

Fall 2013

# CEG 7550-01: Computer Vision

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# CEG-7550 Computer Vision

*Fall 2013*

CRN: 73111  
Instructor: A. Goshtasby  
Phone: 937-775-5170

Lecture: 11:00 - 12:20 PM, T, R  
Office Location: 495 Joshi E-mail: agoshtas at wright dot edu  
Office Hours: T, W, R, 1:00-2:00 PM

Location: 155 RC

No. Units: 3

Textbook:

*Computer Vision: A Modern Approach*  
Forsyth & Ponce  
Pearson 2012. Second Edition

Purpose of Course:

This course covers basic algorithms for low-level, mid-level, and high-level vision. The algorithms deal with edge detection and image segmentation, feature extraction and matching, and object recognition. Specific topics covered in the course are:

Contents: The following topics will be covered.

1. Preliminaries
2. Image filtering
3. Image features
4. Segmentation by clustering
5. Segmentation by model fitting
6. Texture analysis
7. Object detection
8. Stereo depth perception
9. Tracking
10. Image registration
11. Range data
12. Curves and surfaces
13. Shape from shading and photometric stereo

Learning Goals:

Students will learn algorithms that extract various types of information from images, analyze the information, and describe the contents of images. Some of the algorithms will be implemented as class projects.

Projects and Exams:

There will be four projects and four exams. Each project will implement an algorithm discussed in class. Programs will be accepted in C/C++ or MATLAB. All submitted programs should compile and run on college computers.

Grading Policy:

The projects will worth 50 points and the quizzes will worth 50 point. The following grades are guaranteed A: 90..100, B: 80..89, C:70..79, D: 60..69, E: 0..59.

Calendar:

Project 1	Assigned 9/10	Due 9/24, 11:00 AM
project 2	Assigned 9/26	Due 10/15, 11:00 AM
project 3	Assigned 10/17	Dues 11/7, 11:00 AM
Project 4	Assigned 11/12	Due 12/3, 11:00 AM

Exams will be on 9/12, 10/1, 10/29, and 11/28.