COMPUTER ARCHITECTURE AND ORGANIZATION

<table>
<tr><th colspan="2">Title of Study Programme and Code</th><th>Type (compulsory/optional)</th><th>Cycle</th><th>Year of study when the component is delivered (if applicable)</th></tr>
<tr><td colspan="2">Information Systems Engineering 6531EX043</td><td>Compulsory</td><td>1st</td><td>2nd year</td></tr>
<tr><th colspan="2">Semester/trimester when the component is delivered</th><th>Number of ECTS credits allocated</th><th>Language of instruction</th><th>Mode of delivery (face-to-face/e-learning/…)</th></tr>
<tr><td colspan="2">3st</td><td>9 ECTS</td><td>English</td><td>face-to-face</td></tr>
<tr><th colspan="3">Learning outcomes</th><th>Study methods</th><th>Assessment methods</th></tr>
<tr><td colspan="3">After completion of the study subject, a student should be able to:</td><td rowspan="14">Lectures;
Explanation of concepts;
Analysis of problems solved;
Individual solution of problems;
Group tasks.</td><td rowspan="14">Writen Exam;
Tests;
Defence of individual homework.</td></tr>
<tr><td>LO 1</td><td colspan="2">Understand basic computer components manufacturing principles and used materials.</td></tr>
<tr><td>LO 2</td><td colspan="2">Identify and characterize all computer settings.</td></tr>
<tr><td>LO 3</td><td colspan="2">Understand computer architecture and evaluate the relationships between the individual components.</td></tr>
<tr><td>LO 4</td><td colspan="2">Make computer configurations based on user needs.</td></tr>
<tr><td>LO 5</td><td colspan="2">Install and configure computer equipment.</td></tr>
<tr><td>LO 6</td><td colspan="2">Physically assemble the computer.</td></tr>
<tr><td>LO 7</td><td colspan="2">Carry out your computer's performance and fault diagnosis and evaluate the results.</td></tr>
<tr><td>LO 8</td><td colspan="2">Determine the physical computer malfunctions and provide motivated fault removal techniques.</td></tr>
<tr><td>LO 9</td><td colspan="2">Understand and put into practice programming tools of computer maintenance and repair.</td></tr>
<tr><td>LO 10</td><td colspan="2">Motivate coordination of the specific hardware and software.</td></tr>
<tr><td>LO 11</td><td colspan="2">Ensure the rapid removal of faults with technical and programm tools.</td></tr>
<tr><td>LO 12</td><td colspan="2">Optimize computer performance, configure settings of devices with programm tools.</td></tr>
</table>

LO 13	Assess the need for modernization of equipment and reasonably modernize computer components and systems.		

Prerequisites
(these courses must be sucessfully completed prior to taking this particular course)

Informatics

Course content

1. Computer equipment characteristics.
2. Establishment of computer configurations.
3. Peripheral equipment.
4. Analysis of hard disc and configuration.
5. Disk, Partition cloning. External information storages.
6. Test of the processors. Multi – core processors.
7. Test of the computer's internal memory.
8. Explore of the motherboard.
9. Bios explore, update and configuration
10. Test of the video system.
11. Input and output devices.
12. Diagnosis of computer equipment performance.
13. Computer software fault diagnostic tools.
14. Fault identification and removal.
15. Software maintenance tools.
16. The physical computer assembly

Recommended or required reading and other learning resources/tools

1. Computer equipment research reviews. Available at: www.ixbt.com
2. Manufacturer of processor and other PC components. Available at: www.intel.com
3. Manufacturer of processor and other PC components. Available at: www.amd.com
4. Computer equipment research reviews. Available at: www.fonerbooks.com/
5. Manufacturer of graphics processor and other PC components. Available at: www.nvidia.com
6. Various computing devices tests and reviews. Available at: www.tomhardware.com