

Crop Plant Biology and Production

Course	Number of ECTS credits	Number of hours						Asses-ment ³	Group type	Department
		Total (4+5+6+7+8)	Teaching hours			Contact hours	ESW ²			
			Lectures	Practical classes	Others ¹					
1	2	3	4	5	6	7	8	9	10	11
Semester 1										
1. Foreign Language Polish/German	2	50	0	24		2	24	GA	GB	Foreign Language Department <i>Studium Języków Obcych</i>
2. Information Technology	4	100	10	20		10	60	GA	GB	Department of Mathematical and Statistical Methods <i>Katedra Metod Matematycznych i Statystycznych</i>
3. Physics	4	100	15	25		10	50	EX	GH	Department of Physics and Biophysics <i>Katedra Fizyki i Biofizyki</i>
4. Economics	3	75	30	0		3	42	GA	GA	Department of Economics <i>Katedra Ekonomii</i>
5. Mathematics	4	100	15	20		10	55	EX	GB	Department of Mathematical and Statistical Methods <i>Katedra Metod Matematycznych i Statystycznych</i>
6. Inorganic Chemistry	4	100	15	30		10	45	EX	GH	Department of Chemistry <i>Katedra Chemii</i>

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		Total (4+5+6+7+8)	Teaching hours			Contact hours	ESW ²			
			Lectures	Practical classes	Others ¹					
1	2	3	4	5	6	7	8	9	10	11
7. The Biology of Crops	4	100	30	20		10	40	EX	GH	Department of Agronomy/Department of Vegetable Crops/Department of Ornamental Plants, Dendrology and Pomology <i>Katedra Agronomii/Katedra Warzywnictwa/ Katedra Roślin Ozdobnych, Dendrologii i Sadownictwa</i>
8. Social Knowledge	3	75	40	0		4	31	GA	GA	Department of Gastronomy Sciences and Functional Foods Department of Forest Engineering Department of Law And Organization Of Enterprises In Agrobusiness <i>Katedra Technologii Gastronomicznej i Żywności Funkcjonalnej, Katedra Inżynierii Leśnej, Katedra Prawa i Organizacji Przedsiębiorstw w Agrobiznesie</i>
Total number of hours –semester 1	28	700	155	139		59	347			
Semester 2										
1. Foreign Language Polish/German	2	50	0	26		2	22	GA	GB	Foreign Language Department <i>Studium Języków Obcych</i>
2. Microbiology	4	100	20	20		10	50	EX	GH	Department of Soil Sicence and Microbiology <i>Katedra Gleboznawstwa i Mikrobiologii</i>

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		Total (4+5+6+7+8)	Teaching hours			Contact hours	ESW ²			
			Lectures	Practical classes	Others ¹					
1	2	3	4	5	6	7	8	9	10	11
3. Botany	5	125	15	30	10	10	60	EX	GH	Department of Botany <i>Katedra Botaniki</i>
4. Organic Chemistry	5	125	15	30		10	70	EX	GH	Department of Chemistry <i>Katedra Chemii</i>
5. Principles of Crop Production	5	125	30	30		10	55	EX	GH	Department of Agronomy/Department of Vegetable Crops/Department of Ornamental Plants, Dendrology and Pomology <i>Katedra Agronomii/Katedra Warzywnictwa/ Katedra Roślin Ozdobnych, Dendrologii i Sadownictwa</i>
6. Biochemistry	4	100	20	20		10	50	EX	GH	Department of Biochemistry and Biotechnology <i>Katedra Biochemii i Biotechnologii</i>
7. Soil Science	5	125	15	30	8	10	62	EX	GH	Department of Soil Science and Microbiology <i>Katedra Gleboznawstwa i Mikrobiologii</i>

