The doctoral research school

‘Ecology - basics and applications’

Autumn Programme 2024

For more information on individual courses keep an eye out for course announcements or check out the Research School website: https://www.slu.se/en/graduate-schools/ecology-basics-and-applications/

You can also contact course organisers (listed below) or Matt Low in the research school (matt.low@slu.se)

Autumn semester 2024

Plant growth analysis, nutrient use efficiency and phenotyping (6 ECTS)

September - October (multiple days throughout this time: see specific announcement).
Can be taken on zoom (with options for some sessions in the classroom)

Aim: to provide an in-depth overview of the basic methods for measuring and assessing growth and physiology of plants, and to give an overview of quantitative methods for the measurement of structural and functional plant properties (so called phenotyping) in modern phenotyping facilities. A special focus is on the current concepts and methodologies for the assessment of plant nutrient use efficiency in different agricultural and ecological contexts.

Course organiser: Martin Weih (martin.weih@slu.se).
Starting date: *2 September*
Location: Uppsala or Zoom
Course code: course is currently part of the extended course BI1339

Thesis summary ‘kappa’ writing workshop. 17 September

Aim: of the workshop is to give insights and inspiration on how to write a thesis summary. The topics covered are legal issues concerning the thesis summary writing process, writing inspiration, and advice and discussions on "best practices" for writing a thesis summary. This course is supported through multiple *NJ-research schools.*

Course leader: Philip Jacobson (philip.jacobson@slu.se)
Start date: *17 September*
Location: Uppsala

Ecological Theories Seminar series (3 ECTS) 5 seminars in Autumn 2024

Aim: To examine basic ecological theories related to disciplines within ecology (e.g. metapopulation theory, island biogeography, disturbance theory) and discuss key papers with senior researchers and find links between theory and your own research questions

Course leaders: Ellinor Ramberg (ellinor.karin.ramberg@slu.se) & Anika Gossman (anika.gossmann@slu.se)
Start date: *various seminars throughout the autumn*
Location: Uppsala

Understanding & Coding the R Programming Language (3 ECTS) October 7-11

(both in person and online options for taking the course available)

Aim: to help each student overcome the initial steep learning curve that is associated with learning R, and how to think in a structured and logical way to make programming using base R coding easier (includes data structures, base graphics, indexing information, loops and how to predict and extract information from statistical objects). This is a joint course from the *Ecology + FoSW and Organism Biology research schools*.

Course organiser: Matt Low (matt.low@slu.se)
Starting date: *7 October*
Location: in Uppsala (*or you can do the course in your own time using online materials*)
Course code: PNG0088

Research Ethics and Philosophy of Science: with a Biology Focus (3 ECTS)

Oct - Nov (multiple dates) On Zoom (7 x 2-hour seminars)

Aim: The proposed course focusses on research ethics and philosophy in biology and will provide examples and practical implications that are specific to this field, rather than general to any sciences. The aim is to provide students with the precise knowledge that they need, and to improve the usability and applicability of philosophy to their field of study. It is mandatory for PhD students at SLU to have completed a PhD course in philosophy and research ethics, and this course also compliments other courses the student may have taken.

Course organiser: Josefin Sundin (josefin.sundin@slu.se)
Starting date: *9 October*
Location: Zoom

Advances in Basic Ecology (5 ECTS). 14–18 Oct. (at Ekenäs or Uppsala) and 11–15 Nov. 2024 at Grimsö

Aim: To depart from basic ecological theory and highlight recent advances in applied ecology. We will cover three broad areas of ecology: populations (including interactions), communities, and ecosystems (theories and concepts concerning biodiversity will be integrated in the latter two). A main focus of the course is to discuss alternative explanations and to question existing dogmas. Thus one of the goals of this course is for students to analyse, criticise and synthesise ideas and theories used in other ecology sub-disciplines, and relate theories to their own research area

Course leader: Henrik Andren (henrik.andren@slu.se)
Start date: *14 October*
Location: Ekenäs (or possibly Uppsala for week 1) and Grimsö Wildlife Research Station (week 2)
Course code: P000033

Scientific Writing and Peer Review in Ecology (5 ECTS) starts in October. The course aim is to give an overview and learn the basics on how to prepare and write a scientific paper for submission to an international, peer reviewed scientific journal. The emphasis of the course is to consider and become familiar with the reviewing process. The course includes two parts: a first part with five meetings where different aspects of the writing process is discussed and the second part of the course consisting of review seminars with a group of 3 -5 students and one invited researcher where one of the participants' manuscript is reviewed and discussed.

Course organiser:
Starting date: October TBA
Location: Uppsala
Course code: PNG0086

Multivariate Methods for Ecologists (3 or 4.5 ECTS) 21-25 October (part 1); 28 Oct - 8 November (part 2) Aim: To illustrate the application of number of multivariate methods on ecological data. Ordination and classification procedures will be demonstrated in lectures and exercises: such as cluster analysis, correspondence analysis (CA), canonical correspondence analysis (CCA), redundancy analysis (RDA), principle components analysis (PCA), partial least square-analysis (PLS) and more. The course is given in two parts. Part 1 consists of lectures and calculation exercises, and part 2 is a supervised project on your own data. You can take either only part 1 (21-25 October), or the full course. Part 1 gives 3 credits, and the full course 4.5 credits. This course is supported by *FoSW, Ecology and Organism Biology Research Schools*

Course organiser: Ulf Grandin (ulf.grandin@slu.se**).** See this link for more information on the course and how to apply: https://www.slu.se/mva
Starting date: *21 October*
Location: on Zoom
Course code: PNS0074

GIS and Spatial Analysis in R (3 ECTS) Nov-Dec (5 x seminars on zoom)

Aim: Learn how to use R for your GIS analysis, with a focus on the basics of how to implement GIS using current R packages for your spatial analyses.

