

1. Title of subject/module/unit		Polymers in Horticulture				
2. Unit code		3. Number of ECTS credits			5	
4. Contact hours		Total 40	L 15	E 15	S	Other forms Prof. trip 10
5. Cycle	Master's	6. Year	1st	7. Semester	1st	
8. Study programme		International Master of Science in Horticulture		9. Branch of study		
10. Pillar of the programme		Compulsory		11. Language	English	
12. Special features						
13. Objectives and subject-specific competences		Polymeric materials methods of application in the production of horticulture plants.				
14. Description of content		Kinds of polymeric materials used as covers in horticulture, production, basic physical characteristic. Biodegradable polymeric materials. Methods of application (mulching, direct covering, tunnels, greenhouses, pots, irrigation, packaging, strings etc.). Microclimatic conditions under covers, influence on the plants growth and yield. Collecting and recycling of polymeric materials used in agriculture. Examples of horticulture plants technology with the polymeric materials.				
15. Basic bibliografy		Lopez J.C., Perez Parra J., Morales M.A. 2010, Plastics in Agriculture, Almeria Papaseit P., Badiola J., Armengol E. 1997, Plastics and Agriculture, Madrid Siwek P. 1996, Osłony z tworzyw sztucznych w przyspieszonej uprawie warzyw, Hortpress, Warszawa Siwek P. 2010, Warzywa pod folią i włókniną, Hortpress, Warszawa				
16. Envisaged learning outcomes		<i>16.1 Knowledge and understanding</i>		The student recognised basic polymeric materials on the form of nonwoven and film, describes their physical characteristic, presents possibility of application of polymeric materials in horticulture, knows technological elements of some horticulture plants cultivation, describes technical aspects of recycling process.		
		<i>16.2 Application</i>		The student polymeric materials for horticulture, uses p.m. for appropriate horticulture plants, planes technology of cultivation. applies basic tools for the description of		
		<i>16.3 Reflection</i>		The student is capable of improving ecologically the cultivation of horticultural crops.		
		<i>16.4 Transferable skills – not tied to just one subject</i>		Teamwork, ability to present and defend personal opinions.		
17. Methods of teaching and learning		Lectures, exercises and professional trips.				
18. Conditions for inclusion or to undertake		Enrolment in the year of the course. Basic computer skills.				

work required	
19. Methods of assessment and the assessment scale	<ul style="list-style-type: none"> - Written exam (60%) , recognizing of polymeric materials and their characteristic and application (20%) - Attendance at laboratory practicals and professional trips (20%) Evaluation scale: Grades from 2.0 (worst) to 5.0 (best)
20. Method of evaluation of course quality	Student questionnaire.
21. Curriculum compiler	Dr hab. Piotr Siwek, University of Agriculture in Krakow