

Course:

BAE4066 – Collaborative Business and Business Intelligence
2 SWS, 3 credits, English, intermediate level

Regular time and place see [LSF \(mostly Monday 9:45-11:15 in T1.5.06\)](#)

Schedule and course update on eLearning (LMS):

<https://lms.hs-pforzheim.de/course/view.php?id=1769>

Instructor(s):

Prof. Dr. Raphael Volz

E-Mail: raphael.volz@hs-pforzheim.de (preferred mode of communication)

Office and location T2.3.15 from 9:45-11:15 or [LSF](#)

I care about your learning, helping you is important to me. If you are having a problem/question with some aspect of the course, do not hesitate to send an email. I will respond quickly and if it is necessary we will make an appointment.

Overview (catalog description):**Watch the 2 minute teaser video for this course on Youtube:**

<https://www.youtube.com/watch?v=1BMSOBCe07k>

Through inspiring examples and stories, discover the power of data and use analytics to provide an edge to your career and your life.

In the last decade, the amount of data available to organizations has reached unprecedented levels. Data is transforming business, social interactions, and the future of our society. In this course, you will learn how to use data and analytics to give an edge to your career and your life. We will examine real world examples of how analytics have been used to significantly improve a business or industry. These examples include Moneyball, eHarmony, the Framingham Heart Study, Twitter, IBM Watson, and Netflix.

Through these examples and many more, we will teach you to apply following analytics methods: linear regression, logistic regression, trees, text analytics, clustering, visualization, and optimization.

We will be using the statistical software R or LibreOffice Calc to build models and work with data.

The contents of this course are essentially the same as those of the corresponding **MIT class (The Analytics Edge)**. It is a challenging class, but it will enable you to apply analytics to real-world applications.

We will follow a novel teaching approach:

- We will jointly follow the EdX online course provided by MIT:
<https://www.edx.org/course/mitx/mitx-15-071x-analytics-edge-1416>
- You will receive online support by MITx teaching assistants
- You will receive local support by the instructor

- We will utilize the regular course hours for repletion and consuming the course
- You will take a regular exam at the end of the class (to Pforzheim curricular standards)
- Against a fee of USD100 you can receive a Certificate of Achievement by MIT/EdX when successfully participating in the online course

Prerequisites:

You should have good command over the English language. Basic mathematical knowledge (at a high school level). You should be familiar with concepts like mean, standard deviation, and scatterplots. Registration with EdX is required.

Learning Objectives:

By the end of the course students should be able to

- Understand the importance of data for businesses
- Cite case studies that show the use of analytics
- Apply methods for statistical analysis
- Operate the R software for statistical analysis
- Operate LibreOffice Calc for statistical analysis
- Participate in MOOCs successfully for life-long learning after university graduation

Teaching and learning approach:

Joint participation in a MOOC by MITx:

<https://www.edx.org/course/mitx/mitx-15-071x-analytics-edge-1416>

The class will consist of lecture videos, which are broken into small pieces, usually between 4 and 8 minutes each. After each lecture piece, we will ask you a “quick question” to assess your understanding of the material. There will also be a recitation, in which one of the teaching assistants will go over the methods introduced with a new example and data set. Each week will have a homework assignment that involves working in R or LibreOffice with various data sets. (R is a free statistical and computing software environment we’ll use in the course. See the Software FAQ below for more info). In the middle of the class, we will run an analytics competition, and at the end of the class there will be a final exam, which will be similar to the homework assignments.

Questions and repetition at regular class hours

Exam at end of the course

Contribution to program goals:

Learning Results	Contribution
Students demonstrate key knowledge in Business Administration.	Forms and characteristics of cross company collaboration; cross organizational business processes; business information systems
Students demonstrate their ability to express complex issues in writing.	Students have to write a term paper based on own research of a specific subject related to the course's overall topic
Students demonstrate their oral communication skills in presentations and lectures.	Students have to present the results of their own research

Course Material:

- Everything will be online, see <https://www.edx.org/course/mitx/mitx-15-071x-analytics-edge-1416>
- Visit www.libreoffice.org to download and install LibreOffice Calc (the free open source Microsoft Excel)
- Visit www.r-project.org for download and install R analytics suite on your PC