	Universitas Negeri Surabaya Faculty of Mathematics and Natural Sciences Science Education Doctoral Study Program	Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Science Education Curriculum Development	8400102062	Study Program Elective Courses	T=2	P=0	ECTS=5.04	2	January 2, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	Prof. Dr. Wahono Widodo, M.Si	Prof. Dr. Wahono Widodo, M.SI..	Prof. Dr. Suyatno, M.Si.

Learning model	**Case Studies**

Program Learning Outcomes (PLO)

PLO study program that is charged to the course	
PLO-12	2. Master the latest theories related to scientific knowledge and science education

Program Objectives (PO)	
PO - 1	Evaluate assumptions, curriculum development theories, standards, development methods, evaluation models, curriculum development results, and science education curriculum research results
PO - 2	Developing a science education curriculum at the higher education level

PLO-PO Matrix

P.O	PLO-12
PO-1	
PO-2	

PO Matrix at the end of each learning stage (Sub-PO)

P.O	Week															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PO-1																
PO-2																

Short Course Description	This course examines assumptions, theories, standards, evaluation, and methods for developing output-based curricula and hones the ability to develop science education curricula at the higher education level. Lectures are carried out with reference analysis, case studies, and project assignments.

References

Main :

1. Aris Junaidi dkk. 2020. Penyusunan Kurikulum Pendidikan Tinggi di Era Industri 4.0 untuk Mendukung Merdeka Belajar-Kampus Merdeka. Jakarta: Kemdikbud.
2. Direktorat Jenderal Pendidikan Tinggi. 2020. Panduan Buku Panduan Merdeka Belajar - Kampus Merdeka. Jakarta: Kemdikbudristek.
3. Oerstein, A.C. & Hunkins, F. P. 2018. Curriculum: Foundation, Principles, and Issues. London: Pearson.
4. Archer, E. 2017. Curriculum Development Principles and Practices. New York: College Publishing House.
5. Roos, Alistair. 2005. Curriculum Construction and Critique. London: Falmer Press.
6. Wiggins, Grant P. 2011. The understanding by design guide to creating high-quality units / Grant Wiggins and Jay McTighe. Virginia: ASCD.

Supporters:

1. Widodo, Wahono & Sudibyo, Elok & Suryanti, Suryanti & Sari, Dhita & Inzanah, I. & Setiawan, Beni. (2020). The Effectiveness of Gadget-Based Interactive Multimedia in Improving Generation Z's Scientific Literacy. Jurnal Pendidikan IPA Indonesia. 9. 248-256. 10.15294/jpii.v9i2.23208.
2. Jörg-Robert Schreiber and Hannes Siege (Eds). 2016. Curriculum Framework Education for Sustainable Development. Bonn: PEFC.

Supporting lecturer	Prof.Dr. Wahono Widodo, M.Si. Dr. Elok Sudibyo, 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	Evaluate the nature, assumptions, and foundations of curriculum development	1. Evaluating the nature of Science Education curriculum development 2. Evaluate assumptions and standards for Science Education curriculum development 3. Evaluate the results of curriculum development for the Bachelor of Science Education Study Program	**Form of Assessment** : Participatory Activities	Offline: discussing the nature, assumptions and foundations of curriculum development, as well as an overview of curriculum development for the Bachelor of Science Education Study Program. 2 x 50'	Studying the literature and making a PPT on the results of the study then uploading the results of the study on SIDIA, synchronously: discussing the nature, assumptions and foundations of curriculum development, as well as an overview of the curriculum development for the Bachelor of Science Education Study Program. 2 x 50'	**Material:** Curriculum preparation and criticism **References:** *Roos, Alistair. 2005. Curriculum Construction and Critique. London: Falmer Press.* **Material:** Curriculum preparation **Reference:** *Oerstein, AC & Hunkins, FP 2018. Curriculum: Foundation, Principles, and Issues. London: Pearson.* **Material:** Curriculum development guide **Reference:** *Directorate General of Higher Education. 2020. Independent Learning Guidebook Guide - Merdeka Campus. Jakarta: Ministry of Education and Culture.*	5%

