



2021

CALDISS WORKSHOPS

Content

- 5-6 Introduction to data analysis with R/Python
- 7-8 Extended introduction in R/Python
- 9-10 Working with Table Data in R/Python
- 11-12 Exploratory Data Analysis in R/Python
- 13-14 Text Mining and Natural Language Processing in R/Python
- 15-16 Web Scraping with R/Python
- 17-18 Introduction to Geodata with ArcGIS
- 19-20 Introduction to Data Analysis with Stata
- 21-22 Extended introduction to Stata
- 23-24 Working with Register Data in Stata/SAS
- 25-26 Introduction to Qualitative Data Analysis with NVivo
- 27-28 Analyzing Data with NVivo
- 29-30 Reporting and Collaborating on Your Research with LaTeX





Update your digital skills. Learn new things.



www.caldiss.aau.dk
caldiss@adm.aau.dk

WHAT IS CALDISS?

CALDISS is short for **C**omputational **A**nalytics **L**aboratory of **D**igital **S**ocial **S**cience. We are here to help students and researchers at The Faculty of Social Sciences with various kinds of data related issues and obstacles. Therefore, we provide different workshop introductions and courses within different software and its uses.

Please look through this catalogue to see our courses.

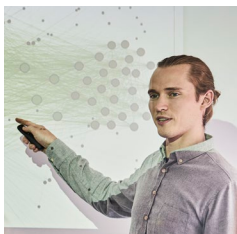
Introduction to data analysis with R/Python



This workshop is available either in R or Python.

This workshop introduces how to do data analysis in either R or Python. Both R and Python are very powerful tools for data analysis and can be used for statistics, visualization, web scraping, machine learning, and so on. After this workshop, you will have the basic knowledge of the language and software to jump into one of our many workshops offered through this workshop catalogue.

Read more about this introduction on the next page...



Kristian Gade Kjellmann
Mail: kgk@adm.aau.dk
Phone: +45 9940 2302



Cecilie Møller Høymark
Mail: ceciliemh@socsci.aau



Signe Birgit Sørensen
Mail: sbso@adm.aau.dk



Duration

3 hours

Requirements

- ✓ Own laptop or MacBook. Otherwise, no further prerequisites.

Request now

Request by filling out the form here:
<https://bit.ly/3aCmwsN>

Or contact CALDISS: caldiss@adm.aau.dk

This workshop will cover:

- Working with the R/Python language in either RStudio (for R) or Jupyter Notebook (for Python)
- Creating variables and objects
- Importing and exporting data
- Creating simple visualizations



Extended introduction in R/Python

This workshop is available either in R or Python and builds on the introductory workshop. It will focus on the generic programming functions of R or Python.

Read more about this course on the next page...

Requirements

- ✓ Own laptop or MacBook
- ✓ Basic R/Python (see our [introductory workshop](#))

Request now

Request by filling out the form here:

<https://bit.ly/3aCmwsN>

Or contact CALDISS: caldiss@adm.aau.dk



You will work with:

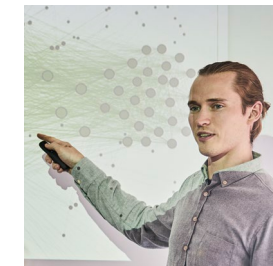


Difficulty

Beginner Intermediate Advanced

Duration

3 hours



Kristian G. Kjellmann

Mail: kgk@adm.aau.dk

Phone: +45 9940 2302





This workshop will cover:

- Basic programming skills in R/Python (if statements and for loops)
- Creating your own basic functions
- Using functional programming to create reusable code
- Applying functions on tabular data

Working with Table Data in R/Python

This workshop is available either in R or Python.

Building on basic knowledge of Python/R, this workshop teaches how to work with table data: from data-wrangling to doing statistics and basic visualizations.

Note! This workshop does not teach the mathematical and theoretical foundations of statistics but illustrates how to do statistics with the programming language.

Requirements

- ✓ Own laptop or MacBook
- ✓ Basic R/Python (see our **introductory workshop**)
- ✓ Statistics (preferred)

Request now

Request by filling out the form here:

<https://bit.ly/3aCmwsN>

Or contact CALDISS: caldiss@adm.aau.dk



You will work with:

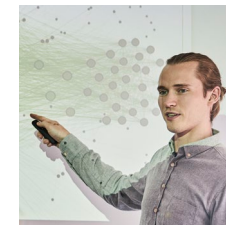


Difficulty

Beginner Intermediate Advanced

Duration

2x3 hours



R
Kristian G. Kjellmann

Mail: kgk@adm.aau.dk

Phone: +45 9940 2302



Python
Tobias Lindstrøm Jensen

Mail: tlj@its.aau.dk

Phone: +45 9940 2818



This workshop will cover:

- Why Python/R for data wrangling and statistics?
- Working with data frames: data structured in rows and columns
- Joining, merging, and creating new variables
- Re-coding, filtering, and sorting data
- Working with text variables (strings) and dates
- Doing descriptive statistics and creating models
- Visualizing data

Exploratory Data Analysis in R/Python

This workshop is available either in R or Python.

