

<b>Subject name</b>	<b>Soil Science and Plant Fertilization</b>	
<b>Subject code</b>	<b>R.4sa.SSP.SI.RROAY R.5sa.SSP.SI.RORAY</b>	
<b>Department</b>	<b>Soil Science and Soil Protection; Agricultural and Environmental Chemistry</b>	
<b>Faculty</b>	<b>Agriculture and Economics</b>	
<b>Subject supervisor/Lecturer</b>	<b>Professor Krystyna Ciarkowska; Professor Florian Gambuś</b>	
<b>General information</b>	<b>semester</b>	<b>Winter or summer</b>
	<b>ECTS credits</b>	<b>5</b>
	<b>Lectures total</b>	<b>30</b>
	<b>Laboratories/field classes</b>	<b>25/5</b>
<b>Objective and general description</b>	<p>The course objective is to acquaint students with soil properties and their functions in the ecosystem. Student will learn both the basics of soils science comprising functioning of soil forming factors, including a specific role of parent rocks and climate, three-phase soil model, composition of solid phase: minerals and humus compounds, water and air properties and nutritional and fertilizer plant needs, methods of production, properties and application of mineral fertilizers and organic fertilizers. Students will be also acquainted with modern methods of determining fertilizer needs considering precision farming. Completion of the course allows to make the right decisions about management of soil resources in order to maintain their productivity, understanding basic processes of fertilizer effect on plants and environment, and learning the principles, as well as acquiring skills to determine fertilizer doses for plants cultivated in various soils.</p>	
<b>Assessment method</b>	examination	
<b>References</b>	<p>1.Andrews J.E., Brimblecombe P., Jickells T.D., Liss P.S., Reid B.J. 2004. An introduction to environmental chemistry. Second edition. Blackwell Publishing, pp. 296.</p> <p>2.Brady N.C., Weil R.C. 2007. The Nature and Properties of Soil. Edition 14, Prentice Hall, pp. 876.</p> <p>3.Hillel D. 2007. Soil in the environment, Crucible of terrestrial life. Academic Press (Elsevier), San Diego, pp. 307.</p> <p>4.Læg Reid M., Bøckman O.C., Kaarstad O. 1999. Agriculture, fertilizers and the environment. CABI Publishing, CAB International Wallingford, UK, pp. 294.</p>	