Course organiser: Alistair Auffret (alistair.auffret@slu.se)
Starting date: November TBA
Location: Zoom
Course code: XX

To Communicate Science (2 ECTS). **Autumn 2024**, (exact date to be decided)

Aim: How to plan and perform efficient communication using different methods and channels that can be used to reach different target groups. Course run by *NJ-faculty research schools and the communication division at SLU*.

Course organiser: Galia Zamaratskaia (galia.zamaratskaia@slu.se)
Starting date: Autumn TBA
Location: Uppsala
Course code: POG0086

How to become a postdoc (1 day workshop), **Autumn 2024 exact date TBA.**

Aim: Learn about what is required to apply for funds or positions, why you should do a post doc, and other things that may be important to consider. Invited researchers (about applications writing and reviewing) and former postdocs presenting information and their perspective based on their experience.
Organizers: *NJ-faculty research schools*. **Will be given back-to-back with the workshop (Careers Outside the University: see below).**

Careers Outside the University for PhDs (1 day workshop), **Autumn 2024**

Aim: Do you want to pursue a career outside of academia? Have you asked yourself what possibilities you, as a PhD, have in the labor market outside of the university? Do you want to improve your chances of finding your dream job?
Organizers: *NJ-faculty research schools*. **Will be given back-to-back with the workshop (How to Become a Postdoc: see above).**

Popular Science Writing for Researchers **(3 ECTS) Dec 2024 - Feb 2025 (5 x seminars on zoom)**

Aim: While communicating science to a lay audience can take many forms (public lectures, school activities, podcasts, video), popular science writing remains the foundation of science communication. This course is targeted at researchers who are interested in developing as science communicators and honing their skills in popular science writing "beyond the press release"
Course organiser: Tomas Linder (tomas.linder@slu.se)
Starting date: December
Location: Zoom

see below for more courses scheduled for the spring of 2025

Upcoming Courses for Spring 2025 🌱

Foundational Philosophy of Ecology - an introduction (3 ECTS)

Aim: The main aim of the course is to discuss fundamental questions underlying the field of ecology and how they affect ecological research and its application. The course will discuss some basic philosophy of science and ethics, but will be mainly focusing on ethical issues related to the foundational philosophy of ecology.

Course organiser: Maartje Klapwijk (maartje.klapwijk@slu.se)
Starting date: March TBA
Location: Uppsala
Course code: PNG0102

Community Ecology - theory, experiments and data analysis (5 ECTS)

Aim: To provide fundamental knowledge in community ecology, with a focus on community dynamics and mathematical modelling, experimental and time series analyses methods to address key questions in community ecology. It also provides some insights in recent advances and discussions of lines of research in community ecology.

Course organiser: Anna Gårdmark (anna.gardmark@slu.se)
Starting date: Spring TBA
Location: Uppsala
Course code: P000035

History of Ecological Ideas (6 ECTS)

Aim: to provide an overview of the history of ecological ideas and the development of ecological theories until the present from natural and social science perspectives. We explore how science, like all other social practices, is socially and culturally shaped, by setting ecological theory development in historical societal contexts. We thereby integrate understanding of ecology with the history of ideas and science philosophy.

Course organiser: Janne Bengtsson (jan.bengtsson@slu.se)
Starting date: Spring TBA
Location: Uppsala
Course code: XX

Applied Evolutionary Theory (3.5 ECTS)

Aim: to provide students with a s old background in evolutionary theory and how evolutionary processes can interact with ecological processes to shape eco-evolutionary dynamics in applied situations.

Course organiser: Örjan Östman (orjan.ostman@slu.se)
Starting date: Spring TBA
Location: Uppsala and surrounding locations
Course code: XX

Introduction to Cropping Systems (3.5 ECTS)

Aim: to provide PhD students without a background in agricultural sciences state-of-the-art knowledge about crop production systems. This 3.5 ECTS course is designed be offered at any period, and aims at exploring cropping systems from tropical to temperate climatic zones, ranging from extensive, low input systems to high-tech, intensive and large-scale systems. A connection will be made between the natural resources needed for agricultural production and the food system aspects.
Course organiser: Marcos Lana (marcos.lana@slu.se)
Starting date: Spring TBA
Location: Uppsala & on zoom
Course code: XX

Understanding and implementing Bayesian Ecological Modelling: a course from beginning to hierarchical complexity (5 ECTS)

Aim: Learn about statistical modelling by building models from the ground up! This course uses a Bayesian framework to build all types of statistical models from simple linear regressions to advanced multi-level non-linear models. You can choose your level of difficulty during the course (so don't worry if stats still confuses you), and you'll get the benefit of understanding one of the most useful frameworks for estimating treatment effects and the probability that variable x influences variable y. Go Bayesian!

Course organiser: Matt Low (matt.low@slu.se)
Starting date: Spring TBA
Location: Uppsala and online
Course code: PNS0157

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