Subject name	**Soil Tillage**	
Subject code	**E.2.SOTI.SC.ECTIE.A**	
Department	**Institute of Machinery Management, Ergonomics and Production Processes**	
Faculty	**Faculty of Production and Power Engineering**	
Subject supervisor/Lecturer	**Tomasz Głąb Ph.D.**	
General information	**Teaching period**	**semester**
	ECTS credit	**6**
	Lectures total	**10**
	Lab practical	**20**
Objective and general description	The main objective of the course is to get general knowledge of soil tillage systems. Student will get information about the basic properties of soil with the special focus on physical parameters will be introduced. During the course the main emphasis is laid on tillage classification and the relations between the tillage and soil properties. Students gain the skills to project soil tillage systems for different crop rotations.	
Lectures **5 x 2 hours**	1. Chemical, biological and physical soil properties 2. Tillage classification: Primary Tillage and Secondary Tillage 3. The influence of soil tillage on soil properties 4. Agronomy characteristics of crops 5. Crop rotation classification and principles of planning the rotation	
Lab practicals **5 x 4 hours**	1-3. Methods for basic soil physical parameters determination (particle size distribution, water content, penetration resistance, porosity, solid phase density, bulk density etc.) 4. Water retention characteristic of soil based on Richard's method 5. Project: The soil tillage system for selected crop rotation	
References	1. Engineering Principles of Agricultural Machines, 2nd ed., USA, Michigan, ASABE, 2006 2. The nature and properties of soils. Buckman H. and Brady N. 1969	