

Seminar in Business Analytics: Geospatial Analytics with R and Python Winter Term 2020/2021

Course Description:

Prior to the start of the Information Age in the late 20th century, companies were forced to collect data from non-automated sources manually. Companies back then lacked the computing capabilities necessary for data to be analyzed, and as a result, decisions primarily originated not from knowledge but from intuition. With the emergence of ubiquitous computing technology, companies increasingly utilize computational and machine-learning algorithms to analyze business-related questions.

In this seminar, we focus on business problems in which the **geospatial configuration** plays a crucial role. This includes, among others, planning problems in cities in the areas of **energy, mobility, building infrastructures, crime, and others**. The students will learn to visualize and analyze spatial data with R or Python, and to derive effective decisions.

Target Group:

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

Organization:

Registration: Until November 5, 2020

Application via email to gunther.gust@is.uni-freiburg.de. **Make sure the following information is contained in the email body:**

- First name, last name
- Matriculation number (Matrikelnummer)
- Current overall grade average

- Attended lectures and seminars at our chair and grade obtained
- Email, phone number
- Study program, semester
- Short description of experience level in Python or R

In addition, you need to send your **transcript of records in the attachment**.

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

First meeting: **Nov 13, 2020 at 16ct (online)**

Paper due: **Jan 3, 2021**

Presentation: **Jan 13, 2021, 16 ct.**

Revised paper due: **March 15, 2021**

Communication:

All announcements, handouts, etc. will be sent via email.

Topics:

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

Policies and Procedures

Grading: Paper (about 15 pages, 50%), presentation (mandatory), and revised final paper (50%). In addition, you have to hand in your programming code and datasets (if applicable).

Credit points: 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
Albert-Ludwigs-Universität

Chair of Information Systems
Platz der Alten Synagoge
79085 Freiburg
Germany