



Universitas Negeri Surabaya
Faculty of Mathematics and Natural Sciences
Undergraduate Chemistry Education Study Program

Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight	SEMESTER	Compilation Date																																
Organic Chemistry Practicum	8420402248		T=2 P=0 ECTS=3.18	4	July 18, 2024																																
AUTHORIZATION	SP Developer		Course Cluster Coordinator	Study Program Coordinator																																	
	Prof. Dr. Utiya Azizah, M.Pd.																																	
Learning model	Project Based Learning																																				
Program Learning Outcomes (PLO)	PLO study program that is charged to the course																																				
	Program Objectives (PO)																																				
	PLO-PO Matrix																																				
		P.O																																			
Short Course Description	Study of the theoretical concepts of organic chemistry and organic chemistry practical activities carried out using identification, separation/isolation and synthesis techniques of organic compounds, as well as making conclusions based on: data, data analysis based on a theoretical basis																																				
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%; text-align: center;">P.O</td> <td colspan="16" style="text-align: center;">Week</td> </tr> <tr> <td style="width: 5%; text-align: center;">1</td> <td style="width: 5%; text-align: center;">2</td> <td style="width: 5%; text-align: center;">3</td> <td style="width: 5%; text-align: center;">4</td> <td style="width: 5%; text-align: center;">5</td> <td style="width: 5%; text-align: center;">6</td> <td style="width: 5%; text-align: center;">7</td> <td style="width: 5%; text-align: center;">8</td> <td style="width: 5%; text-align: center;">9</td> <td style="width: 5%; text-align: center;">10</td> <td style="width: 5%; text-align: center;">11</td> <td style="width: 5%; text-align: center;">12</td> <td style="width: 5%; text-align: center;">13</td> <td style="width: 5%; text-align: center;">14</td> <td style="width: 5%; text-align: center;">15</td> <td style="width: 5%; text-align: center;">16</td> </tr> </table>					P.O	Week																1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
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References	Main :																																				
	<ol style="list-style-type: none"> 1. Anwar, C., Purnomo, B., Pranowo, H.D., Wahyuningsih, T.D. (1996).Pengantar Praktikum Kimia Organik.Jakarta: Direktorat Jenderal Pendidikan Tinggi 2. Carey, F.A. (2000).Organic Chemistry.4rd Ed. New York: McGraw-Hill Companies, Inc. 3. Casey, M, Leonard, J, Lygo, B, 1990.Advanced Practical Organic Chemistry.New York: Chapman and Hall. 4. Fessenden,R.J. dan Fessenden, J.S. (1998).KimiaOrganik. Jilid 1. Penerjemah AH Pudjaatmaka. Jakarta: Erlangga 5. Fessenden,R.J. dan Fessenden, J.S. (1998).KimiaOrganik. Jilid 2. Penerjemah AH Pudjaatmaka. Jakarta: Erlangga 6. Furnis, B.S., Hannaford, A.J., Smith, P.W.G., Tatchell,A.R.. 1989.Vogel 19sTextbook of Practical Organic Chemistry.5th ed. New York:Longman Scientific & Technical 7. Hart,H., Craine, L.E. & Hart, D.J. (2003).Kimia Organik. SuatuKuliah Singkat. Edisi keXI. Penerjemah: Achmadi, S.S., Jakarta:Erlan 8. Solomon, T.W.G. & Fryhle, C.B. (2011).Organic Chemistry.New York: John Wiley& Sons, Inc 9. Tim Kimia Organik, 2017. Buku Petunjuk PraktikumKimia Organik, tim Prak Kimia Organik 																																				
	Supporters:																																				
Supporting lecturer	NURUL HIDAJATI ISMONO Prof. Dr. Suyatno, M.Si. Prof. Dr. Tukiran, M.Si. Dr. Mitarlis, S.Pd., M.Si. Dr.Hj. Rinaningsih, S.Pd., M.Pd.																																				
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	Understand experimental techniques and design an experiment	1.Explain organic chemistry experimental techniques 2.Design an experiment with steps 3.a. Formulate the problem 4.b. Develop a hypothesis 5.c. Identifying variables 6.Planning an experiment	Criteria: 1.Score A if the score is > 85 2.score A- if the score is 80 - 84 3.and so on (like the criteria in the guidebook)	Questions and answers, discussion Presentation 2 X 50			0%
2	Prepare and discuss the results of the experimental design. Present the results of the experimental design	Explain the results of the design of an experiment that will be carried out based on the organic chemistry practical manual	Criteria: Assessment is in accordance with the assessment score criteria in the test form. Assessment rubric for non-tests	Questions and answers and discussion Presentation 2 X 50			0%
3	Able to carry out practical work identifying organic compounds	Identify aldehyde, ketone and carboxylic acid groups. Identify alcohol and phenol compounds	Criteria: Assessment based on practical test scores Assessment according to observation rubric Assessment in accordance with the assessment criteria guidebook applicable at Unesa	Practicum, Question and answer, discussion, preparation of 2 X 50 practicum reports			0%
4	Able to carry out practical work identifying organic compounds	Identify aldehyde, ketone and carboxylic acid groups. Identify alcohol and phenol compounds	Criteria: Assessment based on practical test scores Assessment according to observation rubric Assessment in accordance with the assessment criteria guidebook applicable at Unesa	Practicum, Question and answer, discussion, preparation of 2 X 50 practicum reports			0%
5	Able to carry out practical work identifying organic compounds	Identify aldehyde, ketone and carboxylic acid groups. Identify alcohol and phenol compounds	Criteria: Assessment based on practical test scores Assessment according to observation rubric Assessment in accordance with the assessment criteria guidebook applicable at Unesa	Practicum, Question and answer, discussion, preparation of 2 X 50 practicum reports			0%
6	Able to carry out practical work on the isolation of organic compounds from natural materials	Isolating Ginger Oil from Ginger Rhizomes	Criteria: Participation is assessed during lectures and practicums, carried out through observation (weight 2). Mid-term exams (UTS) are carried out to assess indicators 1-11 through written exams, and are given weights (2) Structured assignment assessments and practicum reports are averaged, then given weights. (3) The final semester examination (UAS) is used to measure the achievement of indicators 12-19, through practical examinations and the results are given a weight of 5. The final NA is (participation value") (Assignment value%2 3) (UTS value%2 2) value UAS (3) divided by 10	Practicum Question and answer discussion on preparing a 2 X 50 practicum report			0%

