INTENSIVE COURSES FOR MASTER LEVEL STUDENTS AUTUMN 2016 AND SPRING 2017

in the fields of Agriculture, Forestry and Veterinary Medicine

Nordplus courses: These courses are partly funded by the Nordic Council of Ministers and accommodation and meals are provided for students. The students can be reimbursed for travel costs. More information about the Nordplus network can be found here: http://www.nmbu.no/en/students/nova/nordplus

- **Forest disturbances and ecosystem services: data and modeling, Estonia, 30 Oct-7 Nov 2016**

- **Sustainable agriculture for rural development, Lithuania, 3-7 April 2017**

- **Arctic Ecology – Live interactions in the midst of ice, Denmark/Greenland 5-17 July 2017**

Other BOVA courses given in the autumn semester that are free of charge, but not funded by Nordplus:
- Landscape in focus, Latvia, 26-30 September
- Detection techniques for cereal quality assessment, Latvia, 07.11-11.11.2016
- Game animals protection and management, Lithuania, 14.11.-19.11.2016

Students can apply for Nordplus travel grant for participating in the courses
BOVA courses : (See more: www.bova-university.org)
NOVA course: (see more: www.nova-university.org

COURSE DETAILS:

Forest disturbances and ecosystem services: data and modeling

Time: 30.10– 07.11.2016
Place: Tartu, Estonia
Main organizer: Estonian University of Life Sciences (EMU)
Number of participants: 15

Target group: Master students

Applications: Consult your local BOVA or NOVA coordinator. The registration form should be filled in online: https://docs.google.com/forms/d/158sKM2K5toxz-lnGRN0E_em6ae17N9dottpyhWwdb7E/viewform

Application deadline: 1 October 2016

What is covered: accommodation and meals are provided for students and students are reimbursed for travel costs (contact your local Nordplus coordinator http://www.nmbu.no/en/students/nova/nordplus/local-nordplus-coordinators)

ECTS: 5

Course description and content:

Course elements:

(1) Preparatory e-learning module in October 2016
(2) 7-days face-to-face module at EMU, 30th October – 7th November 2016
(3) Distance assignment and reporting in November 2016

The course will cover the following topics:
Introduction:

The intensive Master course *Forest disturbances and ecosystem services: data and modelling* is a collaboration between mainly Nordic and Baltic institutions. It aims at introducing students to the complexity of forest development and management, while acknowledging the role of disturbances as part of the natural dynamics. It brings together aspects of different disciplines connected to disturbances and ecosystem services to enable students to evaluate the consequences of variable forest management and climate scenarios and hence address future challenges.

The on-site part of the course will be coordinated in Estonia, but the diversity in the multi-national team of lecturers present should ensure interesting discussions that rise beyond the national level. Data from a case study in the north of Estonia will provide sufficient exercising opportunity to students and facilitates in perceiving the coherence between the different elements.

Course content:

The course comprises about 4 weeks of full time study divided into 3 modules: the preparatory e-learning module in October contains an introduction to the different topics, based on a range of overview scientific literature and web manuals. During the on-site part the topics will be treated in-depth and placed in perspective through lectures, practical exercises, field assignments and excursions. Finally, during the second distance learning part, students are required to prepare a final report in teams, reflecting the

answers to a set of questions distributed during the course, home assignments and a critical evaluation of "optimal" forest management, considering a landscape's disturbance regime.

Topics:

(1) Paleo-ecological and ecological research of forest disturbances, with special attention for methodological aspects of forest disturbance research, tree ring studies and structuring and analysis of ecological data

(2) Modelling of forest disturbances: concepts of forest simulation models, introduction and actual use of the forest landscape and disturbance model iLand, interpretation of model results

(3) Ecosystem services and stakeholder involvement, focusing on links between ecological research and modelling, consequences of disturbance management scenarios for ecosystem services and approaches to involvement of different stakeholder groups, among others by interviewing local stakeholders

(4) The local case study, visited as part of the excursion programme, serves as an illustration of how the acquired knowledge and skills can be applied. Simultaneously, the student has the opportunity to place the material in an international perspective

Prerequisite knowledge:

We require a BSc degree (3 years of education) in biology, forestry or equivalent ecosystem related area. Lectures are based on general knowledge of natural dynamics, forest development, ecosystem management and stakeholder participation approaches. The preparatory part to the course enables students to catch up in less familiar areas and optimise the interdisciplinary character.

