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| **Subject** | **Artificial intelligence in agriculture and the environment** |
| **Type** | **Semester** | **ECTS** | **Code** |
|  (O) | I | 6 | / |
| **Aims and Objectives** | The course will give an overview of main applications and problems encountered in agriculture with mechatronic systems. This course teaches the students about different element in agriculture including tasks and requirements of mechatronic systems, application of mechatronic systems in agriculture machinery in order to deal with cases such as uneven terrain, different weather conditions, and application of sensory devices and requirements of such devices. Characteristics, operations and mechatronic solutions for agriculture machinery and tractors, harvesting systems, products selection and packing, and so on. |
| **Learning Outcomes** | On successful completion of this module, a student should be able to:* Understand the application areas of mechatronics in Agriculture
* Understand the types of sensors used in Agriculture
* Understand the application principles of unmanned systems
* Understand the solar systems
* Understand the principles of Automatic Packing Systems
* Design the basic mechatronic systems for agriculture
* Understand the Global Positioning System and its application in Agriculture
* Define/Understand types of mechatronics systems used in Agriculture
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| **Literature/References** | - Ahmad Smaili, Fouad Mrad, “Applied Mechatronic”, Oxford University Press, 2008. - Agricultural Automation: Fundamentals and Practices, Qin Zhang, Francis J. Pierce, 2013. |