7	identify fats and saponification reactions	1.fat identification 2.Soap making	Criteria: In accordance with the assessment guidebook that applies at Unesa	Practical Questions and answers discussions on preparing practical reports 2 X 50			0%
8	Able to carry out practical work well and correctly	Complete organic chemistry practical UTS questions	Criteria: .Participation is assessed during lectures and practicums, carried out through observation (weight 2). Mid-semester exams (UTS) are carried out to assess indicators 1-11 through written exams, and are given weights (2). Structured assignment assessments and practicum reports are averaged, then given weight (3) The final semester examination (UAS) is used to measure the achievement of indicators 12-19, through practical examinations and the results are given a weight of 3. The final NA is (participation value") (Assignment value%2 3) (UTS value%2 2) UAS score (3) divided by 10	2 X 50 Subjective Test			0%
9	Able to carry out practical synthesis, isolation and identification of simple organic chemistry	Able to synthesize, isolate and identify n-butyl acetate esterification compounds	Criteria: Participation is assessed during lectures and practicums, carried out through observation (weight 2). Mid-semester exams (UTS) are carried out to assess indicators 1-11 through written exams, and are given weights (2) Structured assignment assessments and practicum reports are averaged, then given weights. (3) The final semester examination (UAS) is used to measure the achievement of indicators 12-19, through practical examinations and the results are given a weight of 3. The final NA is (participation value") (Assignment value%2 3) (UTS value%2 2) value UAS (3) divided by 10	Practical Questions and answers discussion 2 X 50			0%

