Jump to today

  (https://studiegids.vu.nl/en/2019-2020/courses/S_DSVAR) **Welcome to Data Science: Visualisations in R!**
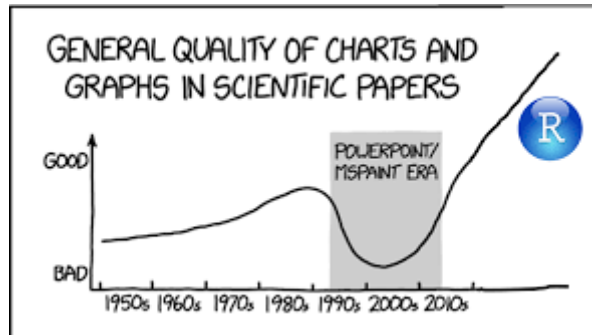
View the **course overview** 📄, **weekly planning** 📄, and the **literature** 📄 to be studied.

Content of the Course

The explosion of digital information and increasing efforts to digitise existing information sources has produced a deluge of data, such as digitised historical news archives, literature, policy and legal documents, political debates and millions of social media messages by politicians, journalists, and citizens. Graphs and charts let you explore and learn about the structure of the information you have collected. Good data visualisations enable you to communicate your ideas and findings.

This course will offer analytical and practical training in digital visualisation techniques using the open-source platform R. This course is placed in the broader scope of Digital Humanities and Social Analytics. In terms of critical reflection and skills this is a more advanced course within the Minor Digital Humanities and Social Analytics.

An important part of the classes will entail practical training in the visualisation of data: what are the "right numbers" to present, how to present uncertainty in data, which ties in a network are important enough? The course will teach you how to transform data to a visual: from a basic graphical display to animated and BBC-worthy graphics (e.g. see https://www.r-bloggers.com/create-data-visualizations-like-bbc-news-with-the-bbcs-r-cookbook/ **(https://www.r-bloggers.com/create-data-visualizations-like-bbc-news-with-the-bbcs-r-cookbook/)**). This course invites you to develop visuals from many data sources, such as textual data, networked data, etc. At the end of the course you will be able to use attractive visualisations to present your research results in both oral and written communications.

Course Objectives

- Students will master various computational techniques in R: structuring digital data, visualisation and systematic evaluation.
- Students are able to critically reflect on the implications of the selection, structuring and manipulation of data for the outcome of their work. They are able to evaluate results critically and in a systematic manner.
- Students will be able to critically analyse other digital based research projects. They will be able to position their own work in the existing field of digital humanities and social analytics.
- Students are able to collaborate with advanced research groups, with other disciplines, manage group processes, and communicate results to a larger audience (final presentation). They will be able to present their work in a both academically convincing and ethical way for an interdisciplinary audience.
- Students possess knowledge of digital tools and opportunities of a field of research in order to continue to acquire computing skills and pursue further studies and / or a career that entails interdisciplinary collaboration, work with many types of data and media and involves high level critical and analytical skills.

Structure of the Course

The set-up is as follows: each week starts with a lecture on Tuesday, followed by a seminar on Friday. The lecture on Tuesday is a classical lecture. The lectures will explain the literature, and provide additional information, indicated by the background literature in the **course overview** 📄. The Friday tutorials use the principle of **team-based learning**. This is based on the idea that students can learn a lot from each other by exchanging knowledge and experience, and by discussing the subject matter with each other. It is in line with the idea that a diverse group always has more knowledge in its possession than an individual or a less diverse group. In this course, therefore, during the knowledge clip lectures and in the working groups, we will work with permanent teams that are formed randomly. To discourage free-riding, students are asked to evaluate their team members, low evaluations by your team members lead to lower grades for the assignments.

Literature

We will use Healy's book (2018) as a base for the lectures and tutorials. For the lectures, Riche et al. (2018)'s book is used as background literature. In addition, you will read scientific articles that offer more in-depth information on the week's theme. See the list of compulsory literature below, the **overview schedule** 📄 shows the literature for each lecture. All articles can be found online and you have to download them yourself.

de Boer, V., Wielemaker, J., van Gent, J., Oosterbroek, M., Hildebrand, M., Isaac, A., and Schreiber, G. (2013). Amsterdam museum linked open data. *Semantic Web, 4*(3), 237-243.

