ELE510 Image processing and computer vision, fall 2021

Subject responsible and lecturer: prof. Kjersti Engan, office KE E-431, Kjersti.engan@uis.no
Student assistant: PhD student Luca Tomasetti, luca.tomasetti@uis.no

The course is offered as a hybrid solution. Video lectures will be made available. The lecture times will be used for discussing the same material as in the video lectures. Some zoom sessions will be offered if physical lectures are not permitted, and also for Q&A slots for students who cannot attend due to restrictions.

Lecture times - starting week 34, first lecture 23.08, KE E-164

Monday 12:15-14:00, Different rooms, check lecture schedule
Thursday 08:15-10:00, Mostly AR Ø-130, some exceptions. Check lecture schedule.

https://cloud.timeedit.net/uis/web/student_u/riq04y64366ZX2QZ6585g0QQ6725558QY1h055YQ76oY705gZ7yZcQQcdk6n5bZlnlZqsQo.html

Lab hours with student assistant (one of the timeslots):
Monday 14:15-16:00, room D-123
Tuesday 14:15-16:00, room D-123

Literature: Stan Birchfield, "Image processing and Analysis"
Additional material (support) will be presented at Canvas.

All presentations, assignments and lecture notes are considered as a part of the curriculum.
Tentative list of Curriculum from "Image processing and Analysis" (subject to minor changes):

Chapter		Curriculum
1	Introduction	all
2	Fundamentals of Imaging	2.1,2.2,2.3,2.4
3	Point and geometric transformation	all
4	Binary image processing	4.1
5	Spatial domain filtering	5.1,5.2,5.3,5.4,5.5
6	Frequency domain processing	6.1,6.2,6.3,6.4,6.5
7	Edges and features	7.1,7.2,7.3,7.4,7.5
8	Compression	NOTHING
9	Color	9.1
10	Segmentation	10.1,10.3,
11	Model Fitting	NOTHING
12	Classification	12.4.6,12.4.10
13	Stereo and motion	All (not all details, but all sub-chapters)

Assignments (mandatory, not graded)

6 out of 7 (or 8) assignments must be approved to get the course grade. Assignments consist of some theoretical questions and some programming (Python, openCV). Assignments will be given as Jupyter notebooks.

Project (mandatory and graded)

The work with the project will be done towards the end of the semester. The project will have both an oral presentation (week 46) and a report. This counts for 40% of the course grade.

The project title will be given Friday 29th October, and deadline for deliver is Sunday 14th November, i.e. it will be over 16 days.

The delivery of the project is done by uploading two files to Canvas:

1) A report, uploaded as a pdf document

2) a 5-7 min video with your presentation of the project.

The projects will be presented orally on Monday 15th and Tuesday 16th of November in lab-class hours.

Course assessment and grade

- Written exam counts for 60% of course grade
- Written report from project counts for 40% of course grade

Oral presentation of project is mandatory to get the course grade

6 out of 7 (or 8) assignments must be approved to get the right to do the exam