Computer Graphics and Visualization Track

Objectives

The track is designed to prepare students for work and/or for graduate school in computer graphics, visualization, and related areas. Computer graphics refers to modeling (including 3D acquisition) and rendering 3D objects and scenes. Visualization refers to using imagery to convey digital information and facilitate its interpretation and analysis. Jobs and activities for students graduating from this track may include:

- Graphics-related Industry jobs (e.g., Intel, NVIDIA, Microsoft, Adobe, IBM, Google) - working on graphics software, hardware, and applications.
- CAD and Architectural Applications - developing CAD/Engineering/Architecture related applications.
- Movie Industry (e.g., Pixar, Dreamworks, Disney, Sony) – working on creating movies and related tools.
- Gaming Industry (e.g., Electronic Arts, Midway Games, Disney, Sony) – working on game programming and related tools.
- Laboratories - working in one of several scientific visualization laboratories (though often a graduate degree is preferred).
- Graduate school - continuing studies towards a MS or PhD which opens up other job opportunities including research labs and academic positions.

All major required courses, all track requirements and track selectives, and their pre-requisites, regardless of department, must be completed with a grade of C or better.

Required Courses (3)

Course	Title
CS 31400	Numerical Methods
CS 33400	Fundamentals of Computer Graphics (take in semeste r 4–5)
CS 37300 or **CS 43400** or **CS 47100**	Data Mining and Machine Learning Advanced Computer Graphics Introduction to Artificial Intelligence

Electives (3)

Course	Title
CS 35200	Compilers: Principles and Practice
CS 35400	Operating Systems
CS 37300	Data Mining and Machine Learning
CS 38100	Introduction to Analysis of Algorithms
CS 42200	Computer Networks
CS 43400	Advanced Computer Graphics
CS 43900	Introduction to Data Visualization
CS 45600	Programming Languages
CS 47100	Introduction to Artificial Intelligence
CS 49000 ROB	Introductions to Robotics
CS 49000 VR	Introduction to VR/AR

Note: Electives could include 1 semester of CS 49000 project course with Computer Graphics Visualization LAB (CGVLAB)

Note: No course can be counted for both required and elective credit. This is true for all tracks.

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