

<b>Course name</b>	<b>Sustainable Crop Production</b>	
<b>Course code</b>	<b>R.9s5.SUS.NI.RROAY</b>	
<b>Department</b>	<b>Department of Crop Production</b>	
<b>Faculty</b>	<b>Agriculture and Economics</b>	
<b>Course supervisor/Lecturer</b>	<b>Dr. Wojciech Szewczyk, Dr. Robert Witkowicz</b>	
<b>General information</b>	<b>Semester</b>	<b>winter or summer</b>
	<b>ECTS credits</b>	<b>11</b>
	<b>Lectures total</b>	<b>40hrs</b>
	<b>Classes/labs/field classes</b>	<b>Lab (50hrs) Field 15hrs</b>
<b>Objective and general description</b>	<p>The main objective of the course is to introduce the fundamental principles upon which crop production practices are based. By studying the principles of crop production participants will be able to understand the interaction between the plant, the environment and how and why plants grow and develop. Sustainable crop production is becoming a challenging task in view of developing land and soil resources unpredictable climatic conditions and rising growth rate. However, the problem will be tracked by adopting intensification and diversification in agricultural systems and raising productivity levels through training, research and technology adoption.</p>	
<b>Lectures</b>	<ol style="list-style-type: none"> <li>1. Evaluation of sustainable crop production and new technologies to improve sustainability; recommended methods of soil management</li> <li>2. Analysis of the effect and future impact of current agricultural practices on the environment</li> <li>3. Sustainable low-input oilseed crop production; agrotechnology of crop production</li> <li>4. Sustainable low-input root crop production; agrotechnology of crop production</li> <li>5. Sustainable low-input legumes for grain production - agrotechnology of crop production</li> <li>6. Sustainable low-input legumes for forage production - agrotechnology of crop production</li> <li>7. Sustainable low-input perennial and annual grasses production- agrotechnology of crop production</li> <li>8. Factors affecting the efficiency of grassland</li> <li>9. Seminatural grassland – occurrence and exploitation</li> <li>10. Multifunctional role of grassland – feed, environment, landscape</li> <li>11-13. Sustainable low-input cereal crop production; agrotechnology of crop production</li> <li>14-15 Sustainable low-input of tuber crop production – agrotechnology of crop production</li> </ol>	

<p><b>Classes</b></p>	<ol style="list-style-type: none"> <li>1. Agricultural Sustainability- Principle and prospects</li> <li>2. Agricultural production systems (monoculture vs. polyculture)</li> <li>3-4 The oilseed crop- principle and prospect (Project ; agrotechnical methods of seedrape crop production)</li> <li>5. Pulses – principle and prospect (Project ; agrotechnical methods of edible legume crop production)</li> <li>6. Legume for forage (Clover, Alfalfa); botanical and morphological description, distribution and adaptation, uses and cultural methods</li> <li>7. The perennial and annual grasses (timothy, fescue, cocksfoot, ryegrasses, smooth meadow grass, bromium grasses, millet, sorghum); Introductory, botanical and morphological</li> <li>8-9. Project of pasture management</li> <li>10. Methods of grassland improvement and restoration</li> <li>11-13 Preparation of cereal cultivation project</li> <li>14-15 Preparation of tube cultivation project</li> </ol> <p><b><u>Field trip (15hrs):</u></b></p> <ol style="list-style-type: none"> <li>1. Recognition of crop plants (arable land) in the different phases in the field conditions, BBCH scale</li> <li>2. Recognition of grassland plants, evaluation of yield and quality of forage from grassland</li> </ol>
<p><b>Assessment method Specify: oral/written examination</b></p>	<p>Classes: written 2 colloquia, project Lectures: test</p>
<p><b>References</b></p>	<p>Herper F. Principles of arable crop production. 1983 Martin J.H., Waren H.L., Stamp D.L. Principle of field Crop Production. 1976 Acquaah G. Principles of crop production: theory, techniques, and technology. 2002 Eric Lichtfouse, Mireille Navarrete. Sustainable Agriculture - Tom 1, 2009 Eric Lichtfouse, Marjolaine Hamelin, Mireille Navarrete, Philippe Debaeke. Sustainable Agriculture, Tom 2. 2011</p>