



# Computer Vision

## ECE 7866

**Credit Hours:**

3.00 - 3.00

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**Course Levels:**

Graduate (5000-8000 level)

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**Course Components:**

Lecture

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**Course Description:**

Computer vision systems, image models, feature extraction, shape representation and recognition, object modeling and recognition, matching, probabilistic and statistical modeling, semantic knowledge, and face perception.

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**Prerequisites and Co-requisites:**

Prereq: 5460 (707).

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**Course Goals / Objectives:**

- Teach the fundamental concepts in computer vision and to prepare the student to design simple vision systems, to read the literature, and to commence a research program in computer vision should he or she so desire
  - Topics include structure from motion, image segmentation, feature extraction, shape representation, object modeling and recognition, matching, and faces
  - Practice in computer vision concepts and system design is provided by a term project, conducted in teams and drawn from real-world applications
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**Course Topics:**

- Introduction to computer vision
  - Imaging geometry
  - Image segmentation
  - Object modeling and recognition
  - Probabilistic approaches
  - Face processing
  - Motion analysis
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**Designation:**

Elective