

CPSC 320 Computer Vision
Monday, Wednesday, Friday 1:15-2:35pm, Colton 106
Fall 2009

Course Summary

Computer vision is the process of automatically extracting useful descriptions from a digital image. In this course, we will begin by discussing how a digital image is formed, and then study algorithms and techniques for describing the objects found in the image.

Professor: Dr. Ellen Walker

Office: Colton 112; 569-5250
Office Hours: Drop in anytime my door is open. (During A/C season it will only be open a little).
E-mail: walkerel (read several times/day)

Textbook:

Computer Vision: Algorithms and Applications, by Richard Szeliski (to be published 2010). Currently available at <http://research.microsoft.com/en-us/um/people/szeliski/Book/>

Grading:

Homework assignments	40%
Participation and in/class work	15%
Tests (2, in-class)	30%
Final Exam	15%

Unless otherwise specified, 90-100 is an A, 80-89 is a B, 70-79 is a C, 60-69 is a D, <60 is an F.

Late Assignment / Makeup Policy:

Unless you make prior arrangements with the instructor or have a medical excuse,

- a) Assignments are submitted by email no later than midnight on the due date. Assignments may be submitted late for a penalty of 3% per day until the solutions are posted.
- b) If you miss an exam, you will receive an F for that exam.

Academic Honesty Policy:

Homework is expected to be done individually or in teams, as specified in the handout. It is expected that no one outside the members of the team has contributed to the work that is handed in, except for citations of publicly available sources (e.g. textbook algorithms, Internet code) where specifically allowed.

Unless you are specifically told otherwise, exams are basically closed book, but you may have a 1-page (8.5 x 11, single-sided) crib sheet. This crib sheet will be turned in with the exam, and crib sheets must be your own work. You MAY NOT share crib sheets or otherwise work together on exams. The penalty for cheating will be failure of the course.

Detailed Schedule

(SUBJECT TO CHANGE!!!)

Wk	Dates	Material Covered (chapter)
1	Aug 31, Sep 2,4	Images & Image Formation 1, some of 2, IImage
2	Sep 7*, 9, 11	Local & Neighborhood Operators (3.1, 3.2) <i>No class 9/7 (Labor Day)</i>
3	Sep 14, 16, 18	Point Detection and Matching (4.1, 6.1); Optimization (notes; 3.6)
4	Sep 21, 23, 25	Edge Detection & Line Fitting (4.2, 4.3),
5	Sep 28*, 30*, Oct 2*	<i>Take-home test , work on projects</i> <i>No class this week</i>
6	Oct 5, 7, 9	Region Segmentation (5 – mainly 5.2)
7	Oct 12, 14, 16*	Recognition (14.3 – 14.5) <i>No class 10/16 (Fall Break)</i>
8	Oct 19, 21*, 23*	Recognition (continued) <i>No class 10/21-10/23</i>
9	Oct 26, 28, 30	Geometry (review of 2, 6.1, 6.2)
10	Nov 2, 4, 6	Test 2 Nov 2 Motion and Stereo (7.1, 7.2, 11)
11	Nov 9, 11, 13	Shape and Appearance Modeling (12)
12	Nov 16, 18, 20	AI and Computer Vision, Review
F	Nov 22, 1:00pm	Final Exam

