Appendix No. 1.5 to the Resolution No. 61/2025
of the Rector of the University of Rzeszów

SYLLABUS

REGARDING THE QUALIFICATION CYCLE FROM 2026/2027 TO 2029/2030
ACADEMIC YEAR 2028/2029

1. BASIC COURSE/MODULE INFORMATION

Course/Module title	**Economics of Agricultural Mechanization**
Course/Module code *	
Faculty (name of the unit offering the field of study)	Faculty of Technology and Life Sciences
Name of the unit running the course	Institute of Agricultural Sciences, Environmental Protection, and Management
Field of study	Agriculture
Qualification level	First-cycle
Profile	General academic profile
Study mode	Full-time
Year and semester of studies	Year III, Semester 5
Course type	Specialisation module/ Agronomy and Agribusiness
Language of instruction	English language
Coordinator	Assoc. Prof. Natalia Matłok, PhD, DSc, Eng
Course instructor	Assoc. Prof. Natalia Matłok, PhD, DSc, Eng

* - as agreed at the faculty

1.1. Learning format – number of hours and ECTS credits

Semester (no.)	Lectures	Classes	Laboratories	Seminars	Practical classes	Internships	others	**ECTS credits**
5	15	15						3

1.2. Course delivery methods

x- conducted in a traditional way
- involving distance education methods and techniques

1.3. Course/Module assessment (exam, pass with a grade, pass without a grade)
exam

2. PREREQUISITES

Economics, Fundamentals of Crop Production, Fundamentals of Animal Production, Agricultural Engineering

3. OBJECTIVES, LEARNING OUTCOMES, COURSE CONTENT, AND INSTRUCTIONAL METHODS

3.1. Course/Module objectives

O1	To familiarise students with knowledge in the field of the economics of agricultural mechanisation.
O2	To enable students to acquire practical skills in applying the principles of rational and economically justified selection and operation of agricultural machinery, implements, and equipment.
O3	To develop the ability to establish economic priorities in implemented operational activities.

3.2. COURSE/MODULE LEARNING OUTCOMES

Learning Outcome	The description of the learning outcome defined for the course/module	Relation to the degree programme outcomes
LO_01	Knows and understands fundamental concepts in the field of the economics of agricultural mechanisation.	K_W09
LO_02	Knows and understands the principles governing the rational and economically justified selection and utilisation of farm machinery, implements, and equipment.	K_W07
LO_03	Designs the equipment and machinery endowment for an agricultural holding.	K_U07
LO_04	Determines the rational utilisation of agricultural tractors and machinery for selected field and agrotechnical operations.	K_U05
LO_05	Demonstrates readiness to identify and set economic priorities within undertaken activities.	K_K01

3.3. Course content

A. Lectures

1. Changes in the agri-food sector following Poland's accession to the EU
2. Methodology for determining operating and maintenance costs of agricultural machinery
3. Forms of agricultural equipment utilisation and criteria for their selection
4. Cost-effectiveness of acquisition and operation, and break-even utilisation of farm machinery
5. Terrain and field factors affecting the economic utilisation of agricultural machinery
6. Principles of rational mechanisation of agricultural holdings
7. Performance indicators for the evaluation, selection, and utilisation of selected tractors and machinery

B. Classes

Classes:
1. Calculation of operating and maintenance costs of agricultural tractors and machinery
2. Calculating operational costs for selected farm machinery and implements
3. Cost-effectiveness analysis of agricultural machinery acquisition and operation
4. Calculating field capacity and work performance of agricultural equipment
5. Calculation of break-even utilisation for selected farm machinery
6. Application of standard unit operating cost tables for agricultural tractors and machinery
7. Determining the rational utilisation of selected agricultural tractors and machinery on a farm holding

3.4. Methods of Instruction

Lecture with multimedia presentation; laboratory classes – small group work; project classes.

4. Assessment techniques and criteria

4.1 Methods of evaluating learning outcomes

Learning outcome	Methods of assessment of learning outcomes (e.g. test, oral exam, written exam, project, report, observation during classes)	Learning format (lectures, classes…)
LO-01	Project and project defence, Test, written exam	Classes, lectures
LO-02	Project and project defence, Test, written exam	Classes, lectures
LO-03	Project and project defence, Test, written exam	Classes, lectures
LO-04	Project and project defence, Test, written exam	Classes, lectures
LO-05	observation during classes, Project and project defence, Test, written exam	Classes, lectures

4.2 Course assessment criteria

Classes: graded pass based on continuous assessment marks from projects and a written test. Lectures: examination; a passing grade is determined by the total score obtained (>50% of the maximum points) in a written exam comprising open-ended and closed-ended questions: satisfactory (3.0) 51–59%, satisfactory plus (3.5) 60–69%, good (4.0) 70–79%, good plus (4.5) 80–89%, very good (5.0) 90–100%. The prerequisite for completing the module is the attainment of all specified learning outcomes.

5. Total student workload needed to achieve the intended learning outcomes – number of hours and ECTS credits

Activity	Number of hours
Course hours	30

Other contact hours involving the teacher (consultation hours, examinations)	5
Non-contact hours - student's own work (preparation for classes or examinations, projects, etc.)	preparation for classes – 15, project preparation – 15, preparation for the exam – 10
Total number of hours	75
Total number of ECTS credits	3

* One ECTS point corresponds to 25-30 hours of total student workload

6. Internships related to the course/module

Number of hours	-
Internship regulations and procedures	-

7. Instructional materials

Compulsory literature: materials provided by the teacher and online resources on the topics covered
Complementary literature: online resources on the topics covered

Approved by the Head of the Department or an authorised person