



# Home

## Course Information

## Schedule

| Week | Date    | Topic  | Test                         |
|------|---------|--|------------------------------|
| 1.   | Sept 15 | Requirements. ROS introduction. Setup the development environment.   | -                            |
| 2.   | Sept 22 | Setup the development environment. Linux principles. ROS principles. Running examples. ROS package. Basics of ROS communication, implementation of publisher and subscriber. | Project topic announcements. |
| 4.   | Oct 6   | Python principles. Practicing ROS communication, solving examples.   | -                            |
| 5.   | Oct 13  | Principles of robotics. Programming a da Vinci surgical robot in simulated environment I.  | -                            |
| 6.   | Oct 20  | Principles of robotics. Programming a da Vinci surgical robot in simulated environment II.   | -                            |
| 7.   | Oct 27  | Versioning, Git. Project labor I.  | <b>Test 1</b>                |
| 8.   | Nov 3   | ROS 2 Launch, Param, Bag   | -                            |
| 9.   | Nov 10  |  | -                            |

| Week  | Date         | Topic  | Test                        |
|-------|--------------|--|-----------------------------|
|       |              | Kinematics, inverse kinematics, programming a simulated robot arm in joint space and task space I.   |                             |
| 10.   | Nov 17       | Kinematics, inverse kinematics, programming a simulated robot arm in joint space and task space II.  | -                           |
| 11.   | Nov 24       | Kinematics, inverse kinematics, programming a simulated robot arm in joint space and task space III. | -                           |
| 12.   | Dec 1        | Project labor II.  | -                           |
| 13.   | Dec 8        | -  | <b>Test 2</b>               |
| 14.   | Dec 15       | Project presentations.   | <b>Test retake</b>          |
| 14+1. | Dec 19 (Tue) | -  | <b>Mid-term replacement</b> |

### Warning

The schedule may change during the semester!

## Course Requirements

### Project

- Proved to be the student's own work
- Running results valid output
- Grading: completeness of the solution, proper ROS communication, proper structure of the program, quality of implementation, documentation

## Grading

Personal attendance on the classes is mandatory (min 70%).

To pass the course, Tests and the Project must be passed (grade 2). One of the Test can be taken again.



### Grade

$$\backslash(Jegy = (Test1 + Test2 + 2 \backslash times Project) / 4\backslash)$$

## Course Supervisor

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## Teachers

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**ÓBUDAI EGYETEM**  
BEJCZY ANTAL INTELLIGENS  
ROBOTTECHNIKAI KÖZPONT



<https://irob.uni-obuda.hu>

iRob-saf

(iRob Surgical Automation Framework)



<https://github.com/ABC-iRobotics/irob-saf>

PlatypOUs

<https://github.com/ABC-iRobotics/PlatypOUs-Mobile-Robot-Platform>