240AR060 – Introduction to ROS

INDEX

BIBLIOGRAPHY

Tutorials: https://sir.upc.edu/projects/rostutorials/index.html

Books:

(basic) A gentle Introduction to ROS, Jason M. O'Kane, 2013.
Available at: https://www.cse.sc.edu/~jokane/agitr/

(complementary) Mastering ROS for robotic programming, Lentin Joseph, Packt Publishing 2015.
Book webpage: https://mastering-ros.com/
Book tutorials source code: https://github.com/qboticslabs/mastering_ros/

Web resources:

ROS *wiki* page: http://wiki.ros.org/

ROS *tutorials*: http://wiki.ros.org/ROS/Tutorials/
Gazebo *tutorials*: http://gazebosim.org/tutorials/
Catkin *tutorials*: http://jbohren.com/tutorials/
Git *tutorial*: https://try.github.io/ https://guides.github.com/activities/hello-world/
ROS *cheatsheet*: https://github.com/ros/cheatsheet/releases/download/0.0.1/ROScheatsheet_catkin.pdf/
Git *cheatsheet*: https://www.atlassian.com/git/tutorials/atlassian-git-cheatsheet

ASSESSMENT

Partial Exam: 20% (theoretical questions and short exercises)
Final Work: 80% (deliverable 20%, demonstration and oral presentation 60%)

Regulations

- The partial exam will take place on April 11th, 5 P.M.
- The Final Work must be done in teams of two/three.
- Final Work deliverable: git repository with commented code and Readme files.
- The oral presentation of the Final Work is scheduled on June 22, 2023.

TEMPORAL DISTRIBUTION

	Date	TUTORIAL SESSION	DEADLINES	CLASSROOM
1	24/02	1. Basic concepts 2. Development tools		H-5.4
2	03/03	3. Communications using topics	***Exercise 0***	H-5.4
3	10/03	4. The launch utility 6. Tools (6b)	*Exercise 1*	H-5.4
4	17/03	5. Communications using services	*Exercise 2*	H-5.4
5	24/03	6. Tools 6 (6a,6c,6d)	*Exercise 3*	H-5.4
6	31/03	7. Simulation 8. Sensors	*Exercise 4*	H-5.4
	07/04	*Easter week*		
	14/04	*Partial exams*		
7	21/04	Final work: *Hands-on session - Perception*	*Exercise 5*	ESAII Robotics Lab
8	28/04	*9.* Communication using actions		H-5.4
9	05/05	10. Robot control	*Exercise 6*	H-5.4
10	12/05	Final work: *Hands-on session*	*Exercise 7*	ESAII Robotics Lab
11	19/05	Final work: *Hands-on session*		ESAII Robotics Lab
12	26/05	Final work: *Hands-on session* *ROS2*		ESAII Robotics Lab
	22/06	*Final Work oral presentations*		ESAII Robotics **Lab**

PERSONAL ADVISE

Professor	Monday	Wednesday	Thursday
Rosell, Jan (jan.rosell@upc.edu)		9:00 ÷ 12:00	9:00 ÷ 12:00
Palomo-Avellaneda, Leopold (leopold.palomo@upc.edu)	15:30 ÷ 17:00	15:30 ÷ 17:00	