Building on basic knowledge of Python/R, this 2x3 hours workshop teaches you how to do exploratory data analysis in Python/R. The purpose of exploratory data analysis (EDA) is to apply an inductive approach to data and gain insights from data without necessarily working from a pre-defined hypothesis.

Read more about this workshop on the next page...

Requirements

- ✓ Own laptop or MacBook
- ✓ Basic R/Python (see our **introductory workshop**)
- ✓ Statistics (preferred)

Request now

Request by filling out the form here:

<https://bit.ly/3aCmwsN>

Or contact CALDISS: caldiss@adm.aau.dk



You will work with:

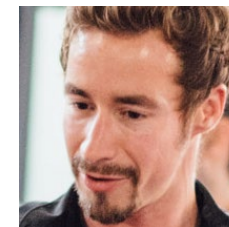


Difficulty

Beginner Intermediate Advanced

Duration

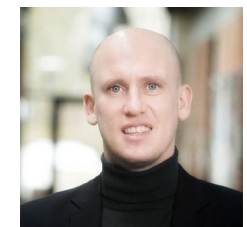
2x3 hours



R
Daniel S. Hain

Mail: dsh@business.aau.dk

Phone: +45 9940 2724



Python
Roman Jurowetski

Mail: roman@business.aau.dk

Phone: +45 9940 2738



This workshop will cover:

- Exploring tabular data in R/Python
- Exploring and visualizing time series data
- Useful tools and functions for getting an overview of large datasets
- Using unsupervised machine learning techniques for exploratory analysis (dimensionality reduction and clustering)

Text Mining and Natural Language Processing in R/Python

This workshop is available either in R or Python.

Building on basic knowledge of R/Python, this workshop will cover how to work with textual data in R/Python. The workshop will cover everything from reading text data into R/Python, various text mining techniques to basic Natural Language Processing (NLP) algorithms and tools.

Read more about this workshop on the next page...

Requirements

- ✓ Own laptop or MacBook
- ✓ Basic R/Python (see our [introductory workshop](#))

Request now

Request by filling out the form here:

<https://bit.ly/3aCmwsN>

Or contact CALDISS: caldiss@adm.aau.dk



You will work with:

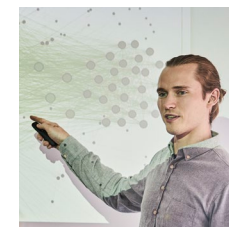


Difficulty

Beginner Intermediate Advanced

Duration

2x3 hours (2 days)



R
Kristian G. Kjellmann

Mail: kgk@adm.aau.dk

Phone: +45 9940 2302



Python
Roman Jurowetski

Mail: roman@business.aau.dk

Phone: +45 9940 2738

This workshop will cover:

- Loading textual data into R/Python
- Getting familiar with essential text mining packages in R/Python
- Building a corpus in R/Python
- Pre-processing text data for analysis
- Using language models
- Exploring key features of texts (keywords, word associations)
- Discovering common themes in texts using topic modeling

Web Scraping with R/Python



This workshop is available either in R or Python.

The web presents both a new data source and a new research field for researchers. This has seen an increased interest in techniques broadly referred to as "web scraping": Getting data from the web. This workshop introduces the practices of and tools for web scraping in R/Python. It covers both how the programming languages interact with the web and how they can be used for collecting data either via scraping or by using APIs.



Kristian Gade Kjellmann

Mail: kgk@adm.aau.dk

Phone: +45 9940 2302



Duration

2x3 hours

Requirements

- ✓ Own laptop or MacBook
- ✓ Basic R/Python (see our [introductory workshop](#))

Request now

Request by filling out the form here:
<https://bit.ly/3aCmwsN>

Or contact CALDISS: caldiss@adm.aau.dk

This workshop will cover:

- What is "web scraping"?
- How programming languages interact with the web
- Collecting raw website data using R/Python
- Parsing raw website data using R/Python
- Introduction to API's
- Good practices and considerations when working with the web



Introduction to Geodata with ArcGIS



Duration

2x3 hours

Requirements

- ✓ Own laptop or MacBook. Otherwise, no further prerequisites.

