Course Syllabus

CAMOSUN
COLLEGE

Engr154 - Design Visualization

Summer 2023

Course Credits: 3

Instructor: James Bartlett
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Calendar Description:
Students will learn how to produce compelling still image and animated representations of product and architectural designs. It includes design model acquisition, the creation of materials and texture maps, forward and inverse kinematics techniques for technical animation, creation of lighting and cameras, and formats for rendered output. Students will also be introduced to augmented/virtual reality applications for engineering and architecture.

Learning Outcomes
Upon successful completion of the course the student will be able to:
- Use a comprehensive set of tools to create and manipulate 3D polygonal models.
- Apply materials and adjust their properties.
- Apply bitmaps to control material color, transmission and opacity.
- Create and edit UV texture coordinates.
- Create and manipulate scene lighting and cameras.
- Apply Subdivision modelling workflow.
- Create controller and Custom Attributes
- Animate Models and Cameras
- Render frame sequence.
- Use editor to mix video/audio and export to MP4 format file.

Student Assessment

Assignments: 100%
- Late assignments not accepted.
- If incomplete please submit what's been done for partial marks.
- Work must be completed individually.

Attendance required: -2% for each missed session.

Weekly Schedule
At instructor discretion there may be some variation from this schedule.

Week	Primary Topics
1	Modelling Basics
2	Modelling, Material and Lighting introduction, Rendering
3	Symmetry, Booleans, Instances, Image Import
4	UV Editor, Color, Opacity & Transmission maps.
5	Subdivision Modelling, 3D Cut and Sew, Symmetrize tool, Layer Shader
6	Animation
7	Video Editing

Grading System

The grading system is as specified in the Calendar. It is repeated here for convenience.

Percentage	Grade	Description	Grade Point Equivalency
90-100	A+		9
85-89	A		8
80-84	A-		7
77-79	B+		6
73-76	B		5
70-72	B-		4
65-69	C+		3
60-64	C		2
50-59	D		1
0-49	F	Minimum level has not been achieved.	0