10	Able to synthesize aspirin	Skilled at synthesizing aspirin	Criteria: Participation is assessed during lectures and practicums, carried out through observation (weight 2). Mid-semester exams (UTS) are carried out to assess indicators 1-11 through written exams, and are given weights (2) Structured assignment assessments and practicum reports are averaged, then given weights. (3) The final semester examination (UAS) is used to measure the achievement of indicators 12-19, through practical examinations and the results are given a weight of 3. The final NA is (participation value") (Assignment value%2 3) (UTS value%2 2) value UAS (3) divided by 10	Practicum, discussion, question and answer, and assignment for making a 2 X 50 report		0%
11	Able to identify types of carbohydrates	Skilled in identifying types of carbohydrates	Criteria: Participation is assessed during lectures and practicums, carried out through observation (weight 2). Mid-semester exams (UTS) are carried out to assess indicators 1-11 through written exams, and are given weights (2) Structured assignment assessments and practicum reports are averaged, then given weights. (3) The final semester examination (UAS) is used to measure the achievement of indicators 12-19, through practical examinations and the results are given a weight of 3. The final NA is (participation value") (Assignment value%2 3) (UTS value%2 2) value UAS (3) divided by 10	Practicum, discussion, question and answer, and assignment for making a 2 X 50 report		0%

12	Able to identify proteins	Skilled at identifying proteins	<p>Criteria: Participation is assessed during lectures and practicums, carried out through observation (weight 2). Mid-semester exams (UTS) are carried out to assess indicators 1-11 through written exams, and are given weights (2) Structured assignment assessments and practicum reports are averaged, then given weights. (3) The final semester examination (UAS) is used to measure the achievement of indicators 12-19, through practical examinations and the results are given a weight of 3. The final NA is (participation value") (Assignment value%2 3) (UTS value%2 2) value UAS (3) divided by 10</p>	Practicum, discussion, question and answer, and assignment for making a 2 X 50 report			0%
13	Able to carry out phytochemical tests	Skilled in carrying out phytochemical tests	<p>Criteria: 1.1. Participation is assessed during lectures and practicums, carried out through observation (weight 2) 2.2. The mid-semester exam (UTS) is carried out to assess indicators 1-11 through a written exam, and is given a weighting of (2) 3.3. Structured assignment assessments and practical reports are averaged, then given a weight (3) 4.4. The final semester exam (UAS) is used to measure the achievement of indicators 12-19, through practical exams and the results are given a weight of 3. 5.5. The final NA is (participation grade") (Assignment grade%2 3) (UTS grade%2 2) UAS grade (3) divided by 10</p>	Practicum, discussion, question and answer, and assignment for making a 2 X 50 report			0%

14	Able to make herbal-based health drinks	Skilled in making herbal-based health drinks	Criteria: Participation is assessed during lectures and practicums, carried out through observation (weight 2). Mid-semester exams (UTS) are carried out to assess indicators 1-11 through written exams, and are given weights (2) Structured assignment assessments and practicum reports are averaged, then given weights. (3) The final semester examination (UAS) is used to measure the achievement of indicators 12-19, through practical examinations and the results are given a weight of 3. The final NA is (participation value") (Assignment value%2 3) (UTS value%2 2) value UAS (3) divided by 10	Practicum, discussion, question and answer, and assignment for making a 2 X 50 report			0%
15	Able to report practical results	Skilled in presenting practicum results reports	Criteria: .Participation is assessed during lectures and practicums, carried out through observation (weight 2). Mid-semester exams (UTS) are carried out to assess indicators 1-11 through written exams, and are given weights (2). Structured assignment assessments and practicum reports are averaged, then given weight (3) The final semester examination (UAS) is used to measure the achievement of indicators 12-19, through practical examinations and the results are given a weight of 3. The final NA is (participation value") (Assignment value%2 3) (UTS value%2 2) UAS score (3) divided by 10	Discussion, presentation, question and answer and assignment 2 X 50			0%

16	The final semester exam is to measure the achievement of students' final abilities in carrying out organic chemistry practicum	The final semester exam is to measure the achievement of indicators of students' ability to carry out organic chemistry practicum	Criteria: Participation is assessed during lectures and practicums, carried out through observation (weight 2). Mid-semester exams (UTS) are carried out to assess indicators 1-11 through written exams, and are given weights (2) Structured assignment assessments and practicum reports are averaged, then given weights. (3) The final semester examination (UAS) is used to measure the achievement of indicators 12-19, through practical examinations and the results are given a weight of 3. The final NA is (participation value") (Assignment value%2 3) (UTS value%2 2) value UAS (3) divided by 10	Organic chemistry practical exam 2 X 50			0%
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Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
		0%

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.