

Czech University of Life Sciences in Prague (CULS)



***Faculty of Agrobiology,
Food and Natural Resources (FAFNR)***
Department of Water Resources

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Czech University of Life Sciences



CULS in Prague consists of 5 Faculties and 2

Institutes:

Faculty of Agrobiology, Food and Natural Resources

Faculty of Economics and Management

Faculty of Engineering

Faculty of Environmental Science

Faculty of Forestry, Wildlife and Wood Sciences

Institute of Education and Communication

Institute of Tropics and Subtropics





Short history



- The CULS history proper begins with the establishment of the independent Department of Agriculture at the Czech Technical University (CTU) by the Decree of Emperor Franz Josef I of October 26, 1906.
- 1918 - the School (faculty) of Agriculture and Forestry Engineering of the CTU
- 1952 – the independent University of Agriculture and in this university the Faculty of Agronomy
- Since 2003 – Faculty of Agrobiological Sciences, Food and Natural Resources (FASV)
- The faculty has the longest tradition of all the faculties at the Czech University of Life Sciences in Prague.

The Campus of the CULS



18 Departments + 1Center In the alphabetic order

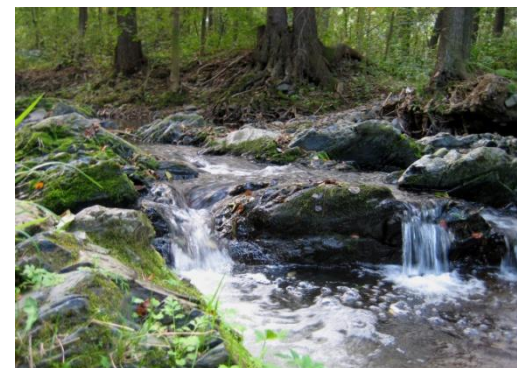
- 1. Agrienviromental Chemistry and Plant Nutrition** (*agroenvironmentální chemie a výživy rostlin*)
- 2. Agroecology and Biometeorology** (*agroekologie a biometeorologie*)
- 3. Animal Husbandry** (*speciální zootechniky*)
- 4. Animal Science and Ethology** (*obecné zootechniky a etologie*)
- 5. Botany and Plant Physiology** (*botaniky a fyziologie rostlin*)
- 6. Chemistry** (*chemie*)
- 7. Crop Protection** (*katedra ochrany rostlin*)
- 8. Forage Crops and Grassland Management** (*pícninářství a trávnickářství*)
- 9. Garden and Landscape Architecture** (*zahradní a krajinné architektury*)
- 10. Genetics and Breeding** (*genetiky a šlechtění*)
- 11. Horticulture** (*zahradnictví*)
- 12. Microbiology, Nutrition and Dietetics** (*mikrobiologie, výživy a dietetiky*)
- 13. Plant Production** (*rostlinné výroby*)
- 14. Soil Science and Soil Protection** (*pedologie a ochrany půdy*)
- 15. Quality of Agricultural Products** (*kvality zemědělských produktů*)
- 16. Veterinary Sciences** (*veterinárních disciplin*)
- 17. Water Resources** (*vodních zdrojů*)
- 18. Zoology and Fish Farming** (*katedra zoologie a rybářství*)
- 19. Computer Services Center** (*Středisko počítačových služeb*)



And 4 special units of the Faculty

- **Research stations**

- **1. Station Troja** – gardening
(stanice Troja – zahradnictví)
- **2. Station Uhřetěves** – plant production
(stanice Uhřetěves – rostlinná produkce)
- **3. Station Červený Újezd** – plant production, forage production and plant nutrition
(stanice Červený Újezd – rostlinná produkce, pícninářství a výživa rostlin)
- **4. Station Ploskov** – pig breeding
(stanice Ploskov – šlechtění prasat)



Basic fields of activities

- The FAFNR offers an extensive range of different branches of study
 - fundamental principles of agriculture
 - horticulture
 - natural resources including water resources
 - agricultural products quality
 - landscape architecture
 - waste management and protection of the environment
 - rural development and revitalization of rural areas

Faculty is extensively involved in research

- nationally and internationally



Faculty in data 2009-2010



– 4 414 students

- 1833 + 991 BSc students
- 766 + 186 MSc students
- 169 + 81 PhD students

– Extraordinary students: 158



– 328 (278.6) staff members

- 169 (146) teachers
- and research staff
- 159 (132.6) other staff





EDUCATION



Study programmes - Undergraduate

- **I – BSc Undergraduate Study Programmes** - 3 years, 6 semesters

(in Czech and in English language)

