



**Universitas Negeri Surabaya**  
**Faculty of Engineering,**  
**Building Engineering Education Undergraduate Study Program**

Document Code

**SEMESTER LEARNING PLAN**

| <b>Courses</b>                         | <b>CODE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Course Family</b>                                                                                                                           | <b>Credit Weight</b>              | <b>SEMESTER</b>                                                         | <b>Compilation Date</b> |                                   |                       |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------------------------------------------------------|-------------------------|-----------------------------------|-----------------------|
| Building Structure I                   | 8320502215                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                | T=2 P=0 ECTS=3.18                 | 1                                                                       | July 18, 2024           |                                   |                       |
| <b>AUTHORIZATION</b>                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>SP Developer</b>                                                                                                                            | <b>Course Cluster Coordinator</b> | <b>Study Program Coordinator</b>                                        |                         |                                   |                       |
|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .....                                                                                                                                          | .....                             | Dr. Gde Agus Yudha Prawira Adistana, S.T., M.T.                         |                         |                                   |                       |
| <b>Learning model</b>                  | <b>Case Studies</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                |                                   |                                                                         |                         |                                   |                       |
| <b>Program Learning Outcomes (PLO)</b> | <b>PLO study program that is charged to the course</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                |                                   |                                                                         |                         |                                   |                       |
|                                        | <b>Program Objectives (PO)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                |                                   |                                                                         |                         |                                   |                       |
|                                        | <b>PLO-PO Matrix</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                |                                   |                                                                         |                         |                                   |                       |
|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | P.O                                                                                                                                            |                                   |                                                                         |                         |                                   |                       |
| <b>Short Course Description</b>        | This course provides understanding and mastery of non-storied building construction which includes building problems, brick ties, wood connections, doors and windows, foundations, ceilings and floors. Students' ability to apply theory in the form of working drawings (graphics) is a very important supporting element in this course. Lectures are held through an expository approach in the form of lectures and questions and answers followed by discussion and reflection activities which are complemented by the use of LCD, OHP, and an inquiry approach, namely partial/structured completion of individual assignments. |                                                                                                                                                |                                   |                                                                         |                         |                                   |                       |
|                                        | <b>References</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                |                                   |                                                                         |                         |                                   |                       |
| <b>References</b>                      | <b>Main :</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                |                                   |                                                                         |                         |                                   |                       |
|                                        | 1. Benny Puspantoro. 1996. Konstruksi Bangunan Gedung Tidak Bertingkat. Yogyakarta: Universitas Atma Jaya<br>2. Benny Puspantoro.1996. Konstruksi Bangunan Gedung Bertingkat Rendah. Yogyakarta: Universitas Atma Jaya<br>3. Tamrin A. 2008. Teknik Konstruksi Bangunan Gedung. Jakarta: Depdiknas<br>4. Dian Ariestadi. 2008. Teknik Struktur Bangunan. Jakarta: Depdiknas<br>5. Suparno. 2008. Teknik Gambar Bangunan. Jakarta: Depdiknas                                                                                                                                                                                              |                                                                                                                                                |                                   |                                                                         |                         |                                   |                       |
| <b>Supporting lecturer</b>             | <b>Supporters:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                |                                   |                                                                         |                         |                                   |                       |
|                                        | Hendra Wahyu Cahyaka, S.T., M.T.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                |                                   |                                                                         |                         |                                   |                       |
| 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                                      | Understanding building types<br>Understanding building parts<br>Understanding building lines                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.Students are able to:<br>Explain the meaning of building<br>2.Explain the various types of buildings<br>3.Explain the various building lines |                                   | Lecture<br>Question and Answer<br>Discussion<br>2 X 50                  |                         |                                   | 0%                    |