Learning outcomes:

After finalising the course, the participant is able to:

- Recognise the complexity of forest disturbance dynamics research
- Use the right tool for the right question
- Integrate different perspectives to disturbance impact in the development of forest management plans for ecosystem services provisioning
- Adopt a long-term solution oriented attitude

Lecturers' institutes: Estonian University of Life Sciences (EMU, Estonia); University of Natural Resources and Life Sciences (BOKU, Austria); Swedish University of Agricultural Sciences (SLU, Sweden); Mid Sweden University (MIUN, Sweden); National Resources Institute Finland (LUKE, F

More information at:
http://bova-university.org/for-msc-students/for-master-students/intensive-master-courses

SUSTAINABLE AGRICULTURE FOR RURAL DEVELOPMENT

Time: 03.04.-07.04.2017
Place: Kaunas, Lithuania
Main organizer: Aleksandras Stulginskis University (ASU)
Number of participants: 20
Target group: Master students studying agricultural and rural economics or development.
Applications: The registration form should be filled in online:
https://docs.google.com/forms/d/10FYEJq6ZynxPcT8CtsstN8506PREOX6AVpEc088BYQ/viewform?edit_requested=true
Also consult your local BOVA or NOVA coordinator.

Application deadline: 4 March 2017

Distance learning part (preparatory e-learning module)**:** 6 March – 31 March 2017
Meeting in person at ASU: 3 – 7 April 2017

What is covered: accommodation and part of the meals. For travel costs you can apply Nordplus scholarship (http://www.nova-university.org/page.cfm?open=5&MenySidor_id=43). Also consult your local BOVA or NOVA coordinator.

ECTS: 4
Course description

 The aim of the course – to deepen and expand students' highly specialized knowledge in the field of sustainable agriculture and to develop students' competencies required for solution of complex problems

Background of the course:

The significance of agriculture in the structure of GDP in most EU countries has declined greatly, but the role of agriculture and natural resources management in sustainable rural development has increased. Nevertheless, the agriculture sector still remains strategic because of its food production functions. Agriculture is the main user of rural and, in particular, natural resources, while agricultural production processes are determined by the biological factors that have significant impact on the results of agricultural, food/fibber chain and many other rural economic activities. New functions of agriculture have come into sight like for example: ecological function, cultural function, information and education function, health and recreation function. Multifunctionality of agriculture and other rural economic activities determines the character of countryside infrastructure and provides a basis for life quality improvement of rural as well as all population of the country creates favourable environment for foreign investments, for development of rural tourism. Increasing requirements for food quality, safety and security in local, the EU and world markets make the needs of environmental protection and conserving of natural resources increasingly actual. If properly managed the use of the multiple potential functions of agriculture and natural resources may be an asset for sustainable rural development.

Objectives:

- to cooperate with institutions from BOVA, NOVA and other EU in the field of sustainable agriculture and rural development;
- to develop students skills for valuing sustainability of agriculture and rural areas;
- to provide skills for deeper understanding of agricultural multifunctionality in the context of competitiveness of rural areas and management of sustainable rural development;
- to enable students critically evaluate the existing situation and to define the role of agriculture in building up sustainability of rural areas development;
- evaluate the effectiveness of agricultural and natural resources management process in the context of sustainable rural areas development;
- to exchange ideas and good practice for the future collaborations in sustainable agriculture and rural development fields.

Objectives will be realised by providing theoretical lectures combined with study tour; introducing instruments for analyzing and formulation sustainable local/regional/ national/EU development strategies; studying multidisciplinary case (study tour) by group of students with presentation.