- 1) Crop Science (ABR)
- 2) Horticulture (ABZ)
- 3) Animal Science (ABP)

(in Czech)

- *These study programmes have been designed as job orientated with the maximum emphasis on obtaining practical skills.*
- Other BSc study programmes with a general theoretical orientation are:
 - 4) Agriculture, Horticulture and Rural Development (ATZ) (in Czech)
 - 5) Sustainable Use of Natural Resources (ATP) (in Czech)
 - **6) Sustainable Use of Natural Resources (ATN) (fully in English)**



International BSc Sustainable Use of Natural Resources (ATN)

- BSc Programme for the international & Czech students in English

Code	Year of study / Subject	ECTS	AS	SS
	1 st year			
TAA11E	Applied Mathematics	5	2/2	
TBA03E	Applied Physics	6	2/2	
AEA01E	Zoology	6	2/3	
ACA09E	Inorganic and Analytical Chemistry	6	2/2	
APA35E	Fundamentals of Geology	5	2/2	
	Foreign language	5	0/2	0/2
RTA01Z	Physical training	2	0/2	0/2
ESA07E	Fundamentals of Statistics	5		2/2
ACA07E	Organic Chemistry	6		2/2
AEA32E	Principles of Agroecology	4		2/1
ABA14E	General and Special Agricultural Botany	6		2/2
AWA49Z	Practical Training	3		7 days
AEA29E	Excursions, field training	2		2 days



Explanation:
ECTS - Creditation
AS = Autumn Semester
SS = Spring Semester

BSc SUNR

SUBJECTS of the State Exam

1. Theory of Natural Resources

- Basic Meteorology
- Soil Science
- Fundamentals of Microbiology
- Hydrology and Hydrogeology

2. Use of Natural Resources

- Fundamentals of Orchards and Urban Design
- Plant Production and Environment
- Animal Production and Environment
- Waste Handling

Contact – programme director

Professor Svatopluk Matula
IRO FAFNR: Marie Kafková, MA

2 nd year				
APA38E	Soil Science	6	2/3	
AMA11E	Fundamentals of Microbiology	6	2/2	
EEA14E	Fundamentals of Economics 1	5	2/2	
AAA27E	Agricultural Systems	5	2/2	
AAA25E	Basic Meteorology	6	2/2	
ARA31E	Plant Production and Environment	6		2/2
ASA22E	Animal Production and Environment	6		2/2
	Compulsory Optional subject I*)			2/2
	Compulsory Optional subject I*)			2/2
	Foreign language	5	0/2	0/2
AUA10Z	Practical Encyclopedia	4		10 days
AUA26Z	Specialized Practice	4		25 days
Compulsory Optional Subjects I				
APA37E	Applied Cartography	6	2/2	2/2
ATA23E	Fundamentals of Turf and Lawn Management	5	2/2	2/2
AZA66E	Fundamentals of Landscape Architecture	4	2/2	2/2
LHX01E	Fundamentals of Forest Management	4		2/2
3 rd year				
AIA07E	Hydrology and Hydrogeology	6	2/2	
AZA67E	Fundamentals of Orchards and Urban Design	6	2/2	
AHA33E	Waste Handling	6	2/2	
AZA68E	Establishment and Maintenance of Greenery	5	2/2	
	Compulsory Optional Subject II*)			
	Fully Optional Subject**)			
AWA27Z	BSc Thesis	18	0/8	0/8
AHA30Z	Excursion and Field Training	2		2 days
	Fully Optional Subject**)			2/2
Compulsory optional subjects II				
AZA21E	Fundamentals of Vegetables, Edible Mushrooms and Sprouts Production	4	2/1	2/1
ERA16E	Management and Marketing	5	2/2	2/2
EUA03E	Trade and Commerce	5	2/2	2/2
AGA44E	Fundamentals of Genetics	6	2/2	2/2
EEA16E	Environmental Economics	5		2/1
EEE43E	EU Integration Process in Agriculture	5	2/1	

Study programmes - Graduate

• II – MSc Graduate Study Programmes

2 years, 4 semesters (in Czech and in English)

- The three-year BSc programmes are possibly followed by the **MSc programmes:**

- 1) Animal Science (AMP)
- 2) Crop Science (AMR)
- 3) Plant Protection (AML)
- 4) Horticulture (AMZ)
- 5) Genetic Engineering and Breeding (AMG)
- 6) Rural Policy and Agriculture (AMV)
- 7) Farm Produce Quality and Processing (AMK)
- 8) Care of the Biosphere (AMB)
- 9) Soil Assessment and Conservation (AMH)
- 10) Natural Resources and Environment (AMN)



