

Course Code	TKU314													
Course Name	Engineering Planning													
Course Instructors	Avrin Widiastuti; Sasongko Pramono Hadi;													
Course Type	Required													
Course Classification	Engineering Topics													
Credit / Contact Hour per Week	2 / 100 minutes per Week													
Course Description	Engineering Planning course put forward Capstone Design Project method with case example in lecture. It is expected that after students complete this course students are able to apply and design an effective product and the principles of applicable standards in the field of engineering.													
Prerequisites Courses	-													
Covered Student Outcome	Engineering Design (c) Effective Communication (g) Multidisciplinary Teamwork (h) Engineering Awareness and Society (j)													
Learning Outcome	<ol style="list-style-type: none"> 1. Students are able to identify ideas and use techniques to run preliminary design with appropriate methods 2. Students are able to do a management project in Capstone Design and executing basic management strategies 3. Students are able to explain the concept of sustainability of an engineering work 4. Students are able to compare project engineering using standard economic methods 5. Students are able to explain an engineering project in relation to social and environmental aspects. 													
Topic	<ol style="list-style-type: none"> 1. understanding engineering design 2. engineering design process 3. determination of the object or tool needed 4. selection and decision-making 5. introduction to project management (general) 6. initial design (concept) 7. planning and design (detailed) 8. project management 9. project management process, WBS 10. Gant chart, network planning, PERT 11. TOR, technical proposal and MS Project applications 12. Engineering & Professional Ethics 13. PKM and presentation 													
Direct Assessment	<table border="1"> <thead> <tr> <th>Direct Assessment Plan</th> <th>Measured Learning Outcome</th> </tr> </thead> <tbody> <tr> <td>FGD (Focus Group Discussion)</td> <td>LO2</td> </tr> <tr> <td>Papers</td> <td>LO1,LO3,LO4</td> </tr> <tr> <td>Assignments</td> <td>LO1,LO3,LO5</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>		Direct Assessment Plan	Measured Learning Outcome	FGD (Focus Group Discussion)	LO2	Papers	LO1,LO3,LO4	Assignments	LO1,LO3,LO5				
Direct Assessment Plan	Measured Learning Outcome													
FGD (Focus Group Discussion)	LO2													
Papers	LO1,LO3,LO4													
Assignments	LO1,LO3,LO5													
Indirect Assessment	Questionnaire (EDOM)													
References	<p>[1] Vick, Steven G. Planning, design, and analysis of tailings dams. BiTech, 1990.</p> <p>[2] Pahl, Gerhard, and Wolfgang Beitz. Engineering design: a systematic approach. Springer Science & Business Media, 2013.</p> <p>[3] Arciszewski, Tomasz. Inventive Engineering: Knowledge and Skills for Creative Engineers. CRC Press, 2016.</p>													