Course Syllabus

Code - Course Title	**OGP118 - Animation**
Course Type	III. SEMESTER
Laboratory + Practice	2+1
ECTS	**3.0**
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 and laboratory sessions are integrated throughout the semester. The default tools for practical work are Blender (3D) and sprite tools; the instructor may prefer equivalent tools (e.g., Maya, Aseprite, Spine).
Prerequisites	There are no prerequisites or co-requisites for this course.
Courses Recomended	It is recommended to have completed XXX7968 Fundamentals of Digital Art and Design before taking this course. Taking XXX7958 3D Design concurrently may help with model preparation for rigging.
Recommended Resources	Blender. Animation documentation: https://docs.blender.org/manual/en/latest/animation/index.htmlUnity. Animator Controller: https://docs.unity3d.com/Manual/class-AnimatorController.html
Work Placement	This course has no internship or placement requirement.

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Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 1		Basic principles of animation: squash and stretch, anticipation, timing, exaggeration, secondary action.	
Week - 2		Two-dimensional animation: frame-by-frame drawing, timing and spacing; simple loop animation.	
Week - 3		Skeleton-based 2D animation; pivot and hierarchy.	
Week - 4		Sprite sheet creation and export to game engine.	
Week - 5		Introduction to 3D animation: rigging processes, bone hierarchy.	
Week - 6		Bone weight painting; deformation quality.	
Week - 7		Forward kinematics (FK) and inverse kinematics (IK) basics.	
Week - 8		Keyframe animation: timeline, curve editors (graph editor).	
Week - 9		Transition smoothing (easing), anticipation and follow-through practice.	
Week - 10		Motion capture: data cleanup, transferring to skeleton, retargeting concepts.	
Week - 11		Game engine integration: Animator state machine setup.	

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Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 12		Blend trees; locomotion synchronization according to character speed.	
Week - 13		Facial animations: blend shapes, expression targeting, lip sync basics.	
Week - 14		End-of-term animation set presentation; engine integration and process documentation.	

Learning Outcomes

#	Learning Outcome
1	Applies basic animation principles in game character movement.
2	Produces frame-by-frame and skeleton-based 2D animation.
3	Prepares sprite sheets for games and exports to engine format.
4	Applies 3D character rigging and weight painting.
5	Creates keyframe animation using FK/IK and adjusts transitions with curves.
6	Explains motion capture data transfer to skeleton and retargeting process.
7	Sets up a locomotion system with state machine and blend tree in a game engine.
8	Applies facial animation with blend shape and lip sync basics.

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.