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		Total (4+5+6+7+8)	Teaching hours			Contact hours	ESW ²			
			Lectures	Practical classes	Others ¹					
1	2	3	4	5	6	7	8	9	10	11
8. Subjects selected by students I	2	50	30	0		2	18	GA	GA	Department of Law and Enterprise Management in Agribusiness Department of Economics and Economic Policy in Agribusiness <i>Katedra Prawa i Organizacji Przedsiębiorstw w Agrobiznesie</i> <i>Katedra Ekonomii i Polityki Gospodarczej w Agrobiznesie</i>
Total number of hours –semester 2	32	800	145	186	18	64	387			
Semester 3										
1. Physical Education	0	30	0	30		0	0	GA	GK	Physical Education Centre <i>Centrum Kultury Fizycznej</i>
2. Foreign Language Polish/German	2	50	0	26		2	22	GA	GB	Foreign Language Department <i>Studium Języków Obcych</i>
3. Statistics	5	125	15	20		10	80	EX	GB	Department of Mathematical and Statistical Methods <i>Katedra Metod Matematycznych i Statystycznych</i>
4. Genetics	4	100	20	20		10	50	EX	GH	Department of Genetics and Plant Breeding <i>Katedra Genetyki i Hodowli Roślin</i>

Course	Number of ECTS credits	Number of hours						Asses-ment ³	Group type	Department
		Total (4+5+6+7+8)	Teaching hours			Contact hours	ESW ²			
			Lectures	Practical classes	Others ¹					
1	2	3	4	5	6	7	8	9	10	11
5. Plant Physiology	4	100	15	25		10	50	EX	GH	Department of Plant Physiology <i>Katedra Fizjologii Roślin</i>
6. Phytopathology	6	150	20	45		10	75	EX	GH	Department of Phytopathology, Seed Science and Technology <i>Katedra Fitopatologii i Nasiennictwa</i>
7. Molecular Biology	4	100	15	20		10	55	EX	GH	Department of Biochemistry and Biotechnology <i>Katedra Biochemii i Biotechnologii</i>
8. Agricultural and Horticultural Engineering	5	125	30	30		10	55	EX	GH	Department of Agronomy/Department of Vegetable Crops/ Department of Biosystems Engineering <i>Katedra Agronomii/Katedra Warzywnictwa/ Katedra Inżynierii Biosystemów</i>
Total number of hours –semester 3	30	780	115	216		62	387			
Semester 4										
1. Physical Education	0	30	0	30		0	0	GA	GK	Physical Education Centre <i>Centrum Kultury Fizycznej</i>
2. Foreign Language Polish/German	2	60	0	24		3	33	GA	GB	Foreign Language Department <i>Studium Języków Obcych</i>

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		Total (4+5+6+7+8)	Teaching hours			Contact hours	ESW ²			
			Lectures	Practical classes	Others ¹					
1	2	3	4	5	6	7	8	9	10	11
3. Plant Breeding	4	100	20	25		10	45	EX	GH	Department of Genetics and Plant Breeding <i>Katedra Genetyki i Hodowli Roślin</i>
4. Mineral and Organic Fertilizers in Plant Production	4	100	30	30		5	35	EX	GH	Department of Agricultural Chemistry and Environmental Biogeochemistry <i>Katedra Chemii Rolnej i Biogeochemii Środowiska</i>
5. Plant Nutrition, Soils and Horticultural Growing Media	2	50	10	20		5	15	GA	GH	Department of Plant Physiology <i>Katedra Fizjologii Roślin</i>
6. Applied Entomology	4	100	20	30		10	40	EX	GH	Department of Entomology and Environmental Protection <i>Katedra Entomologii i Ochrony Środowiska</i>
7. Grassland Science	2	50	20	15		5	10	GA	GH	Department of Grassland and Natural Landscape Sciences <i>Katedra Łąkarstwa i Krajobrazu Przyrodniczego</i>