(in Czech)



(in English)

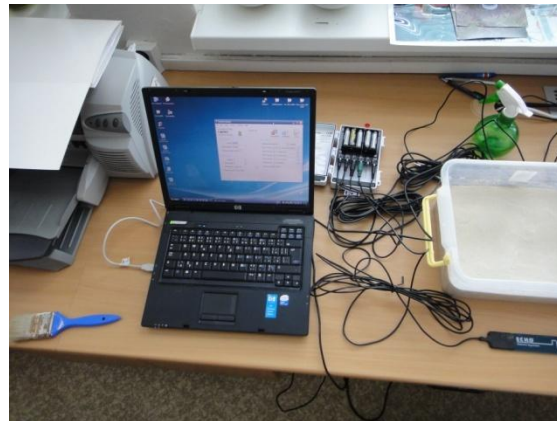
(Double Degree Programme with Natural Resources Management and Ecological Engineering - BOKU Wien)

Study programmes – Postgraduate

(in Czech or in English)

• **III – PhD Postgraduate Programmes**

- The following broadly designed study programmes have been accredited at the faculty:
- **1) Crop Science (ADR) – General CS, Special CS**
- **2) Animal Science (ADP) – General AS, Special AS**
- **3) Agricultural Special Sciences (ADS)**
 - Agric. and Forestry Phytopathology, Agric. Chemistry, Exploataction and Protection of Natural Resources





RESEARCH



Faculty of Agrobiolgy, Food
and Natural Resources



FAFNR AND RESEARCH

- The FAFNR has been leading faculty in research in CULS already for 17 years
- In the national scale the FAFNR is having 49% of the total number of projects of the CULS (numbers for 2009 - 2010)!!
- This represents 45% of the external financial resources for research of the whole CULS (numbers for 2009 - 2010)!!

Student mobility

ERASMUS – SOCRATES, LLP - ERASMUS

- The Czech Republic started to participate in the Socrates –Erasmus in 2000
- First exchange of students at FAFNR was realised in 2001 – 2002 with **15** partners only, in 2010 there are **82** partners!!
- Since 2007 the number of outgoing students stagnates and incoming students is continuously increasing awaiting the Bologna Declaration implementation (2003-2004 in CULSP)

