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Fall 2011

### CEG 724-01: Computer Vision I

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# CEG-724 Computer Vision I

*Fall 2011*

**CRN: 81038**                      **Lecture: 4:10-5:25 PM, T, R**                      **Location: 155 RC**  
**Instructor: A. Goshtasby**      **Office Location: 495 Joshi**      **E-mail: agoshtas at wright dot edu**  
**Phone: 937-775-5170**      **Office Hours: 2:00 – 4:00 PM, T, 1:00 - 2:00 PM, M,W or by appointment.**

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**No. Units: 4**

**Textbook:**

*Computer Vision: Algorithms and Applications*

Richard Szeliski

Springer 2010 (A softcopy of the text will be made available to students in class)

**Purpose of Course:**

This course covers basic algorithms for low-level and mid-level vision. The algorithms deal with edge detection and image segmentation, feature detection and matching, and image alignment. Also covered in the course are structure from motion, dense motion estimation, and stereo depth perception.

**Contents:** The following topics will be covered.

1. Introduction
2. Linear filtering
3. Feature detection and matching
4. Image segmentation
5. Feature-based alignment
6. Structure from Motion
7. Dense motion estimation
8. Stereo correspondence

**Learning Goals:**

Students will learn algorithms that extract various 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 three projects and three quizzes. Each project will implement an algorithm discussed in class. Programs will be accepted in C/C++ or MATLAB.

**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 9/22	Due: 10/6, 4:00 PM
Project 2	Assigned: 10/6	Due: 10/20, 4:00 PM
Project 3	Assigned: 10/20	Due: 11/10, 4:00 PM

**Quizzes** will be on 9/22, 10/13, and 11/3.