DRAF 227 Autodesk Simulation
Credit Hours: 3
Scheduled hours per week
Lecture: 3
Lab: 0
Other: 0

Catalog Course Description: Students will learn advanced techniques and uses of creating 3D models with Inventor in an environment that is used in multiple fields of study such as design, engineering and animation.

Pre-requisites: DRAF 226

Co-requisites: None

Course Learning Outcomes:
- Visualize and draw 3D models using primitives and composites, model extrusions and revolutions, part files, assembly files and solid model editing.
- Create animations and walkthroughs that will apply to industrial, product, civil, or architectural design.
- Manage an engineer's notebook that documents the design process of all projects.
- 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 Inventor interface and workflow
- Autodesk Inventor configuration
- Assembly Drawings
- 3D modeling from 2D objects
- Materials
- Stress Analysis
- Animation for visualization of projects
- Project Design and Management
- Explosion Drawings
- Working Drawings

Relationship of Course to Program Learning Outcomes:	
Create two and three-dimensional drawings using AuotCAD, 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.	X
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.	X
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.	X
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.	X
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
5/3/2016	

Special requirements of the course:

Additional information:

Prepared by: Callix Miller 10/20/17

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