Course Syllabus

Code - Course Title	**AYG222 - Advanced Web Application Development**
Course Type	IV. SEMESTER
Laboratory + Practice	2+3
ECTS	**5.0**
Language of Instruction	Türkçe
Course Type	Area Elective Courses
Course Instructor(s)	ÖĞR. GÖR. AHMET MÜCAHİD ARVASİ

Mode of Delivery	Face to face
Prerequisites	There are no prerequisites or corequisites for this course.

Course Syllabus

Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 1		Introduction to Python and Django: Virtual Environment Setup and Creating the Project Skeleton	
Week - 2		Understanding Django Architecture: MVT (Model-View-Template) Structure, Settings, and URL Configurations	
Week - 3		Views and URL Routing: Request-Response Cycle	
Week - 4		Templates Layer: HTML/CSS Integration, Template Inheritance, and Static Files	
Week - 5		Models and Database Design: Django ORM Fundamentals, Data Types, and Relationships	
Week - 6		Migrations and CRUD Operations: Managing Database Schemas and Data Querying	
Week - 7		Django Admin Panel: Enabling, Customizing, and Content Management in the Admin Interface	
Week - 8		Midterm Exam	
Week - 9		Django Forms: Creating Form Classes, Data Retrieval, and Validation Processes	
Week - 10		ModelForms: Binding Database Models to Forms and Error Management	
Week - 11		Authentication and User Management: Login/Logout Operations and Registration	
Week - 12		Authorization and Session Management: User Permissions, Groups, and Cookies	
Week - 13		Basic Web Security: Countermeasures against CSRF (Cross-Site Request Forgery) and XSS (Cross-Site Scripting) Attacks	
Week - 14		Project Development: Completion of a Small End-to-End Django Application and End-of-Term Presentations	

Learning Outcomes

#	Learning Outcome
1	Upon successful completion of this course, students will gain the competence to manage the process from virtual environment configuration to project skeleton creation using Python and the Django framework; develop dynamic web pages by integrating URL routing, views, and template layers within the MVT (Model-View-Template) architecture; design databases and perform CRUD operations through Django ORM and migrations; build back-end processes such as form validation, user login/logout, authorization, and session management while taking necessary precautions against common security vulnerabilities like CSRF and XSS, ultimately projecting an end-to-end operational and secure web application.

Sustainable Development Goals

No content has been provided.

Course Theme

No content has been provided.

AKTS Workload

Activity	Duration (Hour)	Count	Workload
Teorik Derse Katılım	0	0	0
Sınıf Dışı Çalışma (Ön Hazırlık & Pekiştirme Amaçlı)	0	0	0
Ödevler	0	0	0
Proje - Rapor - Sunum Hazırlama	0	0	0
Ara Sınav Hazırlığı (sınav süresi dahil)	0	0	0
Final Sınavı Hazırlığı (sınav süresi dahil)	0	0	0
Uygulama (Laboratuvar, Müzik/Enstrüman Uygulaması, Atölye/Saha Çalışması vb.)	0	0	0
Staj Uygulaması	0	0	0
		Calculated ECTS	**0**

Assessment Method and Passing Requirements

No content has been provided.