2	Evaluate the nature, assumptions, and foundations of curriculum development	1. Evaluating the nature of Science Education curriculum development 2. Evaluate assumptions and standards for Science Education curriculum development 3. Evaluate the results of curriculum development for the Bachelor of Science Education Study Program	**Form of Assessment** : Participatory Activities, Tests	Offline: discussing the nature, assumptions and foundations of curriculum development, as well as an overview of curriculum development for the Bachelor of Science Education Study Program. 2 x 50'	Studying the literature and making a PPT on the results of the study then uploading the results of the study on SIDIA, synchronously: discussing the nature, assumptions and foundations of curriculum development, as well as an overview of the curriculum development for the Bachelor of Science Education Study Program. 2 x 50'	**Material:** Curriculum preparation and criticism **References:** *Roos, Alistair. 2005. Curriculum Construction and Critique. London: Falmer Press.* **Material:** Curriculum preparation **Reference:** *Oerstein, AC & Hunkins, FP 2018. Curriculum: Foundation, Principles, and Issues. London: Pearson.* **Material:** Curriculum development guide **Reference:** *Directorate General of Higher Education. 2020. Independent Learning Guidebook Guide - Merdeka Campus. Jakarta: Ministry of Education and Culture.*	5%

3	Evaluate the nature, assumptions, and foundations of curriculum development	1. Evaluate the results of curriculum development for the Bachelor of Science Education Study Program 2. Analyzing Curriculum and Educational Politics	**Form of Assessment** : Participatory Activities, Tests	Offline: discussing the nature, assumptions and foundations of curriculum development, as well as an overview of curriculum development for the Bachelor of Science Education Study Program. 2 x 50'	Studying the literature and making a PPT on the results of the study then uploading the results of the study on SIDIA, synchronously: discussing the nature, assumptions and foundations of curriculum development, as well as an overview of the curriculum development for the Bachelor of Science Education Study Program. 2 x 50'	**Material:** Curriculum preparation and criticism **References:** *Roos, Alistair. 2005. Curriculum Construction and Critique. London: Falmer Press.* **Material:** Curriculum preparation **Reference:** *Oerstein, AC & Hunkins, FP 2018. Curriculum: Foundation, Principles, and Issues. London: Pearson.* **Material:** Curriculum development guide **Reference:** *Directorate General of Higher Education. 2020. Independent Learning Guidebook Guide - Merdeka Campus. Jakarta: Ministry of Education and Culture.*	5%

4	Evaluating science education curriculum development methods		**Form of Assessment** : Participatory Activities, Tests	Offline: discussing UBD, application cases, and curriculum development for the Bachelor of Science Education Study Program. 2 x 50'	Study the literature and make a PPT on the results of the study then upload the results of the study on SIDIA, synchronously: UBD and curriculum development 2 x 50'	**Material:** Curriculum preparation and criticism **References:** *Roos, Alistair. 2005. Curriculum Construction and Critique. London: Falmer Press.* **Material:** Curriculum development methods **References:** *Aris Junaidi et al. 2020. Preparing the Higher Education Curriculum in the Industrial Era 4.0 to Support Independent Learning - Independent Campuses. Jakarta: Ministry of Education and Culture.* **Material:** UBD **Reference:** *Wiggins, Grant P. 2011. The understanding by design guide to creating high-quality units / Grant Wiggins and Jay McTighe. Virginia: ASCD.*	5%

5	Evaluating science education curriculum development methods	1. Analyzing OBE/OBC 2. Evaluate the implementation of OBE/OBC	**Criteria:** Presentations and activities **Form of Assessment** : Participatory Activities, Tests	Offline: discussing OBE/OBC, application cases, and curriculum development for the Bachelor of Science Education Study Program. 2 x 50'	Study the literature and make a PPT on the results of the study then upload the results of the study on SIDIA, synchronously: OBE/OBC and Curriculum Development 2 x 50'	**Material:** Curriculum preparation and criticism **References:** *Roos, Alistair. 2005. Curriculum Construction and Critique. London: Falmer Press.* **Material:** Curriculum development methods **References:** *Aris Junaidi et al. 2020. Preparing the Higher Education Curriculum in the Industrial Era 4.0 to Support Independent Learning - Independent Campuses. Jakarta: Ministry of Education and Culture.* **Material:** UBD **Reference:** *Wiggins, Grant P. 2011. The understanding by design guide to creating high-quality units / Grant Wiggins and Jay McTighe. Virginia: ASCD.*	5%

