

## Module Handbook

Module Name:	Introduction to Engineering and Design
Module Level:	Bachelor
Abbreviation, if applicable:	KU1101
Sub-heading, if applicable:	
Courses included in the module, if applicable:	
Semester/term:	First year
Module coordinator(s):	
Lecturer(s):	
Language:	Bahasa Indonesia
Classification within the curriculum:	General Studies / <del>Major Subject</del> / <del>Elective Studies</del>
Teaching format / class hours per week during the semester:	3 hours lectures, 3 hours structured activities
Workload:	3 hours lectures, 3 hours structured activities, 3 hours individual study per week, 16 weeks per semester, and total 112 hours a semester
Credit Points:	3
Requirements:	-
Learning goals/competencies:	<ul style="list-style-type: none"> <li>• Knowledge Students are able to <ul style="list-style-type: none"> <li>– Describe what is engineering and design</li> <li>– Define the role of professional engineer and their responsibilities</li> <li>– Discuss the interrelation among engineering disciplines</li> <li>– Recognize the contemporary issues related to engineering discipline</li> </ul> </li> <li>• Skills Students are able to <ul style="list-style-type: none"> <li>– Apply mathematics and basic sciences to solve simple engineering problem</li> </ul> </li> <li>• Competences Students are able to <ul style="list-style-type: none"> <li>– identify a simple engineering problem</li> <li>– Propose alternative solutions to solve the identified engineering problem</li> </ul> </li> </ul>
Content:	Engineering and design in society, engineer as a profession, aspects in engineering, key elements of engineering analysis, steps in solving problems, concept of energy, conversion and conservation, and some examples of engineering discipline as well as ethics in engineering.
Study/exam achievements:	Students are considered to be competent and pass if at least get 50 % of maximum mark of the exams and tasks. Final grades are calculated from 35 % of midterm exam 35.% of end semester exam, and 30 %of quiz and assignments.
Forms of Media:	Slides, Beamer, boards, internet, exercises
Literature:	<ol style="list-style-type: none"> <li>1. Philip Kosky et al., Exploring Engineering : An Introduction to Engineering and Design, Academic Press, 2010 (main textbook)</li> <li>2. Saeed Moaveni, Engineering Fundamentals : An Introduction to Engineering, Cengage Learning, 2011.</li> <li>3. Holtzapple &amp; Reece, Foundations of Engineering, McGraw-Hill, 2003.</li> </ol>