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		Total (4+5+6+7+8)	Teaching hours			Contact hours	ESW ²			
			Lectures	Practical classes	Others ¹					
1	2	3	4	5	6	7	8	9	10	11
8. Elective module I	12	300	75/80 ⁴ 60/95 ⁴ 65/90 ⁴ 155			25	120	GA	GH	Department of Vegetable Crops/ Department of Genetics and Plant Breeding/ Department of Biochemistry and Biotechnology/ Department of Entomology and Environmental Protection/ Department of Mathematical and Statistical Methods/ Department of Agricultural Chemistry and Environmental Biogeochemistry/ Department of Phytopathology, Seed Science and Technology/ Department of Soil Science and Microbiology/ Department of Agronomy <i>Katedra Warzywnictwa/ Katedra Genetyki i Hodowli Roślin/Katedra Biochemii i Biotechnologii/ Katedra Entomologii i Ochrony Środowiska/ Katedra Metod Matematycznych i Statystycznych/ Katedra Chemii Rolnej i Biogeochemii Środowiska/Katedra Fitopatologii i Nasiennictwa/ Katedra Gleboznawstwa i Mikrobiologii/ Katedra Agronomii</i>
Total number of hours –semester 4	30	790	165	264		63	298			
Semester 5										

Course	Number of ECTS credits	Number of hours						Asses-ment ³	Group type	Department
		Total (4+5+6+7+8)	Teaching hours			Contact hours	ESW ²			
			Lectures	Practical classes	Others ¹					
1	2	3	4	5	6	7	8	9	10	11
1. Methods of Plant Protection	3	75	15	20		5	35	GA	GH	Department of Entomology and Environmental Protection <i>Katedra Entomologii i Ochrony Środowiska</i>
2. Seed Science and Technology	5	125	30	30		10	55	EX	GH	Department of Agronomy/Department of Phytopathology, Seed Science and Technology <i>Katedra Agronomii/ Katedra Fitopatologii i Nasiennictwa</i>

Course	Number of ECTS credits	Number of hours						Asses-ment ³	Group type	Department
		Total (4+5+6+7+8)	Teaching hours			Contact hours	ESW ²			
			Lectures	Practical classes	Others ¹					
1	2	3	4	5	6	7	8	9	10	11
3. Elective module II	12	300	85/85 ⁴ 90/80 ⁴ 170			25	105	GA	GH	Department of Ornamental Plants, Dendrology and Pomology/Department of Vegetable Crops/ Department of Genetics and Plant Breeding/ Department of Entomology and Environmental Protection/ Department of Agricultural Chemistry and Environmental Biogeochemistry/ Department of Phytopathology, Seed Science and Technology/ Department of Soil Science and Microbiology/ Department of Agronomy <i>Katedra Roślin Ozdobnych, Dendrologii i Sadownictwa/Katedra Warzywnictwa/ Katedra Genetyki i Hodowli Roślin/ Katedra Entomologii i Ochrony Środowiska/ Katedra Chemii Rolnej i Biogeochemii Środowiska/ Katedra Fitopatologii i Nasiennictwa/ Katedra Gleboznawstwa i Mikrobiologii/ Katedra Agronomii</i>
4. Agrometeorology	3	75	15	20		5	35	GA	GH	Department of Construction and Geoengineering, Laboratory of Meteorology <i>Katedra Budownictwa i Geoinżynierii, Pracownia Meteorologii</i>
5. Intership (4 weeks)	6	150				5	145	P	GP	PULS Units/ <i>Jednostki Uniwersytetu</i>

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		Total (4+5+6+7+8)	Teaching hours			Contact hours	ESW ²			
			Lectures	Practical classes	Others ¹					
1	2	3	4	5	6	7	8	9	10	11
Total number of hours –semester 5	29	725	145	155		50	375			
Semester 6										
1. Environmental Protection in Agricultural Areas	3	75	15	20		10	30	GA	GH	Department of Entomology and Environmental Protection/ Department of Land Improvement, Environmental Development and Spatial Management <i>Katedra Entomologii i Ochrony Środowiska/Katedra Melioracji Kształtowania Środowiska i Gospodarki Przestrzennej</i>
2. Ecology	3	75	15	15	5	5	35	EX	GH	Department of Entomology and Environmental Protection/ Department of Ecology and Environmental Protection <i>Katedra Entomologii i Ochrony Środowiska/ Katedra Ekologii i Ochrony Środowiska</i>

