



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

Document Code

SEMESTER LEARNING PLAN

| | | | | | | | | | | | | | | | | | |
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| Courses | CODE | Course Family | Credit Weight | SEMESTER | Compilation Date | | | | | | | | | | | | |
| Educational Research Methodology | 8420203129 | | T=3 P=0 ECTS=4.77 | 5 | July 18, 2024 | | | | | | | | | | | | |
| AUTHORIZATION | SP Developer | | Course Cluster Coordinator | Study Program Coordinator | | | | | | | | | | | | | |
| | Prof. Dr. Tatag Yuli Eko Siswono, M.Pd | | | Dr. Endah Budi Rahaju, M.Pd. | | | | | | | | | | | | | |
| Learning model | Project Based Learning | | | | | | | | | | | | | | | | |
| Program Learning Outcomes (PLO) | PLO study program which is charged to the course | | | | | | | | | | | | | | | | |
| | Program Objectives (PO) | | | | | | | | | | | | | | | | |
| | PLO-PO Matrix | | | | | | | | | | | | | | | | |
| | | P.O | | | | | | | | | | | | | | | |
| | 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 |
| Short Course Description | Studying the nature, objectives, types of research methods that are relevant to educational research and equipping students to be able to make decisions in applying research methods to find alternative solutions in solving educational problems which include research paradigms, frameworks of thinking, hypotheses and variables, population and samples, research instruments, research design, data collection techniques, and data analysis are packaged in a research proposal for mathematics education through task-based learning | | | | | | | | | | | | | | | | |
| References | Main : | | | | | | | | | | | | | | | | |
| | 1. Siswono, Tatag Y.E. 2020. Paradigma Penelitian Pendidikan: Pengembangan Teori dan Aplikasi Pendidikan Matematika . Bandung: Rosdakarya 2. Laksono, K., Siswono, T.Y.E. 2020. Penelitian Tindakan Kelas . Bandung: Remaja Rosdakarya 3. Moleong, Lexy J. 2004. Metodologi Penelitian Kualitatif . Bandung: Remaja Rosdakarya | | | | | | | | | | | | | | | | |
| | Supporters: | | | | | | | | | | | | | | | | |
| Supporting lecturer | Prof. Dr. Tatag Yuli Eko Siswono, S.Pd., M.Pd. Dr. Siti Khabibah, M.Pd. Prof. Rooselyna Ekawati, Ph.D. Dini Kinati Fardah, S.Pd.Si., M.Pd. Ahmad Wachidul Kohar, S.Pd., M.Pd. Nina Rinda Prihartiwi, S.Pd., M.Pd. Dayat Hidayat, S.Pd., M.Pd., M.Si. | | | | | | | | | | | | | | | | |
| Week- | Final abilities of each learning stage (Sub-PO) | Evaluation | | Help Learning, Learning methods, Student Assignments, [Estimated time] | | Learning materials [References] | Assesment Weight (%) | | | | | | | | | | |
| | | Indicator | Criteria & Form | Offline (offline) | Online (online) | | | | | | | | | | | | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | | | | | | | | | | |

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| 1 | Explain the basic concepts of research. | Explain the basic concepts of research | Form of Assessment : Participatory Activities | Expository, discussion, question and answer 3 X 50' | Expository, question and answer, discussion via zoom or google meeting 3x50' | Material: Sources of knowledge and various kinds of truth; The Nature of Science and the Nature of Research: Research Methodologies and Paradigms Literature: Siswono, Tatag YE 2020. <i>Educational Research Paradigms: Theory Development and Applications in Mathematics Education.</i> Bandung: Rosdakarya | 3% |
| 2 | Identifying research problems | 1. Identify the problem 2. Formulate the problem | Criteria: Suitability and accuracy of case solutions, depth of understanding of cases, critical thinking and analytical skills, creativity in problem solving | Expository Observation 3 X 50' | Expository, question and answer, discussion via zoom or google meeting 3x50' | Material: Nature and sources of research problems; Identification and Formulation of Research Problems Literature: Siswono, Tatag YE 2020. <i>Educational Research Paradigms: Theory Development and Applications in Mathematics Education.</i> Bandung: Rosdakarya | 3% |
| 3 | Identifying research problems | 1. Explain the flow of the scientific approach 2. Explain the types of research 3. Explain the characteristics of each type of research | Criteria: Suitability and accuracy of case solutions, depth of understanding of cases, critical thinking and analytical skills, creativity in problem solving | Expository Observation 3 X 50' | Expository, question and answer, discussion via zoom or google meeting 3x50' | Material: Experimental Research References: Siswono, Tatag YE 2020. <i>Educational Research Paradigm: Theory Development and Applications in Mathematics Education.</i> Bandung: Rosdakarya | 4% |
| 4 | Describe the types and characteristics of each type of research. | Describe experimental research methods (Quantitative) and examples | Criteria: Suitability and accuracy of case solutions, depth of understanding of cases, critical thinking and analytical skills, creativity in problem solving | Expository Assignment to write a paper for each type of research 3 X 50' | Expository, question and answer, discussion via zoom or google meeting 3x50' | Material: Research Instruments Library: Siswono, Tatag YE 2020. <i>Educational Research Paradigms: Theory Development and Applications in Mathematics Education.</i> Bandung: Rosdakarya | 4% |

