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:

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

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<td><strong>Composition and Rhetoric</strong> 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.</td>
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<td><strong>Science &amp; Technology</strong> 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.</td>
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<td><strong>Mathematics &amp; Quantitative Skills</strong> Students effectively use quantitative techniques and the practical application of numerical, symbolic, or spatial concepts.</td>
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<td><strong>Society, Diversity, &amp; Connections</strong> Students demonstrate understanding of and a logical ability to successfully analyze human behavior, societal and political organization, or communication.</td>
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<td><strong>Human Inquiry &amp; the Past</strong> Students interpret historical events or philosophical perspectives by identifying patterns, applying analytical reasoning, employing methods of critical inquiry, or expanding problem-solving skills.</td>
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<td><strong>The Arts &amp; Creativity</strong> Students successfully articulate and apply methods and principles of critical and creative inquiry to the production or analysis of works of art.</td>
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5/3/2016

Special requirements of the course:

Additional information:

**Prepared by:** Callix Miller 10/23/18

**Date:** 10/23/18