Course	Number of ECTS credits	Number of hours						Asses-ment ³	Group type	Department
		Total (4+5+6+7+8)	Teaching hours			Contact hours	ESW ²			
			Lectures	Practical classes	Others ¹					
1	2	3	4	5	6	7	8	9	10	11
3. Elective module III	15	375	110/90 ⁴ 100/100 ⁴ 200			30	145	GA	GH	Department of Ornamental Plants, Dendrology and Pomology/Vegetable Crops/ Genetics and Plant Breeding/ Entomology and Environmental Protection/ Agricultural Chemistry and Environmental Biogeochemistry/ Botany/ Phytopathology, Seed Science and Technology/ Agronomy/ Biochemistry and Biotechnology <i>Katedra Roślin Ozdobnych, Dendrologii i Sadownictwa/ Katedra Warzywnictwa/ Katedra Genetyki i Hodowli Roślin/ Katedra Entomologii i Ochrony Środowiska/ Katedra Chemii Rolnej i Biogeochemii Środowiska/Katedra Botaniki/ Katedra Fitopatologii i Nasiennictwa/ Katedra Agronomii/Katedra Biochemii i Biotechnologii</i>
4. Preparation for the diploma exam (BSc seminar II)	10	250				0	250	EX		
Total number of hours –semester 6	31	775	130	135	5	45	460			
Total for studies (six semesters)	180	4570	855	1095	23	343	2254			

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		Total (4+5+6+7+8)	Teaching hours			Contact hours	ESW ²			
			Lectures	Practical classes	Others ¹					
1	2	3	4	5	6	7	8	9	10	11

¹ Any activities other than conversatory, laboratory or design classes (e.g. site visits, case study visits, excursions and others)

² ESW - estimated number of student work hours

³ EX – examination; GA – graded assignment; P - passed (without grade)

⁴ depending on the module selected

Elective subjects/modules

Course	Number of ECTS credits	Number of hours						Asses-ment ³	Group type	Department
		Total (4+5+6+7+8)	Teaching hours			Contact hours	ESW ²			
			Lectures	Practical classes	Others ¹					
1	2	3	4	5	6	7	8	9	10	11
Elective subjects I (semester 2)										
1. Basics of Management	2	50	30			2	18	GA	GA	Department of Law and Enterprise Management in Agribusiness <i>Katedra Prawa i Organizacji Przedsiębiorstw w Agrobiznesie</i>
2. Food Security	2	50	30			2	18	GA	GA	Department of Economics and Economic Policy in Agribusiness <i>Katedra Ekonomii i Polityki Gospodarczej w Agrobiznesie</i>

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		Total (4+5+6+7+8)	Teaching hours			Contact hours	ESW ²			
			Lectures	Practical classes	Others ¹					
1	2	3	4	5	6	7	8	9	10	11
3. Global Food Economics	2	50	30			2	18	GA	GA	Department of Economics and Economic Policy in Agribusiness <i>Katedra Ekonomii i Polityki Gospodarczej w Agrobiznesie</i>
Students choose one of three optional subjects, the subject will be launched if at least seven students choose it (2 ECTS)										

Elective modules I (semester 4)										
MLA.	12									Department of Vegetable Crops/ Department of Genetics and Plant Breeding/Department of Biochemistry and Biotechnology/Department of Entomology and Environmental Protection
- Medicinal Plants	2		15	15		5	15	GA	GH	
- Less Known Edible Plants	2		15	15		5	15	GA	GH	
- Cell and Tissue Cultures in Plant Breeding and Production	5	300	30	30		10	55	GA	GH	
- Fauna in the Agroecosystems	3		15	20		5	35	GA	GH	<i>Katedra Warzywnictwa/ Katedra Genetyki i Hodowli Roślin/Katedra Biochemii i Biotechnologii/ Katedra Entomologii i Ochrony Środowiska</i>

