# COURSE DETAIL

| ROBOTICS |
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| **Country**<br>United Kingdom - England |
| **Host Institution**<br>Imperial College London |
| **Program(s)**<br>Imperial College London |
| **UCEAP Course Level**<br>Upper Division |
| **UCEAP Subject Area(s)**<br>Computer Science |
| **UCEAP Course Number**<br>140 |
| **UCEAP Course Suffix**<br>N |
| **UCEAP Official Title**<br>ROBOTICS |
| **UCEAP Transcript Title**<br>ROBOTICS |
| **UCEAP Quarter Units**<br>5.00 |
| **UCEAP Semester Units** |

3.30

**Course Description**

This course focuses on mobile robotics, emphasizing practical algorithms for navigation, all based around real hardware and tested in the real world. Key elements are: wheeled locomotion, motor control, and motion calibration; outward-looking sensors for behavioral control loops; probabilistic localization using particle filtering; advanced use of sensors for place recognition, occupancy mapping and planning; and an introduction to Simultaneous Localization and Mapping. The course is intensively practical, and all the key methods students learn are tested on robots they build.

**Language(s) of Instruction**
English

**Host Institution Course Number**
COMP60019

**Host Institution Course Title**
ROBOTICS

**Host Institution Course Details**
https://www.imperial.ac.uk/computing/current-students/courses/60019/

**Host Institution Campus**

**Host Institution Faculty**

**Host Institution Degree**

**Host Institution Department**
Computing

**Course Last Reviewed**
2024-2025

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