				Document Code

Universitas Negeri Surabaya
Faculty of Mathematics and Natural Sciences
Doctoral Study Program in Mathematics Education

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Qualitative Research Methodology in Mathematics Education (Methodology of Qualitative Research in Mathematics Education)	8400203040		T=3	P=0	ECTS=7.56	1	July 17, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	Prof. Dr. Tatag Yuli Eko Siswono, M.Pd	....	Prof. Dr. Tatag Yuli Eko Siswono, S.Pd., M.Pd.

Learning model	**Project Based Learning**

Program Learning Outcomes (PLO)	**PLO study program that is charged to the course**
	Program Objectives (PO)
	PO - 1 Make comparisons of quantitative and qualitative research paradigms according to a scientific and critical attitude
	PO - 2 Analyzing a qualitative research approach using effective and communicative arguments to design mathematics education research
	PO - 3 Applying qualitative research concepts to find new research ideas in mathematics education
	PLO-PO Matrix

P.O
PO-1
PO-2
PO-3

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																
PO-3																

Short Course Description	Study of the concept of qualitative research, which includes the nature of qualitative research, qualitative research paradigms consisting of pragmatic qualitative, grounded theory, ethnography, phenomenology, single and multi-case cases, historical approaches, and symbolic interactions, qualitative research design, various participant selection and data collection techniques integrative and recursive, various data analysis methods consisting of coding, constant comparison methods, thematic pattern analysis, interactive models, multicases, recursive abstraction, and computer or software-assisted analysis, various views of the quality of qualitative research, and various methods of checking data validity, and design research. Lectures begin with an explanation of concepts and principles, assignments and discussions with students, as well as presentations using ICT with an assessment system including assignments (30%), participation (20%), mid-semester assessment (20%) and final semester assessment (30%) .

References	**Main :**
	1. Ahsbahs, A. B., Knipping, C., & Presmeg, N. (Eds.). 2015. Approaches to qualitative research in mathematics education. Dordrecht: Springer. 2. Biklen, S. K. & Kasella, R.. 2007 . A Practical guide to the qualitative dissertation. New York: Teachers College Press.
	Supporters:

1. English, L. D. (ed.).. 2002 . Handbook of international research in mathematics education . New York: Rouledge.
2. Goodchild, S., & English, L. D. (Eds.). 2002 . Researching mathematics classrooms: A Critical Examination of Methodology . Westport CT: Praeger Publishers.
3. Miles, M. B., Huberman, A. M., & Saldana, J.. 2014. Qualitative data analysis: a methods sourcebook . London: Sage Publications Ltd.
4. Merriam, S. B.. 2007 . Qualitative research and case study application in education . San Fransisco: Jossey Bass Publisher.

Supporting lecturer	Dr. Agung Lukito, M.S. Prof. Dr. Tatag Yuli Eko Siswono, 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	Analyze the differences between quantitative and qualitative approaches in research	Describe the differences between quantitative and qualitative research	**Criteria:** At least there is an explanation about the novelty of a research	Offline learning: Task 1. Presentation Materials Principles of Qualitative Research as a Research Paradigm 3 X 50	Online learning: Assignments, Lectures, Presentations, and Discussions via Googleclassroom/ Googlemeet, WAG, and Vilearn-Vinesa 3 x 50'	**Material:** Paradigms and Basic Concepts of Quantitative and Qualitative Research **References:** *Ahsbahs, AB, Knipping, C., & Presmeg, N. (Eds.). 2015. Approaches to qualitative research in mathematics education. Dordrecht: Springer.*	3%
2	Analyzing the Grounded Theory approach	Describing Grounded Theory	**Criteria:** Suitability and accuracy of case solutions, depth of understanding of cases, critical thinking and analytical skills, creativity in problem solving	Assignments, Lectures, Presentations and Discussions 3 X 50	Presentations and Discussions via Googleclassroom/ Googlemeet, WAG, and Vilearn-Vinesa 3 x 50'	**Material:** Grounded Theory **References:** *Ahsbahs, AB, Knipping, C., & Presmeg, N. (Eds.). 2015. Approaches to qualitative research in mathematics education. Dordrecht: Springer.*	3%
3	Analyzing Approaches to Argumentation Reconstruction	Describe Approaches to Argumentation Reconstruction	**Criteria:** Suitability and accuracy of case solutions, depth of understanding of cases, critical thinking and analytical skills, creativity in problem solving **Form of Assessment** : Participatory Activities, Portfolio Assessment	Assignments, Lectures, Presentations and Discussions 3 X 50	Presentations and Discussions via Googleclassroom/ Googlemeet, WAG, and Vilearn-Vinesa 3 x 50'	**Material:** Approaches to Reconstructing Argumentation **Bibliography:** *Ahsbahs, AB, Knipping, C., & Presmeg, N. (Eds.). 2015. Approaches to qualitative research in mathematics education. Dordrecht: Springer.*	4%
4	Analyzing the ideal type construction approach	Describe ideal type construction	**Criteria:** Suitability and accuracy of case solutions, depth of understanding of cases, critical thinking and analytical skills, creativity in problem solving	Assignments, Lectures, Presentations and Discussions 3 X 50	Presentations and Discussions via Googleclassroom/ Googlemeet, WAG, and Vilearn-Vinesa 3 x 50'	**Material:** Ideal type construction **References:** *Ahsbahs, AB, Knipping, C., & Presmeg, N. (Eds.). 2015. Approaches to qualitative research in mathematics education. Dordrecht: Springer.*	4%

