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Course Information

Schedule

| Week | Date | Topic | Test |
|------|---------|--|---|
| 1. | Sept 6 | Requirements. ROS introduction. Setup the development environment. | - |
| 2. | Sept 13 | Setup the development environment. Linux principles. ROS principles. Running examples. ROS package. Basics of ROS communication, implementation of publisher and subscriber. | Project topic announcements. |
| 3. | Sept 20 | Python principles. Practicing ROS communication, solving examples. | - |
| 4. | Sept 27 | Versioning, Git. Project labor I. | - |
| 5. | Oct 4 | Principles of robotics. Programming a da Vinci surgical robot in simulated environment I. | - |
| 6. | Oct 11 | Principles of robotics. Programming a da Vinci surgical robot in simulated environment II. | Test 1: ROS princiles, publisher, subscriber. Python principles. Principles of robotics. |

| Week | Date | Topic | Test |
|------|-----------|---|---|
| 7. | Oct 18 | Principles of robotics. Programming a da Vinci surgical robot in simulated environment III. | - |
| 8. | Oct 25 | Project labor II. | Project milestone. |
| 10. | Nov 8 | Roslaunch, ROS parameter server. Rosbag. | - |
| 11. | Nov 15 | Kinematics, inverse kinematics, programming a simulated robot arm in joint space and workspace I. | - |
| 13. | Nov 29 | Kinematics, inverse kinematics, programming a simulated robot arm in joint space and workspace II. | - |
| 14. | Nov 6 | - | Project presentations. Retake. Test 2: Roslaunch, ROS parameter server. ROS service. ROS action. Kinematics, inverse kinematics. |



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

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

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>