



OPTION_S8 Spring Semester Graduate	Option S8	6 credits Individual work: 50% Group work: 50%
Prerequisite: none		

DITN_2811	Image and Virtual Reality	Language  
Lecture: 36		Lab work: 28
<p>This elective course introduces digital signal processing for images, computer vision, virtual and augmented reality. After formal lecturing on these concepts, students will develop a project in teams of two students.</p> <p>Contents</p> <ul style="list-style-type: none"> • Image generation, camera types • Image processing, linear filtering • Mathematical morphology, pattern recognition (Hough transform), segmentation • Computer vision: camera calibration, stereovision, structured light • Virtual reality: VR helmets technology, 3D modeller, 3D engine • Augmented reality: effects insertion, image synthesis <p>Textbooks</p> <ul style="list-style-type: none"> • Digital Image Processing, Gonzales & Woods, 3rd edition, Pearson • Unity 5.x Game Development Blueprints, John P. Doran, 2016, PACKT • Game Engine Architecture, Jason Gregory, 2014, CRC press <p>Partners: Illumination McGuff, Morpho, Onx, SNCF</p>		