

# RIGA TECHNICAL UNIVERSITY

# ROBO CAMP

WINTER APPLICATION IS ON!



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UNIVERSITY

## Course information

<b>What:</b>	Robot – from project to real robot
<b>Where:</b>	Riga Technical University, Riga, Latvia
<b>When:</b>	06.01.2020–31.01.2020
<b>How long:</b>	4 weeks
<b>Who:</b>	RTU international and local students must be enrolled in a degree related to project management, design, mechanics, electronics, computer systems or programming.
<b>How much:</b>	1500 EUR
<b>The outcome:</b>	RTU certificate, 9 ECTS and real robot

# Week 1

## **Introduction week, project management, fundamental and potential design courses, prototype development and presentation + design pitch**

At the first week students will be introduced in project management with deeper specialization in electronics production. During the week students will be divided into work groups and they will hold the first brainstorm related to robot: aim, function and design. In this week students will have courses in design and at the end of the week groups will present their prototypes.

Course topics: Quality Management and Economics, Product Marketing Policy, Technology and New Product Marketing, Project Management, Foundations of Computer and Robotic Systems Design.

# Week 2

## **Design week: working on robot design according to drafts that were made + presentation**

On the second week students are going to have lectures and practical work in Technical Graphics (Solidworks3D CAD design software) in cooperation with specialists from electronic fields that will consult students according to sizes of elements for robot. During this week robot design shall be presented.

Course topics: Robot Control System Development Project, Intelligent Electronic Equipment in Robotic Systems, Robot Systems Modelling Basics, Basics of Autonomous and Mobile Robotic Systems.

# Week 3

## **Robot constructing week concordant to student's robot technical draft and 3D design**

Third study week is related to robot construction that will be based on design and technical draft made by student groups. Lectures and practical work will be held on subjects related to artificial intelligence and robot control systems. During this week laboratories will be opened 24/7. As the last week is final project presentation week, 90% of work should be done.

Course topics: Fundamentals of Artificial Intelligence, Control Technique with Microprocessor Controllers, Logical Foundations of Intelligent Robots, Electric Drive of Robots.

# Week 4

## **Final Project presentation week. Unfinished jobs and last corrections can be done**

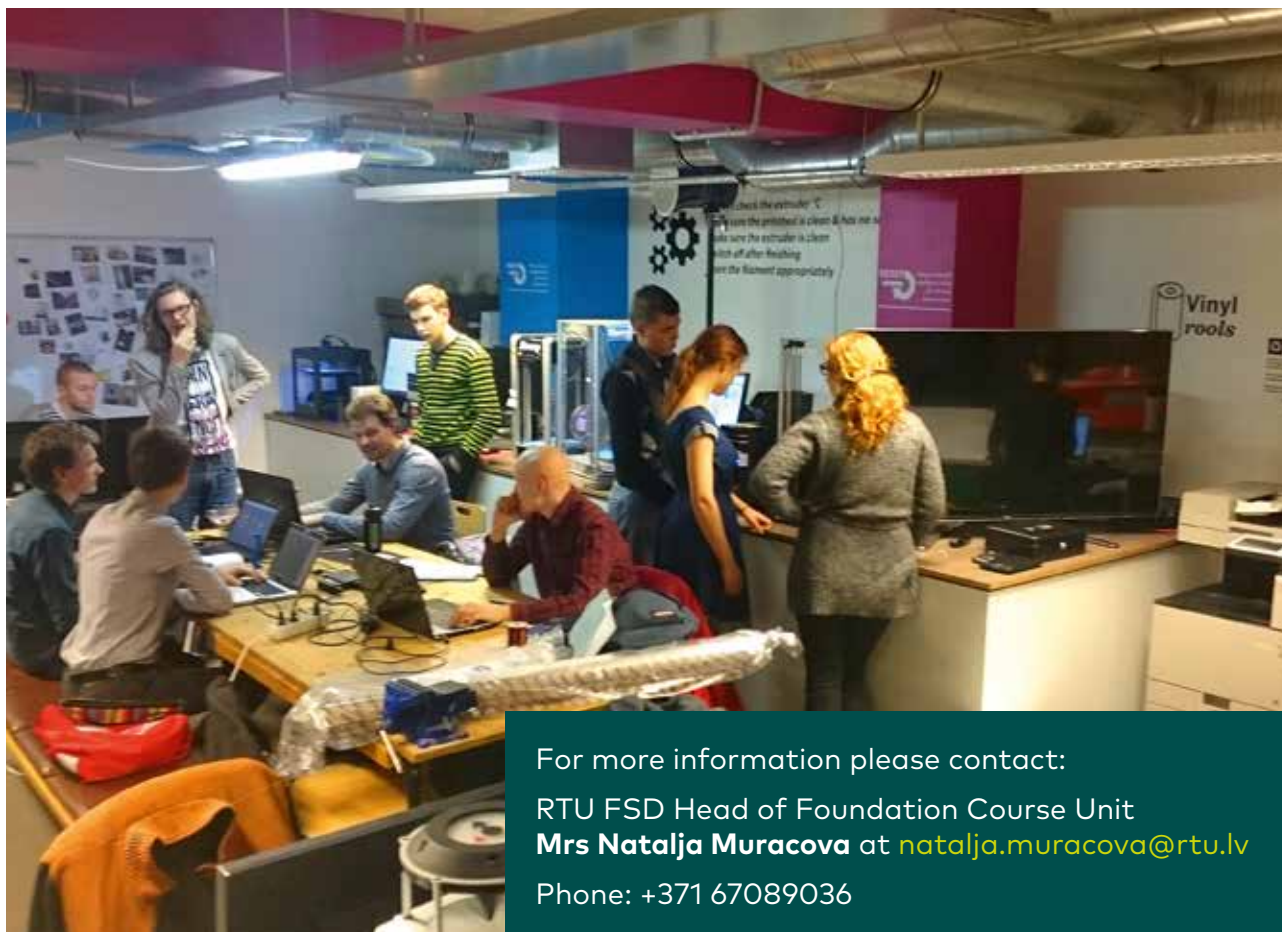
In the last study week groups should present their final Project – working robot that will be able to accomplish the aim of the plan created by the team on the first week of work. During this week consultations and advice are available as well as laboratories. Last day for project presentation – Friday.

# Learning outcomes:

- Practical and theoretical knowledge involvement in the field of robotics.
- Tangible robot creation – from project up to real functional result.
- Knowledge improvement of project management in the field of electronics.
- Comprehension and skill acquirement with 3D design modelling software.

**ROBO CAMP is a place where experience, knowledge and interesting people meet each other to put their ideas together and, of course, fulfil it.**

It is necessary to remind that RTU ROBO CAMP is awaiting students from project management and design, because before and after robot creation process there always is a great amount of tasks and obligations to be done. No product can be generated (produced) without: exploring the needs of consumer, idea of robot itself, design and marketing.



For more information please contact:  
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