

# UA 508- Unmanned and Autonomous Vehicle Systems

<b>Course Code:</b>	UA-508
<b>UTAA Credit (Theoretical-Laboratory hours/week):</b>	3(3-0)
<b>ECTS Credit:</b>	6.0
<b>Department:</b>	Unmanned and Autonomous System Engineering
<b>Language of Instruction:</b>	English
<b>Level of Study:</b>	Graduate
<b>Offered Semester:</b>	Fall and Spring Semesters.

## Course Objectives

In this course the following concepts will be covered: Investigating of the theory and applications of unmanned and autonomous vehicle systems at system level, including hardware, software and algorithm development Topics include mobile platforms (land, air, sea platforms), actuators and motion control, sensors and sensing (GPS, inertial, magnetic, active range, computer vision, encoders), planning and navigation and shortest path algorithms (Dykstra and A \* algorithms). Case studies, literature reviews and presentations, and guest speakers related to the last developments and applications.

## Course Content

Unmanned and Autonomous Vehicle System course provides important tools in understanding of UGV/UAVs.

The course is composed of the topics related to mainly UGV/UAV systems, deployment and a short historical perspective for Unmanned systems.

## Course Learning Outcomes

- 1-Be able to explain history of Unmanned and Autonomous systems,
- 2-Be able to describe the main components of Unmanned and Autonomous systems,
- 3-Be able to design the main components of Unmanned and Autonomous systems,