

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

Module name	<b>Web Programming</b>	
Module level	Undergraduate	
Code	MII-4505	
Courses (if applicable)	Web Programming	
Semester	Fall	
Contact person	I Gede Mujiyatna, S.Kom., M. Kom.	
Lecturer	I Gede Mujiyatna, S.Kom., M.Kom. Guntur Budi H., S.Kom., M.Cs.	
Language	Bahasa Indonesia and English	
Relation to curriculum	<ol style="list-style-type: none"> <li>Undergraduate degree program; elective; 1<sup>st</sup>, 3<sup>rd</sup>, 5<sup>th</sup>, or 7<sup>th</sup> semester.</li> <li>International undergraduate program; elective; 1<sup>st</sup>, 3<sup>rd</sup>, 5<sup>th</sup>, or 7<sup>th</sup> semester.</li> </ol>	
Type of teaching, contact hours	<ol style="list-style-type: none"> <li>Undergraduate degree program: lectures, &lt; 60 students,</li> <li>International undergraduate program: lectures, &lt; 30 students</li> </ol>	
Workload	<ol style="list-style-type: none"> <li>Lectures: 3 x 50 = 150 minutes (2 hours 30 minutes) per week.</li> <li>Exercises and Assignments: 3 x 60 = 180 minutes (3 hours) per week.</li> <li>Private study: 3 x 60 = 180 minutes (3 hours) per week.</li> </ol>	
Credit points	3 credit points (cr).	
Requirements according to the examination regulations	A student must have attended at least 75% of the lectures to sit in the exams.	
Recommended prerequisites	-	
Learning outcomes and their corresponding PLOs	After completing this module, a student is expected to:	
	<b>CO1</b> Have knowledge of web technologies and how the web works.	<b>PLO3</b>
	<b>CO2</b> Able to design a web that has a good UX.	<b>PLO4</b>
	<b>CO3</b> Have knowledge and be able to create more interactive web pages.	<b>PLO4</b>
	<b>CO4</b> Have knowledge and be able to create client-side programs to capture and process data.	<b>PLO4</b>

	<b>CO5</b> Have knowledge and be able to create server-side programs to process data and integration with third-party applications.	<b>PLO4</b>
	<b>CO6</b> Have knowledge of the measurement of web performance and be able to create a web that performs well.	<b>PLO4</b>
	<b>CO7</b> Having knowledge about risks and challenges on the web, and able to formulate solutions.	<b>PLO5</b>
	<b>CO8</b> Having knowledge of current web technology issues and developments.	<b>PLO9</b>
Content	<p>Web Programming provides the knowledge and skills required for students to be able to:</p> <ul style="list-style-type: none"> <li>• Analyze problems</li> <li>• Design and develop web applications</li> <li>• Improve the performance of web applications</li> <li>• Adaptive to the latest developments in web technologies.</li> </ul> <p>This course uses a problem based learning approach. More emphasis on solutions to the main problems encountered in web development. After completing this lecture, students have enough skill to develop web applications that perform well.</p>	
Study and examination requirements and forms of examination	Mid-terms examination and Final examination.	
Media employed	LCD, whiteboard, websites, books (as references), etc.	
Assessments and Evaluation	<p><b>CO1:</b> Problem 1 in mid-term exam (5%); assignment 1 (5%).</p> <p><b>CO2:</b> Problem 2 in mid-term exam (5%); assignment 2 (5%).</p> <p><b>CO3:</b> Problem 3 in mid-term exam (5%); assignment 3 (5%).</p> <p><b>CO4:</b> Problem 4 in mid-term exam (5%); problem 1 in final exam (5%); exercise 1 (5%)</p> <p><b>CO5:</b> Problem 5 in mid-term exam (5%); Problem 2 in final exam (5%); assignment 4 (5%); exercise 2 (5%)</p> <p><b>CO6:</b> Problem 3 in final exam (5%); assignment 5 (5%)</p> <p><b>CO7:</b> Problem 4 in final exam (5%);</p>	

	assignment 6 (5%); exercise 3 (5%) <b>CO8:</b> Problem 5 in final exam (5%); assignment 7 (5%)
Reading List	<b>W1:</b> Bates, C, Web Programming: Building Internet Applications, 3rd edition, Wiley, 2006 <b>W2:</b> Mateu, C, Introduction to Web Applications Development, Free Technology Academy, 2010 <b>A1:</b> Groner, L., Learning JavaScript Data Structures and Algorithms, 2nd edition, Packt Publishing, 2016. <b>A2:</b> Wilson.J.R, Node.js the Right Way: Practical, Server-Side JavaScript That Scales, Pragmatic Bookshelf, 2013