

Seminar in Business Analytics: Climate Action Winter Term 2024 / 2025

Course Description:

Business Analytics is an essential tool for policymakers and urban planners seeking to make informed decisions and design strategic initiatives in response to complex challenges. Through the systematic analysis of data, patterns can be identified, trends can be forecasted, and resources can be optimized to improve the efficiency and effectiveness of urban systems. In the context of Climate Action, analytics can provide relevant insights to support the decarbonization of energy systems and to strengthen the resilience of cities to the impacts of climate change. Data-driven approaches enable policymakers to move beyond intuitive decision-making, allowing for evidence-based strategies that lead to more precise and sustainable outcomes. As climate considerations increasingly influence urban development and governance, mastering analytical techniques becomes critical for shaping adaptive policies and supporting long-term sustainability goals. Analytics not only enhances decision-making processes but also fosters innovation and continuous improvement in addressing the complexities of urban resilience and the energy transition.

The seminar includes three types of assignments:

- 1) Collection, creation and analysis of a dataset. Students have to collect and create a dataset using existing databases and/or webcrawlers. The created dataset then has to be analyzed using analytical methods.
- 2) Analysis of a given dataset. Students are provided an existing dataset from our research or a dataset that is publicly available. The analysis is more elaborated than in the assignment type 1).
- 3) Literature review about topics related to Climate Action. Students are provided a particular topic and are expected to perform a systematic literature review and provide a comprehensive overview of existing studies that are related to the topic.

Target Group:

This Seminar specifically addresses students from all IMP disciplines, as well as in the M.Sc. Economics and M.Sc. VWL programs. There are no formal prerequisites; however, the assignment types 1 and 2 involve programming tasks (languages Python or R) so that programming skills and/or the willingness to acquire them are a must.

Registration:

Deadline: October 11 (end of day), 2024

Application via email to moritz.wussow@is.uni-freiburg.de. **Make sure that the following information is provided:**

- First name, last name
- Matriculation number (Matrikelnummer)

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- Transcript of records
- Attended lectures and seminars at our chair and grade obtained
- Study program, semester
- Type of assignment, that you are most interested in
- Short description of experience level in Python or R

Response whether application was successful will be sent out shortly after the registration deadline

Organization:

First meeting: **October 23, 2024 at 3pm, Zoom link will be provided on ILIAS**
Presentations: **January 22, 2025 at 3pm, Zoom link will be provided on ILIAS**
Written submission: **March 1, 2025 (end of day)**

Weekly Consultation Hours:

Wednesdays 3pm, zoom link available on request
First date: October 30, 2024

Communication:

Communication is done via email. All materials are provided on Ilias.

Topics:

Exact topics along with hints on literature will be announced at a later point.

Grading:

Written paper (67%) and presentation (33%). In addition, you have to hand in your programming code and datasets (if applicable). The seminar paper should be written in English and consist of 10-15 pages.

ECTS: 6

Credit points are applicable to:

M.Sc. BWL PNPM: Allgemeine BWL, Wirtschaftsinformatik
M.Sc. VWL (2011): BWL, Wirtschaftsinformatik
M.Sc. VWL (2014): Business Analytics
M.Sc. Economics: Elective in Information Systems and Network Economics profile
M.Sc. Computer Science: Wahlmodule BWL und VWL

Chair:

Prof. Dr. Dirk Neumann
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