

Course title: ECOTRENDS

ECTS credit allocation (and other scores): 2.0

Semester: spring

Level of study: ISCED-7 - second-cycle programmes (EQF-7)

Branch of science: Agricultural sciences

Language: English

Number of hours per semester: 30

Course coordinator/ Department and e-mail: dr hab. inż. Arkadiusz Stępień, Department of Agroecosystems, arkadiusz.stepien@uwm.edu.pl

Type of classes: classes and lectures

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#### Substantive content

**CLASSES:** Basic principles of designing crop rotation schemes. Plant succession and crop rotation in family farms and possible improvements. The influence of soil properties and preceding crops on yield. Designing crop rotation schemes for various habitats, plant and animal production systems. Designing crop rotation models, organic matter and nutrient balances for various crop production systems. Evaluating the influence of crop rotation and monoculture systems on the prevalence of weeds, crop diseases and pathogens and proposing effective remedy solutions. Planning crop rotation schemes in various cropping systems. Natural and organic fertilization, cultivation and pesticide use in various agricultural production systems. Evaluating crop rotation systems.

**LECTURES:** Students are introduced to crop rotation, its goals and roles. Crop rotation in recent and ancient history, agricultural systems in history. Environmental, organizational and economic factors in designing crop rotation schemes. Crop rotation in contemporary agriculture. Plant sensitivity to crop rotation and monoculture. Principles of designing crop rotation schemes in various plant and animal production systems. Different methods and criteria for evaluating crop rotation schemes.

**Learning purpose:** Getting to know and using instruments of nature protection and threats resulting from disruption of its balance in the scope of making economic decisions.

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On completion of the study programme the graduate will gain:

**Knowledge:** The student has a basic knowledge of the fields, motives and strategies for nature protection. Identifies the causes, size and effects of human impact on ecological systems and processes and biodiversity of ecosystems. Has knowledge of innovative management methods not interfering with the environment.

**Social Competencies:** The student is aware of the importance of nature protection in everyday life and for future generations. It expresses understanding and takes responsibility for the current and future natural reality.

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**Basic literature:** Dobrzański G., B. M. Dobrzańska, D. Kiełczewski. 1997. Ochrona środowiska przyrodniczego. Ekonomia i Środowisko, Białystok

**Supplementary literature:** -

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The allocated number of ECTS points consists of:

Contact hours with an academic teacher: 1.24 ECTS points



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Student's independent work: 0.76 ECTS points