

# R Club – Course description

## Course parameters

<i>ECTS credits:</i>	1.5
<i>Language:</i>	English
<i>Level of course:</i>	PhD course
<i>Semester/quarter:</i>	Q3 2021 – Q1 2022
<i>Time:</i>	12 sessions – once every 2 weeks.
<i>Total workload app.:</i>	44 hours (including preparing and testing code, presentations and discussions during the course)
<i>Capacity limit:</i>	10 – 15 participants
<i>Place:</i>	AU Foulum
<i>Registration:</i>	<a href="mailto:anbm@agro.au.dk">anbm@agro.au.dk</a>

## Objectives of the course

The objective of the R Club is to familiarize student with working in R, sharing solutions to the tasks they work on and discuss ways to improve the code. With the growing number of students working with R for Digital Soil Mapping in the Soil Physics Section group at the Department of Agroecology, the R Club will promote an environment that encourages discussion of the tools that R provides for Digital Soil Mapping and to exchange ideas in a group setting. The R Club will help the students to stay updated on effective tools for common coding tasks in this area and encourage the development of their own ways to address these issues. The students will learn how to critically read code and provide feedback.

Furthermore, depending on the need, some of the sessions will be dedicated to discussing specific problems that the students face. The students will have a chance to interact and support each other in the process of developing code and finding solutions to these problems.

The course is mainly for PhD students and postdocs working with Digital Soil Mapping. However, MSc students and colleagues within different research areas are also welcome.

## Learning outcomes and competences

After completing the course, the students should be able to:

1. Search for solutions to the tasks they work on and write their own code to perform these tasks in R.
2. Demonstrate and describe their own R code: What it does, and how it works.
3. Provide feedback on the presented code and suggest ways to improve it.
4. Discuss advantages and limitations of different coding solutions.
5. Reflect on how the presented solutions could be relevant for their own work.

## Compulsory programmer

Preparation of demonstrations and active participation.

## Course contents

Out-of-class preparation

1. Identify a coding task relevant student's research area and writing an R script to perform the task.
2. Prepare a demonstration of the task and their own code.

In-class activities

1. Brief presentation and demonstration by one student.
2. Testing the code presented by the student.
3. Formulation of critical questions for the methodology in the R script.
4. Active discussion by all members with suggestion on possible improvements.

## Prerequisites

Ph.D. students from Agroecology.

Prior experience with basic work in R.

## Name of instructor

Anders Bjørn Møller, Department of Agroecology, Science and Technology, Aarhus University.

## Type of course/teaching methods

Out-of-class reading/coding, in-class presentations and discussions.

## Literature

The students choose the papers most relevant for their research.

## Course homepage

None.

## Course assessment

Pass or fail on the basis of active participation.

## Provider

Department of Agroecology

## Special comments on this course

None.