Course	Number of ECTS credits	Number of hours						Asses-ment ³	Group type	Department
		Total (4+5+6+7+8)	Teaching hours			Contact hours	ESW ²			
			Lectures	Practical classes	Others ¹					
1	2	3	4	5	6	7	8	9	10	11
MLB. - Enzymology - Cell Biology - Data Analysis - Plant Cytogenetics	12 3 2 3 4	300	15 15 15 15	20 15 30 30		5 5 5 10	35 15 25 45	GA GA GA GA	GH GH GH GH	Department of Biochemistry and Biotechnology/ Department of Mathematical and Statistical Methods/ Department of Genetics and Plant Breeding <i>Katedra Biochemii i Biotechnologii/ Katedra Metod Matematycznych i Statystycznych/ Katedra Genetyki i Hodowli Roślin/</i>
MLC. - Basics of Fertilizers Synthesis and Chemistry - Diagnostic of Plant Pests and Pathogens - Agricultural Microbiology - Weed Management	12 5 2 2 3	300	20 15 15 20	25 16 20 20	4 4 4 4	5 5 5 10	75 10 10 25	GA GA GA GA	GH GH GH GH	Department of Agricultural Chemistry and Environmental Biogeochemistry/ Department of Phytopathology, Seed Science and Technology/Department of Entomology and Environmental Protection/ Department of Soil Science and Microbiology/ Department of Agronomy <i>Katedra Chemii Rolnej i Biogeochemii Środowiska/ Katedra Fitopatologii i Nasiennictwa/ Katedra Entomologii i Ochrony Środowiska/ Katedra Gleboznawstwa i Mikrobiologii/ Katedra Agronomii</i>

Students choose one of three optional modules, the module will be launched if at least seven students choose it (12 ECTS)

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		Total (4+5+6+7+8)	Teaching hours			Contact hours	ESW ²			
			Lectures	Practical classes	Others ¹					
1	2	3	4	5	6	7	8	9	10	11

Elective modules II (semester 5)										
MIL.A.	12									Department of Ornamental Plants, Dendrology and Pomology/ Department of Land Improvement, Environmental Development and Spatial Management/ Department of Vegetable Crops/ Department of Agricultural Chemistry and Environmental Biogeochemistry
- Fruit Production	2		15	15		5	15	GA	GH	<i>Katedra Roślin Ozdobnych, Dendrologii i Sadownictwa/Katedra Melioracji</i>
- Designing of Irrigation and Fertigation Systems	2		15	20		5	10	GA	GH	<i>Kształtowania Środowiska i Gospodarki</i>
- Post-harvest Technology of Vegetable Crops	1	300	10	10		1	4	GA	GH	<i>Przestrzennej Katedra Warzywnictwa/ Katedra Chemii Rolnej i Biogeochemii Środowiska</i>
- Post -harvest Technology of Fruit Crops Commodities	2		15	10		5	20	GA	GH	
- Nutrients Deficiencies Evaluation in Plants	5		30	30		9	56	GA	GH	

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1	2	3	4	5	6	7	8	9	10	11
MIL.B. - World Seed Market - Ecological Fruit Production - Digital Agriculture - New Breeding Techniques - Resistance Breeding - Environmentally Smart Agriculture	12 2 1 2 3 2 2	300	15 10 15 15 15 15	15 10 15 15 15 15		5 1 5 4 5 5	15 4 15 41 15 15	GA GA GA GA GA GA	GH GH GH GH GH GH	Department of Phytopathology, Seed Science and Technology/ Department of Ornamental Plants, Dendrology and Pomology/ Department of Agronomy/ Department of Biosystems Engineering/ Department of Genetics and Plant Breeding/ Department of Entomology and Environmental Protection <i>Katedra Fitopatologii i Nasiennictwa/ Katedra Roślin Ozdobnych, Dendrologia i Sadownictwa/ Katedra Agronomii/ Katedra Inżynierii Biosystemów/ Katedra Genetyki i Hodowli Roślin/ Katedra Entomologii i Ochrony Środowiska</i>
MIL.C. - Propagation of Trees and Bushes - Epidemics of Plant Diseases - Open Field Cultivation of Horticultural Crops - Pests of Storage Products - Propagation of Ornamental Plants - Saprophytic and Pathogenic Microbiota of Plants, Animals and Humans	12 2 2 3 2 1 2	300	15 15 25 15 5 15	15 15 15 15 5 15		3 4 5 4 5 4	17 16 30 16 10 16	GA GA GA GA GA GA	GH GH GH GH GH GH	Department of Phytopathology, Seed Science and Technology/ Department of Ornamental Plants, Dendrology and Pomology/ Department of Vegetable Crops/ Department of Entomology and Environmental Protection/ Department of Soil Science and Microbiology <i>Katedra Fitopatologii i Nasiennictwa/ Katedra Roślin Ozdobnych, Dendrologia i Sadownictwa/ Katedra Warzywnictwa/ Katedra Entomologii i Ochrony Środowiska/ Katedra Gleboznawstwa i Mikrobiologii</i>

