**Integrated product development (ECTS credits: 6)**

Language: the course is offered in English, Serbian and Hungarian.

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**Course description:**

The course covers some aspects of interdisciplinary approach in the process of developing new, or redesigning existing products on the market. The product is everything (it can be a chair, a computer, but also software or some service). It also introduces some organizational aspects of the development process in distributed environments (virtual factory).

This short course cover the following topics, considering the Integrated Product Development:

1. Introduction
2. Identifying Customer Needs
3. Functional Requirements and Decomposition
4. Design parameters and Engineering parameters (Functional Analysis)
5. QFD (House of Quality)
6. Product lifecycle
7. Concept generation techniques
8. Morphological matrix
9. Cost analysis
10. Design for Excellence DFx
11. Industrial design
12. Fundamentals of project management
13. Prototyping
14. Embodiments
15. Closing remarks

**Aims:**

The goals are the following: - The students should accept the idea that the whole lifecycle of the product and the product’s surroundings (social, environmental...) have to be considered during the development process, not just the product alone; - The students should be able to identify without any assistance the necessary steps in the product development process; - The students should be able to analyze an existing product and to suggest possible improvements on the level of functional prototypes (in general, not in detail) considering the whole lifecycle of the product and its surroundings.