This course provides a comprehensive introduction into digital image & video processing and analysis. Major topics include image acquisition, linear and non-linear filtering, color, content description and video analysis. Students will learn the basic concepts of image and video processing as well as acquire hands-on experience in solving real-life visual analysis problems.

Textbooks
- W. Pratt, Digital Image Processing, 4th Ed.
- P. Soille, Morphological Image Analysis, 2004
- R. Szeliski, Computer Vision and Applications, 2010

Prerequisites: Python programming, calculus, linear algebra, elementary probability and statistics.

Evaluation
- Homework assignments (2 or 3, 25%): will require implementing image and video processing solutions in python. They might also involve theoretical questions and proofs.
- Midterm exam (35%): will take place in the classroom, with no coding, and will involve mostly design and critical thinking questions.
- Final exam (40%): will take place in the classroom, with no coding, and will involve mostly design and critical thinking questions.

Late policy
- Late days will incur a 10% penalty/day.