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		Total (4+5+6+7+8)	Teaching hours			Contact hours	ESW ²			
			Lectures	Practical classes	Others ¹					
1	2	3	4	5	6	7	8	9	10	11
Students choose one of three optional modules, the module will be launched if at least seven students choose it (12 ECTS)										
Elective modules III (semester 6)										
MIII.A.	15	375								Department of Ornamental Plants, Dendrology and Pomology/ Department of Vegetable Crops/ Department of Agricultural Chemistry and Environmental Biogeochemistry/ Department of Entomology and Environmental Protection
- Alien and Invasive Animal Species	2		15	15		5	15	GA	GH	Katedra Roślin Ozdobnych, Dendrologii i Sadownictwa/Katedra Warzywnictwa/Katedra Roślin/ Katedra Chemii Rolnej i Biogeochemii Środowiska/ Katedra Entomologii i Ochrony Środowiska
- Tropical Agriculture	3		30	-		5	40	GA	GH	
- Protected Cultivation of Horticultural Crops	4		45	15		5	35	GA	GH	
- AutoCAD for Horticulture	2		-	30		5	15	GA	GH	
- Less Known Species of Fruit Plants	2		10	15		5	20	GA	GH	
- Dendrology	2	10	15		5	20	GA	GH		

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			Lectures	Practical classes	Others ¹					
1	2	3	4	5	6	7	8	9	10	11
MILB. - Aquatic Ecosystems in Agricultural Landscape - Evolution of Crop Plants - Plant Protection in Organic Farming - Aspects of Plant Diseases and Pests in Urban Areas - Automation of Production and Climate Control in Greenhouses - Trends in Vegetable Production - Trends in Fruit Production - Virology	15	375	15	5		1	4	GA	GH	Department of Botany/ Department of Ecology and Environmental Protection/ Department of Genetics and Plant Breeding/ Department of Phytopathology, Seed Science and Technology/ Department of Entomology and Environmental Protection/ Department of Vegetable Crops/ Department of Ornamental Plants, Dendrology and Pomology/ Department of Biochemistry and Biotechnology
	1		15	-		1	9	GA	GA	<i>Katedra Botaniki/ Katedra Ekologii i Ochrony Środowiska Katedra Genetyki i Hodowli Roślin/ Katedra Fitopatologii i Nasiennictwa/ Katedra Entomologii i Ochrony Środowiska/Katedra Warzywnictwa/ Katedra Roślin Ozdobnych, Dendrologii i Sadownictwa/ Katedra Biochemii I Biotechnologii</i>
	2		15	15		3	17	GA	GH	
	3		15	12	3	5	40	GA	GH	
	2		10	20		5	15	GA	GH	
	2		10	15		5	20	GA	GH	
	2		10	15		5	20	GA	GH	
	2		10	15		5	20	GA	GH	
Students choose one of two optional modules, the module will be launched if at least seven students choose it (15 ECTS)										

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		Total (4+5+6+7+8)	Teaching hours			Contact hours	ESW ²			
			Lectures	Practical classes	Others ¹					
1	2	3	4	5	6	7	8	9	10	11