# Introduction to Information Visualization

### Course Number: 99101 Number of credit points 2

Mini-Semester: 5 of the Academic Year: 2021 Time: (Day & Hour) Thursdays, 18:00-21:30

**Course Instructor: Dr. Peter Bak** E –mail: [**bakpeter6@gmail.com**](mailto:bakpeter6@gmail.com)Telephone: **052-6677988**

Meeting time for students: **by appointment only**

**Course Instructor: Dr.Yael Albo** E –mail: [**alboyael@gmail.com**](mailto:alboyael@gmail.com)Telephone: **050-7913134**

Meeting time for students: **by appointment only**

# Syllabus:

## Course Objectives:

The course intends to teach visualization design and analysis and provide hands-on experience in creating interactive visualizations on real-world data. Students will be exposed a wide range of information visualization techniques in a systematic way based on a strong theoretical background and scientific approach.

## Course Content & Scope:

The course content starts with theoretical background on visualization analysis and design. The scope will include selected topics on information visualization consisting of space, time, networks, multidimensional attributes and sets visualization. The scope will extend to applied information visualization in science and technology.

## Teaching Methods:

Presentation slides

## Teaching Materials:

Power Point slides, Selected Readings

**Readings (Compulsory / Recommended):**

T. Munzner: Visualization Analysis and Design, <https://www.cs.ubc.ca/~tmm/vadbook/>

M. Ward et at. Interactive Data Visualization. Foundations, Techniques and applications, <http://www.idvbook.com/>

D. Murray: Tableau Your Data, <https://tanthiamhuat.files.wordpress.com/2015/07/tableau-your-data.pdf>

## Student Assessment:

Project: 70% (PDF file per email-attachment) Assignment: 20%

Exercises: 10%

Submission date of the project: 16/9/2021

# Course Plan

### Lesson 1. 15.7

Motivation for Interactive Visualization (Lecture Slides)

Visualization Analysis and Design (Lecture Slides, and Readings) Part 1.

### Lesson 2. 22.7

Data Abstraction; Marks& Channels; Visual perception;

Tableau – Introduction, Connecting to Data, Preparing Data, UI Overview, Discrete and Continuous Data

### Lesson 3. 29.7

Task Abstraction; Arrange Tables; Choosing a chart Tableau – Charts, Calculated fields

### Lesson 4. 5.8

More charts. Manipulation, Facet, Reduce Tableau – Interactions

### Lesson 5. 12.8

Dashboards and Data Stories Tableau – Dashboards & Stories

### Lesson 6. 19.8

Space-Geo and Time-oriented data visualization (Lecture Slides)

### Lesson 7. 26.8

Selected Topic / Guest Lectures