Expected learning outcomes:

- the most recent scientific achievements in context of sustainable agriculture and rural development;
- principles and new concepts of sustainable development of agriculture and rural areas;
- new mechanisms of agricultural and rural development policy designing and implementation;
- advanced research methods for agriculture and rural development, principles and possibilities of their application;
- understanding agricultural multifunctionality, agricultural resources management role in the context of sustainable rural development;
- comprehension EU Common Agricultural Policy and its impact/significance in rural development;
- principles of innovative programmes and project preparation and project implementation.

After the course students will be able to apply modern theories of economics and management for performing research in rural development; to diagnose scientific and applied problems of agriculture and rural development; to evaluate level of sustainability of agriculture and rural areas; to evaluate the process of rural development and the relevant policy changes; to make decisions related to the development of rural areas based on critical application of modern theories and recent scientific research results.

Prerequisite knowledge - to have knowledge in Economics, Management and Business Administration, especially in Agricultural Economics and Policy, Marketing and Financial management. The sufficient English language level is required.

Teaching team includes lecturers from Estonian University of Life Sciences (EMU), Latvia University of Agriculture (LLU) and Aleksandras Stulginskis University (ASU, Lithuania).

More information at:
http://bova-university.org/for-msc-students/for-master-students/intensive-master-courses

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ARCTIC ECOLOGY – LIVE INTERACTIONS IN THE MIDST OF ICE

Time: 05.07.-17.07.2017

Place: Zackenberg Research Station, Northeast Greenland, Kingdom of Denmark

Main organizer: Aarhus University, Denmark

Number of participants: 12

Target group: MSc students in ecology

Applications: Application procedure to be specified on course web site

DEADLINE: January 31, 2017

What is covered: Travels, accommodation and meals. However, given the high costs of working in the Arctic, prospective students should be prepared to contribute up to 3300 € themselves or from their home institutions. We will try to reduce the self-sponsored part by further grants, but cannot guarantee it before receiving further positive funding decisions.

ECTS: 5

Course description: The Arctic is changing fast, both in terms of climate warming and the way local organisms interact both within and across species. To understand the implications of such changes, we need to understand how Arctic ecosystems are structured, and how Arctic species are interlinked by complex, live interactions, such as pollination, herbivory or predation. In short, we need modern theory on ecological interactions and on interaction networks to understand Arctic ecology and the challenges it is facing. This course fulfills these needs, by providing an introduction to Arctic ecology and to the general principles structuring biodiversity across the globe. The course starts with an introduction of basic concepts in community organization, and continues by developing these first principles into an understanding on how populations are linked into larger networks on ecological interactions. Once equipped with these conceptual tools, the students are introduced in modern techniques for reconstructing ecological interactions, and to recent findings regarding how Arctic ecosystems are structured. Using the long-term time series from Zackenberg as case studies, the teachers will outline two decades of change in the High Arctic. The students will then split into groups, each of which will be challenged to identify an ecological interaction occurring in the High Arctic, and to jointly develop an approach to dissecting and quantifying this interaction. The main part of the course will then be based on implementing small-scale student research projects under real arctic conditions, to analyze the results and to report back to all fellow students during an end seminar. Of several teachers, each will serve as a mentor available around the clock, offering slightly different views on the task.

The course will cover the following topics: The curriculum starts from an introduction of basic concepts in community organization. The students are then introduced to modern techniques for reconstructing

ecological interactions, and to recent findings regarding how Arctic ecosystems are structured and how they change. The main part of the course will be focused on implementing real research projects under arctic conditions. Thus, the following specific topics will be dealt with during the course: Ecological interaction networks. Methods for reconstructing ecological interactions. Case studies from mammals. Case studies from plants and herbivores. Research projects under arctic conditions: approaches, constraints and safety procedures. Analysis and scientific presentation.

More information at: web site being constructed autumn 2016 at
http://www.helsinki.fi/foodwebs/arcticcourse2017/