

**UNDERGRADUATE PROGRAM IN COMPUTER SCIENCE
DEPARTMENT OF COMPUTER SCIENCE AND ELECTRONICS
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
UNIVERSITAS GADJAH MADA**

Module name	Software Development										
Module level	Undergraduate and Master										
Code	MII-3501										
Courses (if applicable)	Software Development										
Semester	Fall (Gasal)										
Contact person	Azhari, SN., M.T., Dr.										
Lecturer	Azhari, SN., M.T., Dr.										
Language	Bahasa Indonesia and English										
Relation to curriculum	<ol style="list-style-type: none"> 1. Undergraduate degree program, compulsory, 5th or 7th semester. 2. International undergraduate program, elective, 5th or 7th semester. 3. Master degree program, 1st semester. 										
Type of teaching, contact hours	<ol style="list-style-type: none"> 1. Undergraduate degree program: lectures, < 60 students 2. International undergraduate program: lectures, < 30 student 3. Master degree program: lectures, < 25 students. 										
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Exercises and Assignments: 3 x 60 = 180 minutes (3 hours) per week. 3. Private study: 3 x 60 = 180 minutes (3 hours) per week. 										
Credit points	3 credit points (sks).										
Requirements according to the examination regulations	A student must have attended at least 75% of the lectures to sit in the exams.										
Recommended prerequisites	Programming II, Web Programming, Database										
Learning outcomes and their corresponding PLOs	<p>After completing this module, a student is expected to:</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 80%;">CO1 be able to explain different software processes, software development methods and process flows in the development of softwares.</td> <td style="width: 20%; text-align: right;">PLO2</td> </tr> <tr> <td>CO2 be able to model requirements during development of softwares and to apply methods to understand those requirements.</td> <td style="text-align: right;">PLO3</td> </tr> <tr> <td>CO3 be able to comprehend design processes of different levels of abstraction architecture and component level, user interface in the development of both conventional and web-based softwares.</td> <td style="text-align: right;">PLO3</td> </tr> <tr> <td>CO4 be able to explain methods to develop, validate softwares and to manage their qualities.</td> <td style="text-align: right;">PLO3</td> </tr> <tr> <td>CO5 be able to comprehend methods to manage software development projects.</td> <td style="text-align: right;">PLO4</td> </tr> </table>	CO1 be able to explain different software processes, software development methods and process flows in the development of softwares.	PLO2	CO2 be able to model requirements during development of softwares and to apply methods to understand those requirements.	PLO3	CO3 be able to comprehend design processes of different levels of abstraction architecture and component level, user interface in the development of both conventional and web-based softwares.	PLO3	CO4 be able to explain methods to develop, validate softwares and to manage their qualities.	PLO3	CO5 be able to comprehend methods to manage software development projects.	PLO4
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	CO6 uses knowledge, techniques, skills and modern tools necessary for software engineering practice PLO4
	CO7 be able to identify, formulate, and solve a spesific software development problem by working independently as well as in teams PLO6
Content	In this course, students will be introduced to Software Engineering. In this course, students discussed the need for software development methodologies, models of software development, principles and modeling software analysis, software design concepts, data structure design, architectural design, interface design, design procedures and testing software. The management of software development projects also will be discussed briefly.
Study and examination requirements and forms of examination	Mid-terms examination and Final examination.
Media employed	LCD, blackboard, websites
Assessments and Evaluation	CO1 problem 1 in midterm (2.5%) CO2 problem 2 in midterm (7.5%) CO3 problem 3 in midterm (10%) CO3 problem 4 in midterm (10%) CO5 problem 1 in final term (2.5%) CO4 problem 2 in final term (5%) CO7 problem 3 in final term (7.5%) CO5 problem 4 in final term (10%) CO4 problem 5 in final term (10%) CO1 assignment 1 in assignment (7.5%) CO6 assignment 2 in assignment (7.5%) CO6 project design in project (5%) CO6 project implementation in project (5%) CO7 project (seminar & presentation) in presentation (5%) CO7 quiz & class discussion in group discussion (5%)
Reading List	1. Ian Sommerville, Software Engineering, 9th Edition, Addison-Wesley, 2010. 2. Roger S. Pressman, Software Engineering: a Practitioner's Approach, 7th, McGraw-Hill Higher Education, 2010.