5	Analyzing Semiotic Research	Describing Semiotic Research	**Criteria:** Suitability and accuracy of case solutions, depth of understanding of cases, critical thinking and analytical skills, creativity in problem solving	Assignments, Lectures, Presentations and Discussions 3 X 50	Presentations and Discussions via Googleclassroom/ Googlemeet, WAG, and Vilearn-Vinesa 3 x 50'	**Material:** Semiotic Research **Bibliography:** *Ahsbahs, AB, Knipping, C., & Presmeg, N. (Eds.). 2015. Approaches to qualitative research in mathematics education. Dordrecht: Springer.*	4%
6	Analyzing Abstraction Theory and Methodology	Describe Abstraction Theory and Methodology	**Criteria:** Suitability and accuracy of case solutions, depth of understanding of cases, critical thinking and analytical skills, creativity in problem solving	Assignments, Lectures, Presentations and Discussions 3 X 50	Presentations and Discussions via Googleclassroom/ Googlemeet, WAG, and Vilearn-Vinesa 3 x 50	**Material:** Abstraction Theory and Methodology **References:** *Ahsbahs, AB, Knipping, C., & Presmeg, N. (Eds.). 2015. Approaches to qualitative research in mathematics education. Dordrecht: Springer.*	4%
7	Analyzing Networking Theories	Describe Networking Theories	**Criteria:** Suitability and accuracy of case solutions, depth of understanding of cases, critical thinking and analytical skills, creativity in problem solving	Assignments, Lectures, Presentations and Discussions 3 X 50	Presentations and Discussions via Googleclassroom/ Googlemeet, WAG, and Vilearn-Vinesa 3 x 50'	**Material:** Networking Theories **Bibliography:** *Ahsbahs, AB, Knipping, C., & Presmeg, N. (Eds.). 2015. Approaches to qualitative research in mathematics education. Dordrecht: Springer.*	4%
8		Midterm exam	**Criteria:** Accuracy of Assignment Answers	3 X 50	3 x 50'		20%
9	Analyzing Multi-level Analysis	Describe Multi-level Analysis	**Criteria:** Suitability and accuracy of case solutions, depth of understanding of cases, critical thinking and analytical skills, creativity in problem solving	Assignments, Lectures, Presentations and Discussions 3 X 50	Presentations and Discussions via Googleclassroom/ Googlemeet, WAG, and Vilearn-Vinesa 3 x 50'	**Material:** Multi-level Analysis **Bibliography:** *Ahsbahs, AB, Knipping, C., & Presmeg, N. (Eds.). 2015. Approaches to qualitative research in mathematics education. Dordrecht: Springer.*	4%
10	Analyzing Mixed Methods	Describe Mixed Method	**Criteria:** Suitability and accuracy of case solutions, depth of understanding of cases, critical thinking and analytical skills, creativity in problem solving	Assignments, Lectures, Presentations and Discussions 3 X 50	Presentations and Discussions via Googleclassroom/ Googlemeet, WAG, and Vilearn-Vinesa 3 x 50'	**Material:** Mixed Method **References:** *Ahsbahs, AB, Knipping, C., & Presmeg, N. (Eds.). 2015. Approaches to qualitative research in mathematics education. Dordrecht: Springer.*	4%

