

Module Name		Module Code	
Introduction to Theory and Practice of Network Analysis Einführung in Theorie und Praxis der Netzwerkanalyse		agrarAEF889-01a	
Module Coordinator			
Prof. Dr. Marie-Catherine Riekhof			
Organizer			
Institute of Agricultural Economics – Political Economy of Resource Management with a focus on Marine and Coastal Resources			
Faculty			
Faculty of Agricultural and Nutritional Sciences			
Examination Office			
Faculty of Agricultural and Nutritional Sciences - Examination Office			
ECTS Credits	6		
Evaluation	Graded		
Duration	one Semester		
Frequency	Only takes place during summer semesters		
Workload per ECTS Credit	30 hours		
Total Workload	180 hours		
Contact Time	60 hours		
Independent Study	120 hours		
Teaching Language	English		
Recommended Requirements			
Module Courses			
Course Type	Course Name	Compulsory/Optional	SWS
Seminar	Introduction to theory and practice of network analysis	Compulsory	4
Seminar - additional	Discussion of examples for application of network analysis	Optional	2*
Prerequisites for Admission to the Examination(s)			

Examination(s)				
Examination Name	Type of Examination	Evaluation	Compulsory / Optional	Weighting
Introduction to theory and practice of network analysis	Seminarpaper with Assignment	Graded	Compulsory	100

Further Information on the Examination(s)

lecturer: Prof. Dr. Marie-Catherine Riekhof durch Dr. Lotta Kluger
 examiner: Prof. Dr. Marie-Catherine Riekhof durch Dr. Lotta Kluger
 QIS:141100 with number of Examination 141110

Students can select a topic for their presentation and seminar paper from a list presented at the beginning of the seminar, or suggest a topic related to the general content of the course.

A guideline with aspects to consider when preparing a scientific presentation as well as with information on how to write an excellent seminar paper will be made available at the beginning of the seminar.

Course Content

Network analysis is a tool that has found application in many different scientific disciplines, including natural resource management and environmental governance.

In the *mandatory* part of the seminar, basic network terminology, different ways for parametrization and analysis of networks will be presented and applied to a range of examples from the marine sciences. Different options for network visualization will be introduced.

The seminar will further talk about practicalities, chances and limitations of data collection when wanting to apply a network approach.

A range of application examples, presented by the students, will be discussed.

In the *optional* part of the seminar, additional examples and analytical approaches from practical network research will be presented and discussed.

Learning Outcome

Students will

- 1) have a better understanding of basic network terminology and be able to conceptualize a simple network
- 2) have gained an overview of basic indicators and methods for the analysis of networks
- 3) have learned about the theoretical and practical application of network analysis as a method in (marine) social and biological sciences
- 4) have a better understanding of data collection required for network analysis
- 5) improve (practice and further develop) presentation and writing skills
- 6) gain insights into current scientific debates related to network analysis as a method and its application in research practice

Reading List

For a first introduction into the topic see:

- Borgatti SP, Mehra A, Brass DJ, Labianca G (2009). Network Analysis in the Social Sciences. *Science* 323 (5916): 892-895. DOI: 10.1126/science.1165821

Author links open overlay panel Brian D. Fathab

- Asmus H, Asmus R, Baird D, Borrett SR, de Jonge V, Ludovisi A, Niquil N, Scharler UM, Schückerl U, Wolff M (2019). Ecological network analysis metrics: The need for an entire ecosystem approach in management and policy. *Ocean and Coastal Management* 174: 1-14 DOI: 10.1016/j.ocecoaman.2019.03.007

A list with further recommended reading will be distributed at the beginning of the course.

Additional Information

The number of participants is limited to 20.

Enrollment by OLAT within workdays Monday through Friday in the 2nd week of the 2. audit 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. audit 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, where higher MSc. semesters are prioritized.

Use	Compulsory / Optional	Semester
Master, Environmental Management Master, Applied Ecology Master, Sustainability, Society and the Environment Master, Environmental and Resource Economics Master, Agricultural Sciences, Master, Nutritional and Food Science Master, Nutritional and Consumer Economics Master, Dairy Sciences	Optional	-