DRAF 316 Introduction to Computer Graphics

Credit Hours: 3

Scheduled hours per week

Lecture: 1
Lab: 5
Other: 9

Catalog Course Description: An introductory 3D modeling course for Bachelors of Applied Technology students interested in game design. Students will use software to create 3D models, architectural layouts and introductory animations.

Pre-requisites: None

Co-requisites: None

Course Learning Outcomes:

- Create 3D models using 3D modeling software that apply to industrial, product, civil, or architectural design.
- Create 3D animations using 3D modeling software.
- Analyze trajectories of animated objects with 3D modeling software.
- Create models using real world images as templates.
- Apply timelines to models for animation purposes.
- Compute and solve geometric construction problems using the principals of plane geometry.
- Use accuracy and neatness, and speed in producing all required drawings.

Topics to be studied:

- Autodesk 3DS Max Design interface and workflow
- Autodesk 3DS Max Design project configuration
- Assembling files – file link and import
- 3D modeling from 2D objects
- Converting objects into editable polys
- Linking objects together
- Importing images as templates
- Creating dynamic animations
- Trajectories
- Merging existing models into new projects
- Timeline configuration
- NURBS
- Materials
- Mapping
- Cameras
- Rendering
- Animation for visualization of projects
- Architectural layouts
- Applying images for realistic backdrops

Relationship of Course to Program Learning Outcomes:	
Create two and three-dimensional drawings using AutoCAD, Microstation, Inventor, Revit, and 3D Studio Max.	X
Create three-dimensional animations and walkthroughs using AutoCAD, Revit, Inventor and 3D Studio Max.	X
Apply arithmetic, algebraic, and trigonometric calculations in solving basic design problems.	X
Apply physics to solve mechanical design problems.	
Understand by verbal and visual means the design of drawings and models.	X
Understand in writing to fellow coworkers and customer of any comments and concerns	X

Relationship of Course to General Education Learning Outcomes:	
Composition and Rhetoric Students illustrate a fundamental understanding of the best practices of communicating in English and meet the writing standards of their college or program-based communication requirements.	
Science & Technology Students successfully apply systematic methods of analysis to the natural and physical world, understand scientific knowledge as empirical, and refer to data as a basis for conclusions.	
Mathematics & Quantitative Skills Students effectively use quantitative techniques and the practical application of numerical, symbolic, or spatial concepts.	X
Society, Diversity, & Connections Students demonstrate understanding of and a logical ability to successfully analyze human behavior, societal and political organization, or communication.	
Human Inquiry & the Past Students interpret historical events or philosophical perspectives by identifying patterns, applying analytical reasoning, employing methods of critical inquiry, or expanding problem-solving skills.	
The Arts & Creativity Students successfully articulate and apply methods and principles of critical and creative inquiry to the production or analysis of works of art.	X
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Special requirements of the course:

Additional information:

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