

# COURSE DETAIL

## SERVICE ROBOTICS

**Country**

Sweden

**Host Institution**

Lund University

**Program(s)**

Lund University

**UCEAP Course Level**

Upper Division

**UCEAP Subject Area(s)**

Mechanical Engineering

**UCEAP Course Number**

143

**UCEAP Course Suffix****UCEAP Official Title**

SERVICE ROBOTICS

**UCEAP Transcript Title**

SERVICE ROBOTICS

**UCEAP Quarter Units**

6.00

**UCEAP Semester Units**

4.00

## **Course Description**

The course consists of a part with a practically oriented project assignment and a theoretical part. Working in groups, choose a service robotics topic to study and present this orally to the other students. The theoretical part is deepened at a literature seminar where scientific articles are discussed. Examples of service robotics topics include different service robotics applications, human-robot interaction, levels of robot autonomy, navigation of mobile robots, SLAM (simultaneous localization and mapping), maze-solving algorithms, line-following algorithms, wheeled locomotion, odometry, anthropomorphic robots, robot ethics or a service robotics topics of the students' own choice. The practical part consists of a project in one or more of the above-mentioned areas which is carried out in groups of usually four students. A functioning service robot is developed by integrating an Arduino controller, servos, sensors and mechanical components produced by for example laser cutting or 3D printing. The project applies knowledge in mechanics, electronics and programming.

### **Language(s) of Instruction**

English

### **Host Institution Course Number**

TNSN01

### **Host Institution Course Title**

SERVICE ROBOTICS

### **Host Institution Course Details**

[https://kurser.lth.se/lot/course-syllabus-en/25\\_26/TNSN01](https://kurser.lth.se/lot/course-syllabus-en/25_26/TNSN01)

### **Host Institution Campus**

Lund

### **Host Institution Faculty**

Engineering

### **Host Institution Degree**

**Host Institution Department**

**Course Last Reviewed**

2025-2026

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