Course Syllabus

Code - Course Title	**OGP218 - Generative AI Tools in Game Development**
Course Type	IV. SEMESTER
Laboratory + Practice	2+2
ECTS	**5.0**
Language of Instruction	Türkçe
Course Type	Area Elective Courses
Course Instructor(s)	ÖĞR. GÖR. GÜVENÇ USANMAZ

Mode of Delivery	This course is delivered through face-to-face instruction. Theoretical lectures, in-class discussions and laboratory sessions are integrated throughout the semester. Current generative AI tools are used as examples; the instructor may prefer equivalent tools.
Prerequisites	There are no prerequisites or co-requisites for this course.
Courses Recomended	It is recommended to have completed OGP104 Programming II and OGP108 2D Game Development Studio before taking this course. Basic Unity/C# knowledge and game project experience will facilitate the learning process.
Recommended Resources	OpenAI. Prompt Engineering Guide: https://platform.openai.com/docs/guides/prompt-engineeringAnthropic. Prompt Engineering Overview: https://docs.anthropic.com/GitHub Docs. GitHub Copilot: https://docs.github.com/copilotUnity Technologies. Unity AI tools documentation: https://docs.unity3d.com/
Work Placement	This course has no internship or placement requirement.

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Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 1		Introduction to generative AI; use cases in the game industry; course scope, timeliness and limitations.	
Week - 2		Prompt engineering: context, role, constraints, iteration; prompt patterns for game development.	
Week - 3		AI-assisted coding: context-aware generation, game mechanics prototyping; limits and verification.	
Week - 4		AI-assisted development environments (AI IDEs): example workflows with Copilot, Cursor, etc.; use with version control.	
Week - 5		Visual content generation: concept art, textures, sprites; style consistency and reference management.	
Week - 6		Audio content: AI sound effects, music and voice-over; basics of engine integration.	
Week - 7		Text and narrative: dialogue, quest text, dynamic narrative drafts; the human editor role.	
Week - 8		Procedural content vs generative AI; when rule-based vs when LLM/visual models.	
Week - 9		Integration into Unity and game projects: asset pipeline, license tags, metadata and source tracking.	
Week - 10		Ethics, copyright and originality: training data, attribution, academic integrity; publisher/platform policies.	

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Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 11		Limits and risks: hallucination, bias, privacy; disclosure to players and trust.	
Week - 12		Quality control: human-in-the-loop, testing, iteration; what AI does well/poorly.	
Week - 13		Case studies: indie and studio workflows; discussion of successful/unsuccessful examples.	
Week - 14		End-of-term project presentation; ethics evaluation report; course wrap-up and future trends.	

Learning Outcomes

#	Learning Outcome
1	Explains use cases and limitations of generative AI tools in game development.
2	Applies effective prompt engineering techniques in a game development context.
3	Prototypes game mechanics with AI-assisted coding tools and validates the output.
4	Produces visual and/or audio game content with AI; designs processes for style and quality consistency.
5	Creates AI-assisted text/narrative drafts and revises them in a human editor role.
6	Integrates generated content into a game project; tracks source, license and metadata.
7	Discusses ethical, copyright and originality aspects of AI use and proposes responsible practices.
8	Presents an AI-assisted game component project documented with human-in-the-loop quality control.

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.