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| Course name | Modern Techniques and Technologies Used in Agriculture, Forestry and Agro Food Processing | |
| Course code | E.1.MMT.SC.ECTIE.A | |
| Department | Institute of Machinery Management, Ergonomics and Production Processes | |
| Faculty | Faculty of Production and Power Engineering | |
| Course supervisor/Lecturer | Dr. Hab. Barbara Krzysztofik, Paulina Wrona, PhD. Piotr Nawara, PhD. | |
| General information | Teaching period | spring semester |
| | ECTS credit | 12 |
| | Lectures total | 30 |
| | Practicals | 15 |
| | Project | 15 |
| Objective and general description | <p>The student learns the subject of modern techniques and technologies used in the field of agricultural production, forestry production and food processing. The classes will focus on engineering and energy production of raw materials and their processing.</p> <p>The students make the selection of machines and equipment for a given process technology, calculate the energy demand for machinery involved in this process.</p> | |
| Lectures – 30h | <p>Modern techniques of soil preparation for sowing and planting - 3h; Modern technology used for sowing and planting - 2h; Plant engineering and environmental aspects - 2h; Harvesting techniques and technology of cereals, fodder crops, root crops, vegetables - 6h; Storage Technology of cereals, root crops and vegetables - 6h; Techniques used in the nurseries of forest and orchard - 2h; Techniques and technologies used to harvest timber - 2h; Engineering of food processing - selected technology-7h.</p> | |
| Classes – 15h | <p>Calculation:</p> <ol style="list-style-type: none"> 1.Number of machines needed for a given process, for a given plant or technology – 3h; 2.The total energy required to operate machinery, and the unit energy consumption – 3h; 3. Performance of the actual and the coefficients of its use – 3h; 4. Time freeze, tempo and selection of freezers – 3h; 5. Evaporation time, the choice of evaporators – 3h. | |
| Project – 15h | <p>Project storage or process of selection of machinery, equipment, performance, demand for machinery, equipment and energy</p> | |
| Assessment method | <p>The material of instruction will be included based on an oral examination or written.</p> <p>The basis of assessment exercises are the conferences of the tasks are solved as examples of the exercises.</p> <p>The project will prepare a written and electronic form will constitute the</p> | |

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| | basis for the completion of the project |
| References | <p>Adamicki F., Czerko Z. 2002. Storage of fruits and vegetables. PWRiL, Poznan;</p> <p>2. Krzysztofik B. 2008. Impact of changes to the place of storage on quality characteristics of potato tubers. Acta Agrophysica 11(2);</p> <p>3. Szyszło J. 2002. Techniques and food storage technologies in cereal. IBMER Warszawa, ss. 91, ISBN 83-86264-80-2;</p> <p>4. Banasiak J. 1999. Agrotechnologia. Wydawnictwo Naukowe PWN.</p> <p>5. Praca zbiorowa pod red. P.P. Lewickiego. 2006r. Inżynieria procesowa i aparatura przemysłu spożywczego. Wydawnictwa Naukowo-Techniczne WNT isbn:83-204-3227-8</p> |