

Syllabus

Data Visualization 1: Introduction to Data Visualization with Tableau

- **Instructor:**
 - Bence Arató, aratob@ceu.edu
 - Teaching Assistant: Balázs Hardi, hardib@ceu.edu
 - Office Hours: Upon request, Wednesdays 12:30-13:15 (until end of October), CEU Building
- **Credits:** 1 (2 ECTS)
- **Term:** Fall 2020-2021
- **Course level:** [MA/MS]
- **Prerequisites:** Mathematics and Informatics Pre-session for Business Analytics
- **Course drop:** Course can be dropped free of charge 24 hours after the first session. After this date drop is possible until the course is halfway over (late drop fee applies). No changes are allowed past that date.

1. COURSE DESCRIPTION

Course description

Data Visualization is a core component of the Business Analytics skillset. This course will provide an introduction to the main concepts of visual analytics such as visuals reports and dashboards with a hands-on tutorial to Tableau, a leading self-service BI and Data Visualization tool.

2. LEARNING OUTCOMES

By successfully completing the course the students will be able to:

- Understand and describe the main concepts of data visualization
- Create ad-hoc reports, data visualizations, and dashboards using Tableau Desktop

3. READING LIST

The following books are recommended readings:

- Steve Wexler, Jeffrey Shaffer, Andy Cotgreave: The Big Book of Dashboards
- Ryan Sleeper: Practical Tableau

4. TEACHING METHODS AND LEARNING ACTIVITIES

Each session will consist of an intro lecture and then hands-on Tableau exercises. Students will also get home assignments that has to be prepared in Tableau Desktop.

5. ASSESSMENT (including minimum pass requirement and grading)

After the last session, every student has to create and submit a personal visual data analysis project on a chosen dataset. The submitted project should include:

- Live Tableau dashboard(s) demonstrating the techniques taught during the course. The dashboard(s) should consist of proper visualizations and interactivity features
- Dashboard Documentation describing the following: The business problem, the analytic approach, the data sources used, the applied data cleaning and transformation steps, the calculations and other functionality used in Tableau and a short user guide to the dashboard including print screens.

Passing grade is 60%.

6. TECHNICAL/LAPTOP REQUIREMENT

The students need to bring their laptop to the sessions (Windows or Mac, Linux not supported). The latest version of Tableau Desktop as well as Tableau Prep should be installed. Tableau license keys will be distributed by the instructors. Tech specs: <https://www.tableau.com/products/techspecs>

7. TOPIC OUTLINE AND SCHEDULE

Session	Topics
1: Intro to Tableau	<ul style="list-style-type: none">• Course introduction• Basics of data visualization• Getting started with Tableau• Creating basic charts
2: Common charts I.	<ul style="list-style-type: none">• Creating common visualizations• Creating dashboard layouts• Using dashboard filters
3: Transformations and calculations	<ul style="list-style-type: none">• Creating calculated fields and measures• Using Quick Table calculations
4: Interactions	<ul style="list-style-type: none">• Using text and visual tooltips• Creating actions to drive interactivity

5 Common charts II.	<ul style="list-style-type: none"> • Creating more chart types • Advanced visual functionality (formatting, colors etc.)
6: Data storytelling	<ul style="list-style-type: none"> • Creating an interactive data story • Participating in the Tableau community • Further opportunities to learn

8. SHORT BIO OF THE INSTRUCTOR

I've been in the BI and Data field for more than 2 decades. During this time, I consulted for dozens of clients in Hungary and abroad, started several companies and delivered many lectures and trainings on data warehousing, BI, data visualization and Big Data. I'm currently the executive director of BI Consulting Ltd. and the main organizer of the Budapest BI Forum and Budapest Data Forum conference series.