Request now

Request by filling out the form here:

<https://bit.ly/3aCmwsN>

Or contact CALDISS: caldiss@adm.aau.dk

This workshop introduces how to work with geodata in ArcGIS.

ArcGIS is one of the leading tools for working with geodata with a wide variety of functions.

The workshop will introduce the ArcGIS user interface and go through the necessary data-processing steps for mapping data to geographical areas. It is possible to work with data of your own during the workshop if it is compatible.

Read more about this workshop on the next page...



Rolf Lyneborg Lund

Mail: rolfl@socsci.aau.dk

Phone: +45 9940 2846





This workshop will cover:

- Understanding and using the ArcGIS user interface.
- Appropriate geodata and how to import it
- Various data sources for geographic data
- Creating various visualizations in ArcGIS (heatmaps, rate-maps, etc.)
- Differences and use-cases with polygon-maps and point-maps

Introduction to Data Analysis with Stata



STATA

Duration

3 hours

Requirements

✓ Own laptop or MacBook. Otherwise, no further prerequisites.

Request now

Request by filling out the form here:

<https://bit.ly/3aCmwsN>

Or contact CALDISS: caldiss@adm.aau.dk

This workshop introduces how to do data analysis with Stata.

Stata is a relatively simple and powerful statistics and econometrics software tool. This workshop starts from the very basics and will give you the foundation needed to get started doing data analysis with Stata.



Kristian G. Kjellmann

Mail: kgk@adm.aau.dk

Phone: +45 9940 2302



Andreas L. Jakobsen

Mail: andreaslj@socsci.aau.dk

Phone: +45 9940 2818

This workshop will cover:

- Navigating the Stata interface
- Reading and inspecting data in Stata
- Using the command window
- Using do-files to easily re-do your steps and analysis
- Basic recoding and variable manipulation
- Descriptive statistics



Extended introduction to Stata

This 3-hour workshop builds on the introductory workshop and teaches additional functions in Stata.

Read more about this workshop on the next page...

Requirements

- ✓ Own laptop or MacBook
- ✓ Basic Stata (see our [introductory workshop](#))

Request now

Request by filling out the form here:

<https://bit.ly/3aCmwsN>

Or contact CALDISS: caldiss@adm.aau.dk



You will work with:

STATA

Difficulty

Beginner Intermediate Advanced

Duration

3 hours



Kristian G. Kjellmann

Mail: kgk@adm.aau.dk

Phone: +45 9940 2302



Andreas L. Jakobsen

Mail: andreaslj@socsci.aau.dk

Phone: +45 9940 2818

This workshop will cover:

- Additional recoding and variable manipulation features
- Good tips on using the do-file
- Additional commands for statistics, including (summary statistics, cross-tables, and tests of independence)

Working with Register Data in Stata/SAS

Statistics Denmark (<https://www.dst.dk/>) possess a variety of register data containing a lot of different information. Working with data from Statistics Denmark can present a challenge compared to typical data analysis workflows due to the peculiar structure and formats of the data.

Read more about this workshop on the next page...

Requirements

- ✓ Own laptop or MacBook
- ✓ Basic Stata/SAS (see our [Introductory workshop](#))

Request now

Request by filling out the form here:

<https://bit.ly/3aCmwsN>

Or contact CALDISS: caldiss@adm.aau.dk



You will work with:



Difficulty

Beginner Intermediate Advanced

Duration

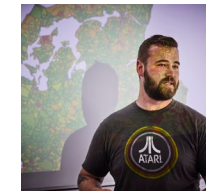
3 hours



SAS
Kristian G. Kjellmann

Mail: kgk@adm.aau.dk

Phone: +45 9940 2302



Stata
Rolf L. Lund

Mail: rolfill@socsci.aau.dk

Phone: +45 9940 2846

What are the advantages of taking this workshop?

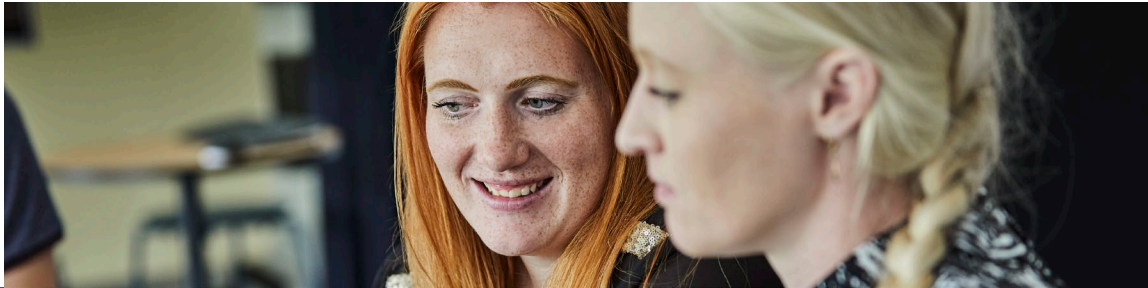
The workshop introduces good practices for getting started working with register data - both what register data looks like and how to work with it in either SAS or Stata. The workshop contains exercises on simulated register data allowing you to familiarize yourself with the data before you have to work with the real thing.

