Module Name	Module Code
Nutrition Data Science	elAEF898-01a

Module Coordinator
Jun.-Prof. Dr. Silvio Waschina

Organizer
Institute of Human Nutrition and Food Science

Faculty
Faculty of Agricultural and Nutritional Sciences

Examination Office
Faculty of Agricultural and Nutritional Sciences - Examination Office

ECTS Credits	6
Evaluation	Graded
Duration	1 Semester
Frequency	Only takes place during winter semesters
Workload per ECTS Credit	30 Hours
Total Workload	180 Hours
Contact Time	60 Hours
Independent Study	120 Hours
Teaching Language	English

Recommended Requirements
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Module Courses

Course Type	Course Name	Lecturer	SWS
Seminar	Nutrition Data Science	Waschina	2
Practical Exercise	Nutrition Data Science – Computer exercises	Waschina	2

Examinations(s)

Examination Name	Type of Examination	Evaluation	Compulsory / Optional	Weighting
Nutrition Data Science	Project presentation	Graded	Compulsory	100

Further Information on the Examination(s)

1.+2. period in winter semester
1. period in summer semester

QIS: 152300 PNR: 152310

Course Content

This course aims to provide a comprehensive overview of the principles and practices of Nutrition Data Science. Working in small groups of 3-4 students, the course uses Problem-Based-Learning (PBL) where students approach a nutrition-related topic/problem by using data science methods. As central tool for data analysis and visualizations, the scripting language R is introduced and directly applied within the student PBL projects.

Topics covered:
- Introduction to Nutrition Data Science
- Types of nutrition data
- Online Repositories in nutrition research
- Descriptive statistics
- Data visualization methods for transdisciplinary science communication
- Fundamentals of machine learning in nutrition-related data analysis
- Ethical and privacy considerations in nutrition data science

Learning Outcome

By the end of this course, students will be able to:
- Describe the main sources and types of nutrition data, including dietary intake, food composition, and metabolic data.
- Use statistical techniques to analyze and interpret nutrition-related data.
- Apply data visualization techniques to effectively communicate findings and insights from nutrition-related data.
- Understand the ethical considerations and privacy concerns associated with collecting and using nutrition data.

Reading List

1. *Hadley Wickham, Garrett Grolemund. R for Data Science. 2016. E-book: https://r4ds.had.co.nz/*
2. *Hadley Wickham, Danielle Navarro, Thomas Lin Pedersen. ggplot2: Elegant Graphics for Data Analysis. 2023, 3rd edn. E-book: https://ggplot2-book.org/*

Bitte geben Sie zusätzlich an:

Ist ein Antrag auf Erteilung eines Lehrauftrages erforderlich? Nein

Wenn ja, bitte füllen Sie den Antrag aus, er steht auf dieser Seite zur Verfügung:
http://www.agrar.uni-kiel.de/de/studium/studierende/formulare/dozenten

Verwendung	Pflicht/Wahl	Fachsemester
Master, 1-subject	Optional	

Sonstige Angaben:

Maximum number of participants: 12

Enrollment by OLAT within workdays Monday through Friday in the 1nd week of the 2. examination period of the preceding semester. Following information is necessary:

- matriculation number
- last name
- first name
- striven degree
- study program
- stu-Email

The allocation of the places takes place in the 2nd week of the 2. examination period of the preceding semester. Acceptance of the place by students only through participation at the first day of the course. Students without a place can get a place at the first day of the course by move-up procedure.