

Name of course: Soil Physics Journal Club (AGRO PhD Essentials)

ECTS credits: 1.5

Course parameters:

Language: English

Level of course: PhD course

Semester/quarter: April to June 2021

Hours in total: approx. 33 hours (including including preparatory reading before and during the course, lectures and exercises during the course)

Capacity limit: 10-15 participants

Objectives of the course:

This course summarizes the essential components needed for successful completion of a PhD degree in the department of Agroecology, Aarhus University that are not explicitly taught in current courses in the department. The course is tailored towards all PhD and/or MS students, although new students stand to benefit more from the contents which range from basics in research ethics and the scientific process, bibliography management, managing your time during the PhD, statistics basics for agronomists, design of good posters and making good oral presentations, and some insights into the journal article peer-review system. The course will include a combination of lectures, peer discussions, and hands-on-practice.

Learning outcomes and competences:

At the end of the course, the student **should be able to:**

- have an overview of the scientific process and ethics in the research process
- create and manage their own bibliographic library with Endnote
- plan their research and have knowledge of the various deliverables during their PhD
- have a working knowledge of the various software options for basic statistical analyses
- arrange and characterize their data correctly, and choose the right test for statistical analyses
- design publication-standard figures and tables
- review a scientific paper
- design eye-catching posters and prepare good oral presentation slides
- consider research ethics in their work

Course contents/Sessions:

1. Planning your PhD/experiments and deliverables during a PhD (lunch seminars, half-year evaluations, qualifying exams)
2. Bibliography management, Access to AU-Foulum (AnyConnect), WoS, Scopus, Use of Reference managers, Scientific platforms (ResearchGate, ORCID; Researcher ID, etc.)
3. Basic statistics for agronomists – arranging and characterizing your data, which test to use, etc. (Excel, SigmaPlot, R)
4. Structure of a Scientific paper, Tables and Figures, Introduction to the peer-review process
5. The peer review process – how to review an article and respond to reviewers comments
6. Posters and oral presentations – tips and tricks
7. Research ethics and Open Science

Prerequisites:

PhD & Master students from Agroecology

Name of lecturers:

Cecilie Hermansen, Emmanuel Arthur, Trine Nørgaard
Department of Agroecology, Science and Technology, Aarhus University

Type of course/teaching methods:

Lectures, exercises, peer discussions

Literature:

Webster Series on Statistics in Soil Science (European Journal of Soil Science)

Peter Thrower's series on *Writing a Scientific Paper*:

Alfred Hartemink Series on *Publish or Perish*

Further literature will be available on blackboard

Course assessment:

Pass or Fail based on class participation, and take home exercises.

Provider:

Department of Agroecology

Compulsory programme:

Participants are required to attend and complete all the exercises for at least 5 out of 7 sessions to pass the course.

Time:

7 sessions (April to June 2021, two hours once or twice a week)

Place: AU-Foulum

Registration:

For registration or questions contact: cecilie.hermansen@agro.au.dk