6	Evaluating science education curriculum development methods	1. Analyzing SNDIKTI and NSES 2. Evaluate the implementation of SNDIKTI in the Science Education curriculum	**Criteria:** Presentations and activities **Form of Assessment** : Participatory Activities, Tests	Offline: discussing SNDIKTI and NSES, implementation cases, and curriculum development for the Bachelor of Science Education Study Program. 2 x 50'	Study the literature and make a PPT on the results of the study then upload the results of the study on SIDIA, synchronously: SNDIKTI and NSES and Curriculum development 2 x 50'	**Material:** Curriculum preparation and criticism **References:** *Roos, Alistair. 2005. Curriculum Construction and Critique. London: Falmer Press.* **Material:** Curriculum development methods **References:** *Aris Junaidi et al. 2020. Preparing the Higher Education Curriculum in the Industrial Era 4.0 to Support Independent Learning - Independent Campuses. Jakarta: Ministry of Education and Culture.* **Material:** UBD **Reference:** *Wiggins, Grant P. 2011. The understanding by design guide to creating high-quality units / Grant Wiggins and Jay McTighe. Virginia: ASCD.*	5%

7	Evaluating science education curriculum development methods	1. Analyze curriculum components 2. Evaluating the Science Education curriculum in terms of curriculum components	**Criteria:** Presentations and activities **Form of Assessment** : Participatory Activities, Tests	Offline: discussing the steps for developing the OBE and SNDIKTI-based Science Education Study Program curriculum. 2 x 50‘	Studying literature and making PPT results from studies and case studies then uploading study results to SIDIA, synchronously: steps for curriculum development 2 x 50‘	**Material:** Curriculum preparation and criticism **References:** *Roos, Alistair. 2005. Curriculum Construction and Critique. London: Falmer Press.* **Material:** Curriculum development methods **References:** *Aris Junaidi et al. 2020. Preparing the Higher Education Curriculum in the Industrial Era 4.0 to Support Independent Learning - Independent Campuses. Jakarta: Ministry of Education and Culture.* **Material:** UBD **Reference:** *Wiggins, Grant P. 2011. The understanding by design guide to creating high-quality units / Grant Wiggins and Jay McTighe. Virginia: ASCD.*	5%

8	Evaluating science education curriculum development methods	all CPMK indicators meeting 1-7	**Criteria:** Presentations and activities **Form of Assessment** : Participatory Activities, Tests	UTS 2 x 50‘	UTS 2 x 50‘	**Material:** Curriculum preparation and criticism **References:** *Roos, Alistair. 2005. Curriculum Construction and Critique. London: Falmer Press.* **Material:** Curriculum development methods **References:** *Aris Junaidi et al. 2020. Preparing the Higher Education Curriculum in the Industrial Era 4.0 to Support Independent Learning - Independent Campuses. Jakarta: Ministry of Education and Culture.* **Material:** UBD **Reference:** *Wiggins, Grant P. 2011. The understanding by design guide to creating high-quality units / Grant Wiggins and Jay McTighe. Virginia: ASCD.*	5%

9	Evaluating science education curriculum development methods	1. Analyzing MBKM policies 2. Evaluating the Science Education curriculum in terms of MBKM 3. Evaluating the implementation of the curriculum and MBKM in the case of Bachelor of Science Education	**Criteria:** Presentations and activities **Form of Assessment** : Participatory Activities	Offline: discussing policies and implementation of MBKM in the Bachelor of Science Education curriculum 2 x 50‘	Studying literature and making PPT results from studies and case studies then uploading study results to SIDIA, synchronously: MBKM policy and implementation in the Bachelor of Science Education curriculum 2 x 50‘	**Material:** Curriculum preparation and criticism **References:** *Roos, Alistair. 2005. Curriculum Construction and Critique. London: Falmer Press.* **Material:** Curriculum development methods **References:** *Aris Junaidi et al. 2020. Preparing the Higher Education Curriculum in the Industrial Era 4.0 to Support Independent Learning - Independent Campuses. Jakarta: Ministry of Education and Culture.* **Material:** UBD **Reference:** *Wiggins, Grant P. 2011. The understanding by design guide to creating high-quality units / Grant Wiggins and Jay McTighe. Virginia: ASCD.* **Material:** MBKM **Library:** *Directorate General of Higher Education. 2020. Independent Learning Guidebook Guide - Merdeka Campus. Jakarta: Ministry of Education and Culture.*	5%

