Framework Programming

Module name	Framework Programming	
Module level	Undergraduate	
Code	IF221208	
Courses (if applicable)	Framework Programming	
Semester	5/6	
Lecturer	Yisti Vita Via, S.ST, M.Kom (PIC) Fawwaz Ali Akbar, S.Kom, M.Kom	
Language	Bahasa Indonesia and English	
Relation to curriculum	Elective; 5th or 6th semester	
Type of teaching, contact hours	Lectures, < 60 students,	
Teaching Methods	simulation, case study, project-based learning, problem-based learning	
Workload	1. Lectures: 3 sks x 50 = 150 minutes (2 hours 30 minutes) 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 80% of the lectures to sit in the exams.	
Mandatory prerequisites	Software Engineering	
Courses description	In this course, students will study the concepts of web design using available frameworks and apply object-oriented web programming in web databases. In addition, this course covers security factors, image and graphics handling, as well as the implementation of AJAX and JQuery within the framework. Students will also learn several frontend frameworks to support web development. At the end of this course, students are required to create a final project in the form of a web application using a framework. This course is a project-based.	
Learning outcomes and their corresponding PLOs	After completing this module, a student is expected to:	
	CO1 Students are able to design and implement a framework in creating a web-based and database-driven system.	PLO9, PLO10
Content	Concepts of Object-Oriented Web Programming, object-oriented web programming in web databases (dynamic web), configuration of Web Framework within the MVC (Model-View-Controller) concept, fundamental CRUD (Create, Read, Update, Delete) functions in the framework, web application security, library and helper concepts in the framework, AJAX and JQuery concepts and their application in Web Framework, and templates of Web Framework.	
Media employed	LCD, whiteboard, websites, books (as references), online meeting, etc.	
Assessments and Evaluation	One written Midterm assessment (60 minutes) and one final oral exam (30 minutes), two short computer-based quizzes, takehome written assignments	
Study and examination requirements and forms of examination	The final grade in the module is composed of: • Two short computer-based quizzes: 15% x 2 = 30% • Take-home written assignments : 15% • Written Midterm assessment: 25% • Final oral exam: 30%	

	Students must have a final grade of 55.6% or higher to pass.
Reading List	● Lerdorf, R., & Tatroe, K. (2020). *Programming PHP* (4th ed.). O'Reilly Media. ● Smarter, R. (2021). *PHP 8 and MySQL: Novice to Ninja* (7th ed.). SitePoint. ● Hanson, K. (2020). *CodeIgniter 4: The Essentials*. Lerdorf & Tatroe Publishers. ● Brunner, D. (2021). *Modern PHP: New Features and Good Practices*. O'Reilly Media. ● Buss, M. (2021). *CodeIgniter 4 Cookbook: Over 100 practical recipes to build dynamic and interactive web applications*. Packt Publishing.