

Computer Science 6982

Special Topics in Computer Vision

Winter 2022



Department of Computer Science

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Credit Restrictions: COMP-4301, ECE-8410, ENGI-9805

Course Content: <https://online.mun.ca/>

Course Objectives:

COMP 6982 Computer Vision studies how to develop methods that enable a machine to “understand” or analyze images. The course introduces the fundamental problems in computer vision and the state-of-the-art approaches that address them. Topics include feature detection and matching, geometric and multi-view vision, structure from X, segmentation, object tracking and visual recognition.

Topics:

1. Feature detection and matching
2. Geometric and multi-view vision
3. Structure from X
4. Segmentation
5. Object tracking
6. Visual recognition

Textbook and Resources:

[Computer Vision: Algorithms and Applications](#) by Richard Szeliski (available for free on author's page)

[Computer Vision: A Modern Approach](#) by David Forsyth and Jean Ponce

Additional materials assigned throughout the course.

Evaluation:

	Grade Weight
Assignments	15%
Class Tests	20%
Project	35%
Final	30%
	100%

Difference between the graduate and the undergraduate version of this course:

Where this course is offered in conjunction with undergraduate Computer Visions course (COMP 4301/ENGI 8410), graduate students projects should reflect a higher level of sophistication and should be based on the implementation of techniques or algorithms presented in a journal publication. Graduate students will also be given extra work as part of assignments involving evaluation and comprehension of selected research papers in the area.

In terms of the evaluation scheme in comparison to the undergraduate COMP 4301/ENGI 8410, the Project has a higher weight (35% vs. 30%) and the Assignments a lower weight (15% vs. 20%) than the undergraduate version.