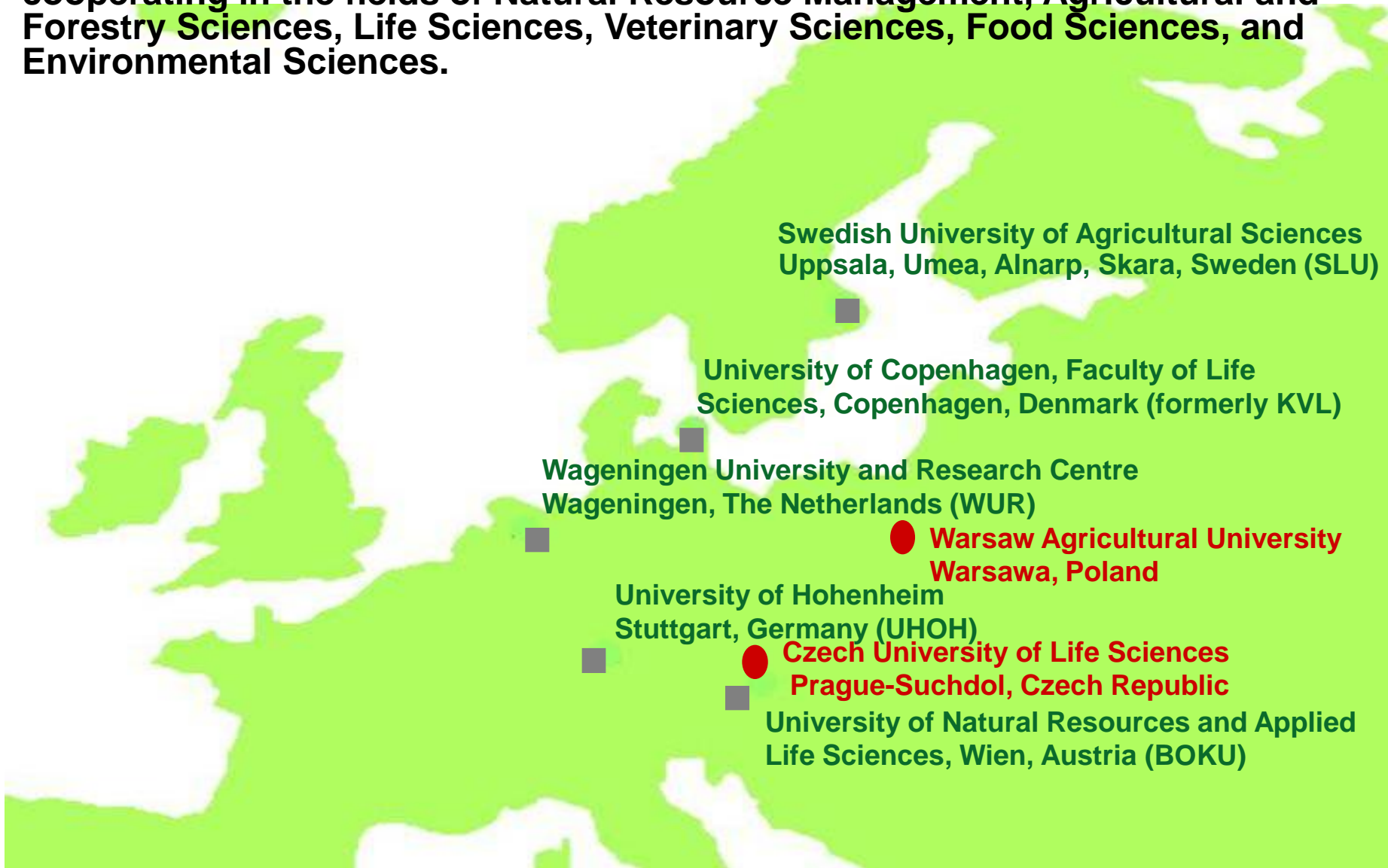
SOCRATES – ERASMUS, LLP - ERASMUS

Year:	Number of students: outgoing/incoming
2002	20 / 5
2003	20 / 11
2004	43 / 24
2005	57 / 25
2006	47 / 36
2007	35 / 69
2008	33 / 72
2009	34 / 82
2010	15 / 38 - just summer semester only



CULS in Prague – member of the ELLS

The Euroleague for Life Sciences (ELLS) is a network of leading universities cooperating in the fields of Natural Resource Management, Agricultural and Forestry Sciences, Life Sciences, Veterinary Sciences, Food Sciences, and Environmental Sciences.





Department of Water Resources

Head

Professor S. Matula



Department of Water Resources

- History and activities
 - Department has been formed on 1st January 2009,
 - Following in a modern way the activities of the original Faculty of Agronomy, specializing in farmland water resources.
 - These activities continued since the foundation of the university in 1952
 - Activities also in the Third World countries

Department of Water Resources

- Focus

- Hydropedology, Soil Physics, Surface and Soil Hydrology, Hydrogeology, Hydrometeorology, Irrigation, Water Management in Agriculture and Natural Water Resources rank as top priority subjects at the FAFNR since the School has been founded.
- In addition, the Department also specializes in water resources development in the arid and semi-arid regions of the developing countries, (international projects).

Department of Water Resources

- Educational structure
 - subjects investigating the mutual relations between the soil and water, the ground and water, and available water resources, resp. water sources finding, utilization, and management.
 - lecturing in the prestigious International MScProgram “Natural Resources and Environment” (NRE) and in Bachelor Program „Sustainable Use of Natural Resources“, (SUNR)
 - teaching in BSc, MSc, and PhD programs abroad on regular basis, for example in Finland, Estonia, etc.
 - The head of the Dept. is director of BSc study programme SUNR and MSc NRE

Department of Water Resources

- Research activities - topics
 - Soil/Rock and Water Relations and its modeling.
 - Water Retention in Soil and its modeling.
 - Defining of Hydrophysical Characteristics of the Porous Media by in situ and laboratory methods.
 - Monitoring of Soil Moisture Change Dynamics by Non-Destructive Methods
 - Participation in the world-wide research network.

Department of Water Resources

- International contacts

- Active membership in the international scientific organizations: ICID, IAHS, IUSS, EGU, SSSA, BSSS, etc.
- Grant projects on national and international scale (examples are 6. RP EU WATERMAN in Africa, TEMPUS IV - EDUWAT in Syria).
- Teaching in regular study programs - universities in and out of the EU.
- Very active participation in the LLP - ERASMUS.

Department of Water Resources

- Other activities in research and teaching
- EXPERIMENTAL FIELD STATION OF SOIL MOISTURE DYNAMICS – member of the world network using satellite communication
- Cooperation with many home and foreign institutions having the similar activities in teaching and research

Contacts to us



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