds, A. 2004. Methods, Standards & Work Design. McGraw Hill.	4%

6	Can describe the application of ergonomics for workplace design	1. Explain the description 2. Mention 3. Explain the procedure	Criteria: Perfect score if answered correctly Form of Assessment : Participatory Activities	Reading literature and listening to learner explanations and peer discussions 3 X 50		Material: Application of Ergonomics for Workplace Design Reference: Syafei, Y. 2007. <i>Application of Ergonomics Concepts in Product Design Development will Provide High Product Sales & Competitive Advantage. National Seminar: Ergonomics in Product Development</i>	4%
7	Can describe Ergonomics Applications for Workplace Design	1. Explain the procedure 2. Apply ergonomics	Criteria: Perfect score if answered correctly Form of Assessment : Participatory Activities	Reading literature and listening to learner explanations and peer discussions 3 X 50		Material: Application of ergonomics Reference: Syafei, Y. 2007. <i>Application of Ergonomics Concepts in Product Design Development will Provide High Product Sales & Competitive Advantage. National Seminar: Ergonomics in Product Development</i>	3%
8	Midterm exam		Form of Assessment : Test	3 X 50			20%
9	Can describe Energy Consumption for Heavy Work Activities	1.1. Explain the meaning of energy consumption 2.2. Mention heavy work activities	Criteria: Perfect score if answered correctly Form of Assessment : Participatory Activities	Reading literature and listening to learner explanations and peer discussions 3 X 50		Material: Energy Consumption for Heavy Work Activities Reference: Effendi, F. 2007. <i>Ergonomics for Informal Workers. Mirror of the World of Medicine. No. 154.</i>	3%
10	Can describe Work Methodology Optimization	1.Explain the meaning of Work Methodology Optimization 2.Mentions Work Methodology Optimization 3.Explains the Work Methodology Optimization procedure	Criteria: Perfect score if answered correctly Form of Assessment : Participatory Activities	Reading literature and listening to learner explanations and peer discussions 3 X 50		Material: Optimization of Work Methodology References: Niebel, B; Freivalds, A. 2004. <i>Methods, Standards & Work Design. McGraw Hill.</i>	5%

11	Can describe Visual Display & Control Tools	<ol style="list-style-type: none"> 1.Explain the meaning of visual display & control tools 2.Mentions visual display & control tools 	<p>Criteria: Perfect score if answered correctly</p> <p>Form of Assessment : Participatory Activities</p>	Reading literature and listening to learner explanations and peer discussions 3 X 50		<p>Material: Visual Display & Control Tools</p> <p>References: <i>Niebel, B; Freivalds, A. 2004. Methods, Standards & Work Design. McGraw Hill.</i></p>	3%
12	Can describe work environment factors	Explain the meaning of work environmental factors that support performance	<p>Criteria: Perfect score if answered correctly</p> <p>Form of Assessment : Participatory Activities</p>	Reading literature and listening to learner explanations and peer discussions 3 X 50		<p>Material: Work Environment Factors</p> <p>Reference: <i>Syafei, Y. 2007. Application of Ergonomics Concepts in Product Design Development will Provide High Product Sales & Competitive Advantage. National Seminar: Ergonomics in Product Development</i></p>	5%
13	Can describe Workplace Design	<ol style="list-style-type: none"> 1.Explain the meaning of workplace design 2.Mention the importance of designing the workplace 3.Identify workplace design needs 	<p>Criteria: Perfect score if answered correctly</p> <p>Form of Assessment : Participatory Activities</p>	Reading literature and listening to learner explanations and peer discussions 3 X 50		<p>Material: Job design</p> <p>Reference: <i>Syafei, Y. 2007. Application of Ergonomics Concepts in Product Design Development will Provide High Product Sales & Competitive Advantage. National Seminar: Ergonomics in Product Development</i></p>	5%
14	Can describe work fatigue & rest time	<ol style="list-style-type: none"> 1.Explain the meaning of fatigue and rest time 2.Identify the causes of fatigue and the time needed to rest 	<p>Form of Assessment : Participatory Activities</p>	Reading literature and listening to learner explanations and peer discussions 3 X 50		<p>Material: Work Fatigue & Rest Time</p> <p>Reference: <i>Syafei, Y. 2007. Application of Ergonomics Concepts in Product Design Development will Provide High Product Sales & Competitive Advantage. National Seminar: Ergonomics in Product Development</i></p>	5%

15	Can describe Occupational Safety and Health	1.Explain the meaning of K3 2.Mention the scope of safety and health 3.Identify occupational safety and health aspects	Criteria: Perfect score if answered correctly Form of Assessment : Participatory Activities	Reading literature and listening to learner explanations and peer discussions 3 X 50		Material: Occupational Safety and Health Reference: Syafei, Y. 2007. <i>Application of Ergonomics Concepts in Product Design Development will Provide High Product Sales & Competitive Advantage.</i> National Seminar: <i>Ergonomics in Product Development</i>	5%
16	Final exams		Criteria: structured tests Form of Assessment : Test	3 X 50			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.