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| 5 | Describe the types and characteristics of each type of research. | Describe non-experimental research methods (descriptive-quantitative) | Criteria: Suitability and accuracy of case solutions, depth of understanding of cases, critical thinking and analytical skills, creativity in problem solving | Assignment discussion, divided by presenters & discussants 3 X 50' | Expository, question and answer, discussion via zoom or google meeting 3x50' | Material: Non-Experimental Research (Descriptive) References: Siswono, Tatag YE 2020. <i>Educational Research Paradigm: Theory Development and Applications in Mathematics Education.</i> Bandung: Rosdakarya | 4% |
| 6 | Describe the types and characteristics of each type of research. | Describe qualitative research methods and examples | Criteria: Suitability and accuracy of case solutions, depth of understanding of cases, critical thinking and analytical skills, creativity in problem solving | Assignment discussion, divided by presenters & discussants 3 X 50' | Expository, question and answer, discussion via zoom or google meeting 3x50' | Material: Correlational Research Bibliography: Siswono, Tatag YE 2020. <i>Educational Research Paradigm: Theory Development and Applications in Mathematics Education.</i> Bandung: Rosdakarya | 4% |
| 7 | Describe the types and characteristics of each type of research. | Describe the methods of action research and development research. | | Expository Discussion 3 X 50' | Expository, question and answer, discussion via zoom or google meeting 3x50' | Material: Qualitative Research References: Siswono, Tatag YE 2020. <i>Educational Research Paradigm: Theory Development and Applications in Mathematics Education.</i> Bandung: Rosdakarya | 4% |
| 8 | UTS | 1. Describe the basic concepts of research 2. Describe the types and approaches of experimental, descriptive, qualitative, classroom action, and development/design research. 3. Comparing different types of research. | Form of Assessment : Test | Written exam 3 X 50' | Midterm Exam 3x50' | | 20% |
| 9 | Choose a research approach and design according to the problem being solved. | Plan a research design according to the problems and research methods that are of student interest and focus. | Criteria: Suitability and accuracy of case solutions, depth of understanding of cases, critical thinking and analytical skills, creativity in problem solving | Discussion and question and answer, expository 3 X 50' | Expository, question and answer, discussion via zoom or google meeting 3x50' | Material: Classroom Action Research Bibliography: Siswono, Tatag YE 2020. <i>Educational Research Paradigm: Theory Development and Applications in Mathematics Education.</i> Bandung: Rosdakarya | 4% |

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| 10 | Prepare a research proposal | Prepare a research proposal | Criteria: Suitability and accuracy of case solutions, depth of understanding of cases, critical thinking and analytical skills, creativity in problem solving | 3 X 50' Standalone Task | Expository, question and answer, discussion via zoom or google meeting 3x50' | Material: Combined Research Methods References: <i>Moleong, Lexy J. 2004. Qualitative Research Methodology. Bandung: Rosdakarya Youth</i> | 4% |
| 11 | Prepare a research proposal | Prepare a research proposal | Criteria: Suitability and accuracy of case solutions, depth of understanding of cases, critical thinking and analytical skills, creativity in problem solving | 3 X 50' Standalone Task | Expository, question and answer, discussion via zoom or google meeting 3x50' | Material: Article Review Bibliography: <i>Siswono, Tatag YE 2020. Educational Research Paradigms: Theory Development and Applications in Mathematics Education. Bandung: Rosdakarya</i> | 4% |
| 12 | Communicate research plans | Communicate research plans | Criteria: Suitability and accuracy of project solutions, depth of understanding of the project, critical thinking and analytical skills, creativity in problem solving | Discussion Seminar 3 X 50' | Question and answer, discussion via zoom or google meeting 3x50' | Material: Preparation of Proposal Draft Bibliography : <i>Siswono, Tatag YE 2020. Educational Research Paradigm: Theory Development and Applications in Mathematics Education. Bandung: Rosdakarya</i> | 3% |
| 13 | Communicate research plans | Communicate research plans | Criteria: Suitability and accuracy of project solutions, depth of understanding of the project, critical thinking and analytical skills, creativity in problem solving | Discussion Seminar 3 X 50' | Question and answer, discussion via zoom or google meeting 3x50' | Material: Preparation of Proposal Draft Bibliography : <i>Moleong, Lexy J. 2004. Qualitative Research Methodology. Bandung: Rosdakarya Youth</i> | 3% |
| 14 | Communicate research plans | Communicate research plans | Criteria: Suitability and accuracy of project solutions, depth of understanding of the project, critical thinking and analytical skills, creativity in problem solving | Discussion Seminar 3 X 50' | Question and answer, discussion via zoom or google meeting 3x50' | Material: Preparation of Proposal Draft Bibliography : <i>Siswono, Tatag YE 2020. Educational Research Paradigm: Theory Development and Applications in Mathematics Education. Bandung: Rosdakarya</i> | 3% |

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| 15 | Communicate research plans | Communicate research plans | Criteria: Suitability and accuracy of project solutions, depth of understanding of the project, critical thinking and analytical skills, creativity in problem solving | Discussion Seminar 3 X 50' | Question and answer, discussion via zoom or google meeting 3x50' | Material: Preparation of Proposal Draft Bibliography : Siswono, Tatag YE 2020. Educational Research Paradigm: Theory Development and Applications in Mathematics Education. Bandung: Rosdakarya | 3% |
| 16 | | Final Semester Examination (UAS)- Proposal 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%) | Final Semester Exam 3x50' | | | 30% |

Evaluation Percentage Recap: Project Based Learning

| No | Evaluation | Percentage |
|----|--------------------------|------------|
| 1. | Participatory Activities | 3% |
| 2. | Test | 20% |
| | | 23% |

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.