This workshop will cover:

- Types and structures of register data
- Tips and tricks for combining register data in Stata or SAS
- How to use the documentation from Statistics Denmark
- How to handle frequently encountered problems when working with register data (string and date variables)



Introduction to Qualitative Data Analysis with NVivo



Duration

3 hours

Requirements

- ✓ Own laptop or MacBook. Otherwise, no further prerequisites.

This workshop introduces doing qualitative data analysis with NVivo. The workshop will introduce the NVivo interface and main terminology. Throughout the workshop, you will create your own NVivo project while being introduced to features like importing, querying, and coding data in NVivo.

It is possible to work with data of your own during the workshop. The introduction can be supplemented with a more in-depth workshop on using NVivo.

Read more about this workshop on the next page...



Cecilie Møller Høymark
Mail: ceciliemh@socsci.aau



Signe Birgit Sørensen
Mail: sbso@adm.aau.dk

Request now

Request by filling out the form here:
<https://bit.ly/3aCmwsN>

Or contact CALDISS: caldiss@adm.aau.dk



This workshop will cover:

- What is NVivo?
- Navigating the NVivo user interface
- The main terminology of NVivo: files, codes, cases, classifications, and attributes
- Creating a project in NVivo
- Coding text files to codes and cases
- Querying your data for common or specific terms

Analyzing Data with NVivo

Building on a basic understanding of NVivo, this workshop introduces various tools for exploring and analyzing data in an existing NVivo project. NVivo offers a ton of functions for finding specific intersections of data, visualizing summaries, reporting results, and so on. How to further develop an NVivo project and track changes is also covered.

It is recommended to work with data of your own during the workshop.

Read more about this workshop on the next page...

Requirements

- ✓ Own laptop or MacBook
- ✓ Basic NVivo (see our **introductory workshop**)

Request now

Request by filling out the form here:

<https://bit.ly/3aCmwsN>

Or contact CALDISS: caldiss@adm.aau.dk



You will work with:

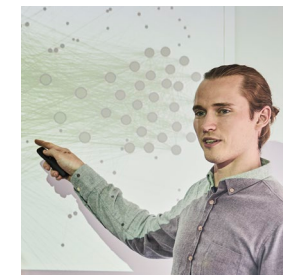


Difficulty

Beginner Intermediate Advanced

Duration

3 hours



Kristian Gade Kjellmann

Mail: kgk@adm.aau.dk

Phone: +45 9940 2302



This workshop will cover:

- Exploring an NVivo project using diagrams
- Creating summary visualizations using charts
- Using coding and crosstab queries for finding specific excerpts
- Recoding and restructuring a project
- Using sets to structure and track changes in a project

Reporting and Collaborating on Your Research with LaTeX



LaTeX is one of the most common typesetting languages used in the academic world. This course introduces you to the LaTeX language to write papers, reports, and slides. To produce the content we will make use of Overleaf, an online resource that removes installation hassles. It also allows for multiple users in the same documents (goodbye overwritten files) and comments in your text and code. Finally, we discuss how to produce graphs and LaTeX tables in R that can be imported directly into your LaTeX files.



Jesper Eriksen

Mail: jeri@business.aau.dk



Duration

2,5 hours

Prerequisites

- ✓ None, **but..** participants unfamiliar with data analysis in R may look up alternatives to the statistical software they use instead, e.g. regout2 in Stata.

Requirements

- ✓ Own laptop or MacBook and an active Overleaf account. Otherwise, no further prerequisites.

To create an Overleaf account, simply go to [Overleaf.com](https://overleaf.com) and sign up.

Request now

Request by filling out the form here:

<https://bit.ly/3aCmwsN>

Or contact CALDISS: caldiss@adm.aau.dk

This workshop will cover:

- Setting up your first LaTeX document using Overleaf
- Including tables, pictures, equations, and footnotes in your document
- Splitting a report in multiple files for simultaneous work on project
- Reference handling in LaTeX using Mendeley
- Using R and LaTeX for reproducibility
- [Optional] Presentation slides in LaTeX
- [Optional] Using Rmarkdown to write LaTeX documents

Go learn!

