



COURSE OUTLINE : ART 233
D Credit – Degree Applicable
COURSE ID 001092
Cyclical Review: September 2020

COURSE DISCIPLINE : ART
COURSE NUMBER : 233
COURSE TITLE (FULL) : Character Set-Up/Kinematics
COURSE TITLE (SHORT) : Character Set-Up/Kinematics
ACADEMIC SENATE DISCIPLINE: Art

CATALOG DESCRIPTION

ART 233 provides students with training in 3-d character set-up technique in Autodesk Maya software. Skills students will acquire include installation of a skeleton within a wireframe mesh, creation of animation controls such as inverse kinematic (IK) handles and set-driven-key relationships, and binding of the wireframe mesh to skeleton.

CATALOG NOTES

Note: Current industry standard digital animation software (Maya) will be used.

Total Lecture Units: 2.00

Total Studio Units: 1.00

Total Course Units: 3.00

Total Lecture Hours: 36.00

Total Studio Hours: 36.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 72.00

Total Out-of-Class Hours: 90.00

Recommended Preparation: ART 150 or equivalent.



ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1					No

EXIT STANDARDS

- 1 Install, label, orient, and use joints inside a character skin;
- 2 bind the skin of a character to the joint hierarchy and edit skin weighting;
- 3 install, label, and use IK handles and pole vector constraints;
- 4 set up the reverse foot control system;
- 5 establish set driven key relationships.

STUDENT LEARNING OUTCOMES

- 1 Set up a basic 3-d character for animation
- 2 Use basic 3-D character set-up software tools

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Studio	Total Hours
1	Working With Joints <ul style="list-style-type: none"> • The draw joints tool • Native hierarchy • Local axial orientation • Modify prefix hierarchy names • Rotation as a numerical function • Integrated hierarchy 	6.5	0	6.5
2	Working with IK Handles <ul style="list-style-type: none"> • Anatomy of IK system • Function of IK handle • Mammalian joint rotation • Animation of friction • The IK handle Rotate plane vs. Single Chain IK • Pole vector constraints 	8	0	8



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3	<p>Creating the Reverse Foot</p> <ul style="list-style-type: none"> • Control joints setup • Control joints orientation • IK handles and control joints • Functionality 	6.5	0	6.5
4	<p>Set Driven Key</p> <ul style="list-style-type: none"> • Limits on attributes • The set driven key concept • The set driven key window • The importance of local axial orientation • Functionality 	7	0	7
5	<p>Binding Skin</p> <ul style="list-style-type: none"> • Smooth bind vs. rigid bind • Theory of binding • The paint skin weights tool • The component editor • Influence objects • The bound character 	8	0	8
6	Laboratories Emphasizing Technical and Aesthetic Development	0	36	36
				72

OUT OF CLASS ASSIGNMENTS

- 1 projects (making a sculpture);
- 2 field activity (gathering source images).

METHODS OF EVALUATION

- 1 evaluation of projects and assignments;
- 2 midterm and final examinations;
- 3 evaluation of final project.



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METHODS OF INSTRUCTION

- Lecture
- Laboratory
- Studio
- Discussion
- Multimedia
- Tutorial
- Independent Study
- Collaboratory Learning
- Demonstration
- Field Activities (Trips)
- Guest Speakers
- Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	ISBN	Date
Maya Learning Channel	Required	YouTube		electronic			2020