

## **Basics of the Precision Agriculture**

5 ECTS credits

### **Curricula description**

The main aim of this course is to familiarise students with knowledge about using of precision farming technologies as yield mapping, Global Positioning System (GPS), automatic sensing of crop and soil differences from vehicles, aircraft or satellites, variable rate application (seed, fertilizer, agrochemicals). At the end, the attention will be paid also to the development of robotic systems for plant production.

### **Course syllabus**

1. Precision Agriculture, Introduction, Assumptions, Technical Possibilities
2. Satellite Guidance, Use of Navigation Devices, Other Navigation Options
3. Methodological Aspects of Soil Sampling. Spatial Variability of Soil Properties
4. Technique for Measuring and Mapping Yields of Field Crops.
5. Sensors, Measurement Principles, Geophysical Instruments
6. Remote Sensing, Data Processing and Interpretation
7. Telematics, Data Acquisition, Machine Monitoring
8. Geographic Information System and Data Management
9. Robotics and Autonomous Systems in Agriculture, Smart Farming