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| Polish name of the course:  | Technology management in agriculture | ECTS | 3 |
| English name of the course: | Zarządzanie technologią w rolnictwie |
| Name of study | Organic agriculture and food production |
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| Language: | English | Study level: | I |
| Study status:  | ⌧full-time🞎part-time | Status of the course: | 🞎 basic⌧professional | 🞎 obligatory ⌧elective | Semester: 5 | ⌧winter semester🞎spring semester |
|  |  | description applies from the academic year (year): | 2019/2020 | Catalog number : | ROL-ER-1S-05Z-09 |
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| Coordinator of the course5 | Dr hab. Mariusz Maciejczak |
| Teachers : | Dr hab. Mariusz Maciejczak |
| Conducting unit: | Department of Economics and Organization of Enterprises |
| Unit ordering classes : | Faculty of Agriculture and Biology |
| Goals and description of the course: | **Goal:**  The course develops knowledge in the field of the management of innovative technologies in agriculture under the paradigm of the sustainable development and in accordance with the concept of agroecology. It also develops and enhances practical professional skills in prospective analysis of different aspects of technology management incl. proof of concept, technology diffusion and maturity as well as benefits, costs and risks associated with its implementation and development. During the course student develops also personal competences to be able to implement and critically evaluate personal actions and actions of others to improve proposed solutions. **Description**: Lectures:* Introduction to the theory of technological development.
* The prospects of development of agricultural technologies.
* Characteristics and classifications of agricultural technologies.
* Models of the technology life cycle.
* Elements of technology management.
* Basics of intellectual property rights management.
* The future of agricultural technologies use under the sustainability paradigm.

Exercises:* In search of the technology needs.
* Management of R&D activities.
* Proof of concept.
* Readiness levels of technologies.
* The practice of technology audit.
* Diffusion models of technology.
* Technology maturity.
* Importance of innovations.
* Peer review of final projects.
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| Didactic forms, number of hours : | W - lecture, hours ....15...C - auditorium exercises, hours ..15.....LC - laboratory exercises, hours .......PC – design (project) exercises, hours .......TC - field exercises, hours .......ZP - apprenticeships, hours ....... |
| Teaching methods : | The course follows students cantered approach based on activity driven lectures and classes with discussions and case studies as well as practicals based on own and group works, discussions, consultations and evaluations; with an application of formative assessment methods. |
| Formal requirementsand initial assumptions : | None |
| Learning outcomes : | Kowledge:W1 - has a basic economic knowledge about the functioning of technologies in agriculture | Skills:U1 – analyses and assesses the economic effects of application and use of technologies in agriculture | Ccompetence :K1 – is able to work individually and in a group, assuming different roles in it, aiming to achieve the assumed goal |
| The verification way of learning outcomes : | Learning outcomes are verified by: final project (W 1) as well as preparation and participation in the class assignments and their assessment (U1, K1). |
| Form of documentation achieved learning outcomes: | Grade in the eHMS system, written final report, written conclusions from class assignments. |
| Elements and weights with the impact on the final grade: | The final grade includes the assessment of the following elements measured in points: final project 60 points; 4 assignments 10 points each. Final passing is conditioned by getting min. 50% of the total learning outcomes, incl. min. 50% of the final project. |
| Place for course: | Lecture rooms |
| Basic literature:* Burgelman R., Christensen C., Wheelwright S., 2003: Strategic Management of Technology and Innovation . McGraw-Hill/Irwin; 4 edition.

Complementary literature:* United Nations, Industrial development Organization, International Centre for Scientific and High Technology, Training Course on Technology Management.
* Afuah A., 2002: Innovation Management: Strategies, Implementation, and Profits. Oxford University Press, USA; 2nd edition
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| Comments Final assessment during the semester |

Quantitative indicators characterizing the module / course:

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| --- | --- |
| Estimated total number of student work hours (contact and own work) necessary to achieve the expected learning outcomes – based on this, complete the ECTS field: | 60 |
| The total number of ECTS points that a student obtains in classes requiring direct participation of academic teachers or other persons conducting classes (consultations, cooperation with a supervisor): |  ECTS 1,5 |

Table of compliance of the directional learning outcomes with the effects of the course:

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| --- | --- | --- | --- |
| effect category | Learning outcomes for the course: | Reference to effects for the study program for the field of study | The impact of the course on the field effect \*) |
| Knowledge –W1 | has a basic economic knowledge about the functioning of technologies in agriculture | K\_W14 | 3 |
| Skills –U1 | analyses and assesses the economic effects of application and use of technologies in agriculture | K\_U10 | 3 |
| Competence –K1 | is able to work individually and in a group, assuming different roles in it, aiming to achieve the assumed goal | K\_K02 | 3 |

\*)

3 - advanced and detailed,

2 - significant,

1 - basic,