No	Kemampuan	Bahan Kajian	Penilaian	Bentuk Pembelajaran	Metode / Media	Materi	Bobot
11	Describe the Qualitative Content Analysis approach	Describe Qualitative Content Analysis	**Criteria:** Suitability and accuracy of case solutions, depth of understanding of cases, critical thinking and analytical skills, creativity in problem solving	Assignments, Lectures, Presentations and Discussions 3 X 50	Presentations and Discussions via Googleclassroom/ Googlemeet, WAG, and Vilearn-Vinesa 3 x 50'	**Material:** Qualitative Content Analysis **Bibliography:** *Ahsbahs, AB, Knipping, C., & Presmeg, N. (Eds.). 2015. Approaches to qualitative research in mathematics education. Dordrecht: Springer.*	4%
12	Analyzing Triangulation and Cultural Studies	Describing Triangulation and Cultural Studies	**Criteria:** Suitability and accuracy of case solutions, depth of understanding of cases, critical thinking and analytical skills, creativity in problem solving	Assignments, Lectures, Presentations and Discussions 3 X 50	Presentations and Discussions via Googleclassroom/ Googlemeet, WAG, and Vilearn-Vinesa 3 x 50'	**Material:** Triangulation and Cultural Studies **Literature:** *Ahsbahs, AB, Knipping, C., & Presmeg, N. (Eds.). 2015. Approaches to qualitative research in mathematics education. Dordrecht: Springer.*	4%
13	Analyzing Design Research as a Methodology	Constructing Design Research as a Methodology	**Criteria:** Suitability and accuracy of case solutions, depth of understanding of cases, critical thinking and analytical skills, creativity in problem solving	Assignments, Lectures, Presentations and Discussions 3 X 50	Presentations and Discussions via Googleclassroom/ Googlemeet, WAG, and Vilearn-Vinesa 3 x 50'	**Material:** Design Research as a Methodology **Literature:** *Ahsbahs, AB, Knipping, C., & Presmeg, N. (Eds.). 2015. Approaches to qualitative research in mathematics education. Dordrecht: Springer.*	4%
14	Draft a qualitative research proposal.	Prepare quality mathematics education research proposals	**Form of Assessment**: Project Results Assessment / Product Assessment	Assignments, Lectures, Presentations and Discussions 3 X 50	Presentations and Discussions via Googleclassroom/ Googlemeet, WAG, and Vilearn-Vinesa 3 x 50'	**Material:** Preparation of a Qualitative Research Proposal **Bibliography:** *English, LD (ed.).. 2002 . Handbook of international research in mathematics education. New York: Rouledge.*	3%
15		Prepare quality mathematics education research proposals	**Criteria:** Accuracy of Assignment Answers **Form of Assessment**: Project Results Assessment / Product Assessment	Assignments, Lectures, Presentations and Discussions 3 X 50	Presentations and Discussions via Googleclassroom/ Googlemeet, WAG, and Vilearn-Vinesa 3 x 50'	**Material:** Preparation of a Qualitative Research Proposal **Bibliography:** *English, LD (ed.).. 2002 . Handbook of international research in mathematics education. New York: Rouledge.*	3%

| 16 | | Final Semester Examination (UAS)-Final Project Report | **Criteria:** Appropriateness and accuracy of the article format (20%), novelty of the research theme (30%), accuracy and coherence of the theoretical framework (40%) and accuracy of writing and use of language (10%) | 100' | 100' | **Material:** Preparation of a Qualitative Research Proposal **Bibliography:** *English, LD (ed.).. 2002 . Handbook of international research in mathematics education. New York: Rouledge.* | 30% |

Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
1.	Participatory Activities	2%
2.	Project Results Assessment / Product Assessment	6%
3.	Portfolio Assessment	2%
		10%

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.