COURSE DETAIL

INTRODUCTION TO AUTONOMOUS MOBILE ROBOTICS

Country
Ireland

Host Institution
Trinity College Dublin

Program(s)
Trinity College Dublin

UCEAP Course Level
Upper Division

UCEAP Subject Area(s)
Mechanical Engineering

UCEAP Course Number
154

UCEAP Course Suffix

UCEAP Official Title
INTRODUCTION TO AUTONOMOUS MOBILE ROBOTICS

UCEAP Transcript Title
AUTON MOBILE ROBOT

UCEAP Quarter Units
5.00

UCEAP Semester Units
3.30

Course Description

This course presents a practical and theoretical introduction to modern autonomous mobile robot systems. It gives students a broad introduction to the field spanning topics including hardware, software, AI and machine learning, and human-robot interaction and robot ethics. Students study the technology and methods underlying a robot's ability to sense and act in its environment. Through a series of labs and assignments, students gain a proficiency in developing applications for robots in both simulation and real-world settings The course has the following key components: an introduction to mobile robots – sensors, actuators, and control paradigms; the fundamental theory for autonomous mobile robots (kinematics, localization, mapping, and path planning); the scientific methods for evaluating robot performance; an introduction to the field of human-robot interaction; and robots-in-the-wild: case studies of real-world robots and their ethical implications.

Language(s) of Instruction
English

Host Institution Course Number
MEU44B12

Host Institution Course Title
INTRODUCTION TO AUTONOMOUS MOBILE ROBOTICS

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department
Engineering

Print