10	Evaluating science education curriculum development methods	1. Analyzing curriculum evaluation 2. Evaluate the implementation and evaluation results of the Science Education curriculum	**Criteria:** Presentations and activities **Form of Assessment** : Participatory Activities	Offline: discussing curriculum evaluation and case studies 2 x 50‘	Studying literature and making PPT results from studies and case studies then uploading study results to SIDIA, synchronously: curriculum evaluation and case studies 2 x 50‘	**Material:** Curriculum preparation and criticism **References:** *Roos, Alistair. 2005. Curriculum Construction and Critique. London: Falmer Press.* **Material:** Curriculum development methods **References:** *Aris Junaidi et al. 2020. Preparing the Higher Education Curriculum in the Industrial Era 4.0 to Support Independent Learning - Independent Campuses. Jakarta: Ministry of Education and Culture.* **Material:** UBD **Reference:** *Wiggins, Grant P. 2011. The understanding by design guide to creating high-quality units / Grant Wiggins and Jay McTighe. Virginia: ASCD.* **Material:** MBKM **Library:** *Directorate General of Higher Education. 2020. Independent Learning Guidebook Guide - Merdeka Campus. Jakarta: Ministry of Education and Culture.*	5%

11	Developing an undergraduate science education curriculum	1. Develop profiles of Bachelor of Science Education graduates according to needs, scientific vision and uniqueness 2. Develop CPL Bachelor of Science Education according to needs, scientific vision and uniqueness 3. Develop relevant study materials 4. Formulate relevant courses 5. Compiling the development results into an Undergraduate Science Education Curriculum Book 6. Create a RPS for 1 selected course according to the dissertation idea	**Criteria:** Presentations and activities **Form of Assessment** : Project Results Assessment / Product Assessment	Offline: completion of individual project assignments for undergraduate science education curriculum development, review and revision of development results 2 x 50‘	Studying literature and making PPT results from studies and case studies then uploading study results to SIDIA, synchronously: individual project assignments for Bachelor of Science Education curriculum development 2 x 50‘	**Material:** Curriculum preparation and criticism **References:** *Roos, Alistair. 2005. Curriculum Construction and Critique. London: Falmer Press.* **Material:** Curriculum development methods **References:** *Aris Junaidi et al. 2020. Preparing the Higher Education Curriculum in the Industrial Era 4.0 to Support Independent Learning - Independent Campuses. Jakarta: Ministry of Education and Culture.* **Material:** UBD **Reference:** *Wiggins, Grant P. 2011. The understanding by design guide to creating high-quality units / Grant Wiggins and Jay McTighe. Virginia: ASCD.* **Material:** MBKM **Library:** *Directorate General of Higher Education. 2020. Independent Learning Guidebook Guide - Merdeka Campus. Jakarta: Ministry of Education and Culture.*	10%

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13	Developing an undergraduate science education curriculum	1. Develop profiles of Bachelor of Science Education graduates according to needs, scientific vision and uniqueness 2. Develop CPL Bachelor of Science Education according to needs, scientific vision and uniqueness 3. Develop relevant study materials 4. Formulate relevant courses 5. Compiling the development results into an Undergraduate Science Education Curriculum Book 6. Create a RPS for 1 selected course according to the dissertation idea	**Criteria:** Presentations and activities **Form of Assessment** : Project Results Assessment / Product Assessment	Offline: completion of individual project assignments for undergraduate science education curriculum development, review and revision of development results 2 x 50‘	Studying literature and making PPT results from studies and case studies then uploading study results to SIDIA, synchronously: individual project assignments for Bachelor of Science Education curriculum development 2 x 50‘	**Material:** Curriculum preparation and criticism **References:** *Roos, Alistair. 2005. Curriculum Construction and Critique. London: Falmer Press.* **Material:** Curriculum development methods **References:** *Aris Junaidi et al. 2020. Preparing the Higher Education Curriculum in the Industrial Era 4.0 to Support Independent Learning - Independent Campuses. Jakarta: Ministry of Education and Culture.* **Material:** UBD **Reference:** *Wiggins, Grant P. 2011. The understanding by design guide to creating high-quality units / Grant Wiggins and Jay McTighe. Virginia: ASCD.* **Material:** MBKM **Library:** *Directorate General of Higher Education. 2020. Independent Learning Guidebook Guide - Merdeka Campus. Jakarta: Ministry of Education and Culture.*	10%

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Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
1.	Participatory Activities	32.5%
2.	Project Results Assessment / Product Assessment	55%
3.	Test	17.5%
		100%

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** 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.
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.