
Elective programme elements

2016-2018

Bachelor in Agricultural and Environmental Management

Professionsbachelor i Jordbrugsvirksomhed

Learning objectives and subject descriptions

- Second semester for the study programme Biology (specialisation Environment and Nature Management)
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1. General

The following learning objectives and subject descriptions for the elective programme elements are a supplement to the joint national curriculum and the institutional curriculum. The elective elements' catalogue/Part III. There is not a free choice between all the subjects, the choice is made implicitly through the student's choice of speciality on the programme.

1.1 Subjects/learning objectives for biology (Study line/speciality: Environmental and Nature Management)

1.1.1 Climate	
Scope	28 lessons / 2.5 ECTS (approximately 70 study hours)
Content	<ul style="list-style-type: none">• Climate plans – and objectives• Climate strategies at local, national and EU-level• Renewable energy and energy flows• Climate adaptations in relation to rainfall and surface water
Portfolio	One or more tasks within the subject's framework.
Curriculum list	Academic articles and reports from professional forums/symposiums/conferences as well as from journals and magazines.
Learning objectives	<p>Knowledge and understanding The student will gain knowledge about:</p> <ul style="list-style-type: none">• climate change planning in municipalities, regions and companies• climate and energy plans, strategies and goals• practical measures in relation to stormwater discharge and increased quantities of surface water• possible ecological and human consequences of increased rainwater and surface water. <p>Skills The student will get the skills to:</p> <ul style="list-style-type: none">• apply theories and tools to calculate climate implications for public and private companies• apply relevant theory to prepare energy plans• apply relevant theory to analyse and assess implications of climate-induced changes in relation to surface water. <p>Competencies The student will learn to:</p> <ul style="list-style-type: none">• independently develop climate change strategies for public and private companies, and assess the effects of climate change plans and programmes• independently collect relevant data, analyse and evaluate climate-induced problems in relation to surface water, and submit qualified solutions.

1.1.2 Sustainability	
Placement	2nd semester
Scope	70 lessons / 6.5 ECTS (approximately 165 study hours)
Content	<ul style="list-style-type: none"> • Definition of the concept of sustainability. • Preparation of green accounting/Carbon calculations • Green conversion/industrial symbioses • CSR/LCA, Global Compact, Cradle2Cradle • Sustainability at company and consumer level • Upcycling of waste • Sustainable production/forests as a natural resource.
Portfolio	Preparation of a company's carbon footprint. One or more tasks within the subject's framework.
Curriculum list	Academic articles and reports from professional forums/symposiums/conferences as well as from journals and magazines.
Learning objectives	<p>Knowledge and understanding The student will gain knowledge about:</p> <ul style="list-style-type: none"> • nutrients, purification processes and the utilisation of residual products in relation to agricultural and environmental management • the importance of nutrients for the environment and a product's quality, digestibility and soundness as well as how to reflect on their use in practice • an understanding of reporting within LCA, Carbon footprint, CSR, global compact and cradle to cradle. <p>Skills The student will get the skills to:</p> <ul style="list-style-type: none"> • analyse and assess the impact of production on substance circulation and energy flows in relation to agriculture, the environment or nature • apply relevant theory for solutions in relation to the impact of production on agriculture, the environment or nature. <p>Competencies The student will learn to:</p> <ul style="list-style-type: none"> • independently gather assessment data and carry out analyses of the environmental consequences of agricultural production and come up with qualified solutions • independently participate in academic and interdisciplinary collaboration and assume responsibility within the framework of a professional ethics • identify their own learning needs and develop their knowledge, skills and competencies in relation sustainable development.

1.1.3 Ecotoxicology	
Placement	2nd semester
Scope	30 lessons / 3 ECTS (approximately 70 study hours)
Curriculum list	Principles of Ecotoxicology by C.H. Walker, R.M. Sibly, S.P. Hopkin, D.B. Peakall, 4th edition Handed-out literature.
Portfolio	Dissemination of experimental results in the form of an article
Content	<ul style="list-style-type: none"> • Introduction to xenobiotics • Ecological effects of xenobiotics • Biomarkers, solution models and monitoring
Learning objectives	<p>Knowledge and understanding The student will gain knowledge about:</p> <ul style="list-style-type: none"> • relevant toxins and the distribution of these in the environment • the effects of toxins on individual species, populations and ecosystems • the relevant legislation. <p>Skills The student will get the skills to:</p> <ul style="list-style-type: none"> • apply relevant theory to analyse ecotoxicological issues in relation to real-life problems • analyse and evaluate the consequences of exposure to toxins at the individual, population and ecosystem level. <p>Competencies The student will learn to:</p> <ul style="list-style-type: none"> • independently gather data and carry out analyses of the ecotoxicological consequences and provide qualified solutions.