

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 Course Details

<https://www.tcd.ie/media/tcd/engineering/pdfs/current-students/MEU44B12.pdf>

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Engineering

Course Last Reviewed

2024-2025

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