Drucker, Johanna, 'Graphical Approaches to the Digital Humanities', in *A New Companion to Digital Humanities* (John Wiley & Sons, Ltd : Chichester, UK, 2015), pp. 238–50

Healy, K. (2018). *Data visualization: a practical introduction*. Princeton University Press. [online available: https://socviz.co/ **(https://socviz.co/)**]

Riche, N. H., Hurter, C., Diakopoulos, N., & Carpendale, S. (Eds.). (2018). Data-driven storytelling. CRC Press. [Background literature]

Sinclair, Stéfan, and Geoffrey Rockwell, 'Text Analysis and Visualization: Making Meaning Count', in *A New Companion to Digital Humanities*, ed. by Susan Schreibman, Ray Siemens, and John Unsworth (John Wiley & Sons, Ltd, 2015), pp. 274–90

Welbers, K., Van Atteveldt, W., & Benoit, K. (2017). Text analysis in R. *Communication Methods and Measures*, 11(4), 245-265.

Zwaan, Janneke M. van der, Maarten van Meersbergen, Antske Fokkens, Serge ter Braake, Inger Leemans, Erika Kuijpers, and others, 'Storyteller: Visualizing Perspectives in Digital Humanities Projects', in *Computational History and Data-Driven Humanities : Second IFIP WG 12.7 International Workshop,* CHDDH 2016, Dublin, Ireland, May 25, 2016, Revised Selected Papers, IFIP Advances in Information and Communication Technology 1868-422X (Cham : Springer International Publishing : Springer, 2016), pp. 78–90

Grading

The **final grade** consists of the following parts:

- Individual take home exam, which counts for 60% of the final grade.
- Group assignments. The average of the six assignments counts for 40% for the final grade.

The grades for both parts should be **sufficient**, yet grades of the group assignments can be offset against each other.

Attendance at the tutorials and the lectures are mandatory. You have two wildcards to be absent. The attendance requirements must be met in order to be able to take part in the exam.

Resit. If your final grade is insufficient, you can take a resit. The resit consists of a take home exam. You do not do a resit for the exam or the assignments individually, but by means of one take home exam, where you have to demonstrate that you have mastered the learning objectives of the course. The resit will be made online available on Monday the 27th of January (09:000am) and is due Friday the 31st of January (Midnight).

Course Description **(https://studiegids.vu.nl/en/2019-2020/courses/S_DSVAR)** as published at **vu.nl/en** **(https://www.vu.nl)**

Course summary:

Date	Details	
Thu, 7 Nov 2019	**Assignment 1** (https://canvas.vu.nl/courses/41833/assignments/62194)	due by 10:00
Thu, 14 Nov 2019	**Assignment 2** (https://canvas.vu.nl/courses/41833/assignments/62195)	due by 10:00
Thu, 21 Nov 2019	**Assignment 3** (https://canvas.vu.nl/courses/41833/assignments/62196)	due by 10:00
Thu, 28 Nov 2019	**Assignment 4** (https://canvas.vu.nl/courses/41833/assignments/62197)	due by 10:00
Thu, 5 Dec 2019	**Assignment 5** (https://canvas.vu.nl/courses/41833/assignments/62199)	due by 10:00
Thu, 12 Dec 2019	**Assignment 6** (https://canvas.vu.nl/courses/41833/assignments/62200)	due by 10:00
Thu, 19 Dec 2019	**Take Home Exam** (https://canvas.vu.nl/courses/41833/assignments/62201)	due by 23:59
Fri, 14 Feb 2020	**Take Home Exam - Resit** (https://canvas.vu.nl/courses/41833/assignments/62202)	due by 17:00
	Roll Call Attendance (https://canvas.vu.nl/courses/41833/assignments/73165)	