|    |                                                                                                                                                                  |                                                                                                                                                                                |                                                                           |                                                                                      |  |  |    |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--|--|----|
| 2  | Understanding the shapes of walls Understanding the bonding conditions for bricks                                                                                | 1.Students are able to:<br>Explain the shapes of walls<br>2.Explain the requirements for bonding bricks                                                                        |                                                                           | Lecture,<br>Question and Answer,<br>Discussion<br>2 X 50                             |  |  | 0% |
| 3  | Understanding the various types of brick bonding. Applying various types of brick bonding theory to the picture                                                  | 1.Students are able to:<br>Identify various types of brick bonds<br>2.Draw various types of brick ties                                                                         |                                                                           | Lecture<br>Question and Answer<br>Discussion<br>Drawing<br>Workshop<br>2 X 50        |  |  | 0% |
| 4  | Understanding things related to arches above door or window frames Applying various types of arches above door or window frames in the drawing                   | 1.Students are able to explain things related to arches above door or window frames<br>2.Draw an arc over a door or window frame                                               |                                                                           | Lectures,<br>Questions and Answers,<br>Discussions,<br>2 X 50<br>Drawing<br>Workshop |  |  | 0% |
| 5  | Understand the requirements for wood joints                                                                                                                      | Students are able to explain the requirements for wood connections                                                                                                             |                                                                           | Lecture<br>Question and Answer<br>Discussion<br>1 X 1                                |  |  | 0% |
| 6  | Understand the various types of wood joints. Apply various kinds of wood joints in the picture                                                                   | 1.Students are able to:<br>Explain the various types of wood joints<br>2.Draw various types of wood joints                                                                     |                                                                           | Lectures,<br>Questions and Answers,<br>Discussions,<br>2 X 50<br>Drawing<br>Workshop |  |  | 0% |
| 7  | Understanding wood joints in longitudinal, angular, wide and pole directions Applying wood joints in lengthwise, corner, wide and pole directions in the drawing | 1.Students are able to:<br>Explain about wood joints in longitudinal, angled, wide and pole directions<br>2.Draw wood joints in longitudinal, angled, wide and pole directions |                                                                           | Lectures,<br>Questions and Answers,<br>Discussions,<br>2 X 50<br>Drawing<br>Workshop |  |  | 0% |
| 8  | UTS                                                                                                                                                              | UTS                                                                                                                                                                            | <b>Criteria:</b><br>Answering all questions correctly gets a score of 100 | Test<br>2 X 50                                                                       |  |  | 0% |
| 9  | Know the materials of door and window frames                                                                                                                     | 1.Students are able to identify the material of wooden door and window frames<br>2.Aluminum<br>3.Concrete<br>4.Steel                                                           |                                                                           | Lectures,<br>Questions and Answers,<br>Discussions,<br>2 X 50<br>Drawing<br>Workshop |  |  | 0% |
| 10 | Understand the various types of doors and windows Apply the various types of doors and windows in the picture                                                    | 1.Students are able to:<br>Explain the various types of doors and windows<br>2.Draw various doors and windows                                                                  |                                                                           | Lecture,<br>Question and Answer,<br>Discussion<br>2 X 50                             |  |  | 0% |
| 11 | Know the various types of hanging and locking tools                                                                                                              | Students are able to identify various types of hanging and locking devices                                                                                                     |                                                                           | Lecture,<br>Question and Answer,<br>Discussion<br>2 X 50                             |  |  | 0% |
| 12 | Understand the meaning of foundation Understand the various types of foundation                                                                                  | 1.Students are able to:<br>Define the meaning of foundation<br>2.Explain the various types of foundations                                                                      |                                                                           | Lecture,<br>Question and Answer,<br>Discussion<br>2 X 50                             |  |  | 0% |
| 13 | Understanding direct and indirect foundations Applying direct and indirect foundations to drawings                                                               | 1.Students are able to:<br>Explain the basics directly<br>2.Explain indirect foundations<br>3.Drawing direct and indirect foundations                                          |                                                                           | Lectures,<br>Questions and Answers,<br>Discussions,<br>2 X 50<br>Drawing<br>Workshop |  |  | 0% |

|    |                                                                                                                                                                                                                         |                                                                                                                                                                                                                                   |  |                                                                       |  |  |    |
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| 14 | Understanding the definition of a ceiling<br>Understanding the function of a ceiling<br>Knowing the types of ceiling covering materials<br>Understanding the ceiling frame<br>Applying the ceiling frame to the picture | 1.Explain the meaning of ceiling<br>2.Explain the function of the ceiling<br>3.Identify the types of ceiling covering materials<br>4.Explains the ceiling frame<br>5.Drawing of the ceiling frame                                 |  | Lectures, Questions and Answers, Discussions, 2 X 50 Drawing Workshop |  |  | 0% |
| 15 | Know the various types of floor coatings/accessories<br>Understand floor installation patterns<br>Understand things related to floor structures<br>Apply installation patterns and floor structures in the drawings     | 1.Students are able to: Identify various types of floor coverings/accessories<br>2.Understand floor installation patterns<br>3.Explain things related to floor structures<br>4.Drawing installation patterns and floor structures |  | Lectures, Questions and Answers, Discussions, 2 X 50 Drawing Workshop |  |  | 0% |
| 16 |                                                                                                                                                                                                                         |                                                                                                                                                                                                                                   |  |                                                                       |  |  | 0% |

#### Evaluation Percentage Recap: Case Study

| No | Evaluation | Percentage |
|----|------------|------------|
|    |            | 0%         |

#### 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.