



Faculty of Engineering

COURSE OUTLINE

ELEC 536 – Computer Vision

Term – SPRING 2016 (201601)

Instructor

Dr. Alexandra Branzan Albu
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Office Hours

Days: Wed
Time: 1:30 – 3:30 pm
Location: EOW 307

Course Objectives

To provide students with the basic skills needed to analyze, formalize, and solve Computer Vision problems.

Learning Outcomes

Upon completion of this course, the students will be able to:

- understand basic concepts, mathematical tools, and algorithms for manipulation of digital images
- implement an algorithm to solve a specific computer vision problem
- evaluate the performance of the algorithm using quantitative evaluation methods

Syllabus

Overview of the main concepts and methods in computer vision; geometry and physics of imaging, as related to image formation and representation; image preprocessing for feature extraction; image segmentation; binary shape analysis; texture analysis; motion analysis; feature selection and pattern recognition.

A-Section(s): A01 / CRN 21187

Days: TWF

Time: 9:30-10:20

Location: ECS 104

Required Text

Title: Image Processing, Analysis, and Machine Vision

Author: Sonka, Hlavac, Boyle

Publisher: CENGAGE Learning

Year: 2015

References: to be posted on CourseSpaces.

Assessment:

Assignments: 30%

Class participation: 5%
Project: 35%
Mid-terms (2): 30%

Dates (tentative): February 19, March 23

Due Dates for Assignments: There will be five programming assignments. The content and due dates for each assignment will be posted on the course site. Late submissions will not be accepted.

The final grade obtained from the above marking scheme for the purpose of GPA calculation will be based on the percentage-to-grade point conversion table as listed in the current Graduate Calendar.

<http://web.uvic.ca/calendar/GRAD/FARe/Grad.html>

Note to Students:

Students who have issues with the conduct of the course should discuss them with the instructor first. If these discussions do not resolve the issue, then students should feel free to contact the Chair of the Department by email or the Chair's Secretary to set up an appointment.

Accommodation of Religious Observance

<http://web.uvic.ca/calendar/GI/GUPo.html>

Policy on Inclusivity and Diversity

<http://web.uvic.ca/calendar/GI/GUPo.html>

Standards of Professional Behaviour

You are advised to read the Faculty of Engineering document Standards for Professional Behaviour, which contains important information regarding conduct in courses, labs, and in the general use of facilities.

<http://www.uvic.ca/engineering/assets/docs/professional-behaviour.pdf>

Cheating, plagiarism and other forms of academic fraud are taken very seriously by both the University and the Department. You should consult the entry in the current Graduate Calendar for the UVic policy on academic integrity.

<http://web.uvic.ca/calendar/FACS/UnIn/UARe/PoAcl.html>

Course Lecture Notes

Unless otherwise noted, all course materials supplied to students in this course have been prepared by the instructor and are intended for use in this course only. These materials are NOT to be re-circulated digitally, whether by email or by uploading or copying to websites, or to others not enrolled in this course. Violation of this policy may in some cases constitute a breach of academic integrity as defined in the UVic Calendar.