

## Statistical Basics for PhD Students, Part I

June 07 - July 12 2024.

The course is held as an online course.

The course is designed as the *Flipped Classroom* and is organized in the following way:

- The first meeting on Friday, **June 07**, is dedicated to clarifying the conditions and schedule of the course, as well as a brief introduction to R and R Studio.
- Every week on Fridays at 10 a.m. starting on **June 07**, the lecture notes and exercises on the topic of the current submodule are uploaded to StudIP for self-study.
- Until Thursday 10 a.m. of next week (the day before the submodule discussion), course participants must submit solutions to the exercises (as R code) and at least 4 questions/suggestions for the **current** submodule discussion.
- The online submodule discussion is held every Friday from 1 to approx. 3:30 p.m. The discussion is organized as a targeted lecture based on the questions/suggestions of the course participants. Participation in the module discussion is mandatory.
- In the case that questions arise during the homework, a question time in a virtual classroom is offered on Tuesday from 10 to 11 a.m. The participation in this question time is voluntary.

**Important!** *Before starting the course, it is very recommended to check if the required time for self-study and homework is available.*

**The workload of the course (5 submodules) amounts to 90 h.**

That includes:

**15 h** of attendance (**6** meetings a approx. **2.5 h**)

**55 h** of self-study and homework performance (approx. **11 h** weekly)

**20 h** for the final written presentation

Fulfillment of all course requirements results in **3 Credits**.

**Examination requirements:** Written presentation of the own research project, addressing in particular the choice of appropriate statistical methods depending on data properties and objectives of the study and covering the methods of the 5 submodules attended.

| Submodule | Date              | Place                          | Content  | Time         |
|-----------|-------------------|--------------------------------|--|--------------|
| <b>S1</b> | <b>07.06.2024</b> | StudIP                         | Uploading the documents for the <b>1st</b> submodule <b>S1</b>                                     | 10:00        |
|           | <b>07.06.2024</b> | Virtual classroom              | Welcoming and explanation of the course contents and conditions.<br>Introduction to R and R Studio | 13:00-15:00  |
|           | <b>11.06.2024</b> | Virtual classroom              | Question time  | 10:00-11:00  |
|           | <b>13.06.2024</b> | <b>Deadline for homework 1</b> |  | <b>10:00</b> |
|           | <b>14.06.2024</b> | Virtual classroom              | <b>S1-</b> Discussion  | 13:00-15:30  |
| <b>S2</b> | <b>14.06.2024</b> | StudIP                         | Uploading the documents for the <b>2nd</b> submodule <b>S2</b>                                     | 10:00        |
|           | <b>18.06.2024</b> | Virtual classroom              | Question time  | 10:00-11:00  |
|           | <b>20.06.2024</b> | <b>Deadline for homework 2</b> |  | <b>10:00</b> |
|           | <b>21.06.2024</b> | Virtual classroom              | <b>S2-</b> Discussion  | 13:00-15:30  |
| <b>S3</b> | <b>21.06.2024</b> | StudIP                         | Uploading the documents for the <b>3rd</b> submodule <b>S3</b>                                     | 10:00        |
|           | <b>25.06.2024</b> | Virtual classroom              | Question time  | 10:00-11:00  |
|           | <b>27.06.2024</b> | <b>Deadline for homework 3</b> |  | <b>10:00</b> |
|           | <b>28.06.2024</b> | Virtual classroom              | <b>S3-</b> Discussion  | 13:00-15:30  |

| Submodule | Date              | Place                          | Content  | Time         |
|-----------|-------------------|--------------------------------|--|--------------|
| <b>S4</b> | <b>28.06.2024</b> | StudIP                         | Uploading the documents for the <b>4th</b> submodule <b>S4</b> | 10:00        |
|           | <b>02.07.2024</b> | Virtual classroom              | Question time  | 10:00-11:00  |
|           | <b>04.07.2024</b> | <b>Deadline for homework 4</b> |  | <b>10:00</b> |
|           | <b>05.07.2024</b> | Virtual classroom              | <b>S4-</b> Discussion  | 13:00-15:30  |
| <b>S5</b> | <b>05.07.2024</b> | StudIP                         | Uploading the documents for the <b>5th</b> submodule <b>S5</b> | 10:00        |
|           | <b>09.07.2024</b> | Virtual classroom              | Question time  | 10:00-11:00  |
|           | <b>11.07.2024</b> | <b>Deadline for homework 5</b> |  | <b>10:00</b> |
|           | <b>12.07.2024</b> | Virtual classroom              | <b>S5-</b> Discussion  | 13:00-15:30  |