UNIVERSITY
OF WARMIA AND MAZURY
IN OLSZTYN

Faculty of Environmental Management and Agriculture

Course title: CROP ROTATION CONSULTANCY

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

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: Problems and difficulties in crop rotation economy, as well as the improvement of crop planning skills for farms located in different habitat conditions, in different fields of specialization in plant and animal production and in different cropping systems.

On completion of the study programme the graduate will gain:

Knowledge: The student knows the rules for constructing crop rotation based on knowledge of forecrop value and precrop requirements, as well as habitat types of individual groups and plant species in various plant cultivation systems. Has knowledge about the possibilities of transient derogation from the rules for constructing nature-correct crop rotation. He knows the reaction of the main plant species for their cultivation in monoculture. He knows the rules and methods for assessing crop rotation.

Skills: The student will acquire and deepen the ability to build crop rotation for various soil and agricultural complexes in various agricultural systems. Is able to arrange crop rotation adapted to the assumed direction of plant and animal production. It will acquire the ability to develop crop rotation depending on the% share of plants in the crop structure of the farm. Is able to plan the use of natural and organic fertilization in conditions of high supply of these fertilizers for plants that use this fertilization very well and well. He is able to assess different methods of crop rotation implemented in European agricultural systems.

Social Competencies: During the studies, the student will acquire the need for systematic improvement of knowledge and skills to use them in later professional work as a farmer, adviser, teacher or employee of local government bodies

to develop and provide farmers or practitioners knowledge and skills to build crop rotation and their multi-aspect assessment in terms of natural and economic.

Basic literature**:** Niewiadomski W. 1983. Podstawy agrotechniki. PWRiL, Warszawa.

Supplementary literature: -

The allocated number of ECTS points consists of:

Contact hours with an academic teacher: 1.24 ECTS points

Student's independent work: 0.76 ECTS points