

DATA JOURNALISM AND VISUALIZATION WITH FREE TOOLS

Goals

The main goal of this course is to prove to you that doing journalism with data and designing compelling charts, maps, and graphics is not magic, but a matter of learning some key principles, skills, practicing, and receiving feedback. We are convinced that anybody can learn the basics if you are willing to make a little effort. The course provides enough materials for you to get started.

Objectives

This MOOC is divided into six weekly modules. You'll learn (1) how to find and download data, (2) how to prepare data for exploration and visualization, (3) how to extract meaning from it, (4) how journalists can take advantage of machine learning and artificial intelligence, (5) how to create visualizations, (6) how to structure a data-driven visual story.

Who can enroll

This course is open to anyone interested in data journalism and visualization. It will be beneficial for people who are interested in developing data journalism and visualization skills, as well as individuals who already have these skills and want to strengthen them.

Tools/Applications required

In this course, you'll learn and use tools such as [Google Sheets](#), [Data Studio](#), [Flourish](#), and many others. All of them are freely available online.

How the course works

First of all, note that this is an asynchronous course. That means there are no live events scheduled at specific times. You can log in to the course and complete activities throughout the week at your own pace, at the times and on the days that are most convenient for you.

The course materials are organized into six weekly modules. Alberto Cairo and Simon Rogers will be the lead instructors for this course and will be joined by a great team of instructors:

- Debra Anderson, co-founder of Datavized
- Duncan Clark, co-founder of Flourish
- Jan Diehm, journalist-engineer, The Pudding
- Minhaz Kazi, developer advocate, Google Data Studio
- Dale Markowitz, software engineer, Google
- Marco Túlio Pires, News Lab lead, Google
- Katherine Riley, data journalist, Flourish

Each weekly module will feature videos, presentations, readings, discussion forums, and messages from the instructors. Each module will include both conceptual and practical videos to help enhance your understanding and practical application of the material. There will be a quiz each week to test the knowledge you've gained from the course materials. The weekly quizzes, and weekly participation in the discussion forums, are the basic requirements for earning an optional certificate of participation at the end of the course.

This course is very flexible, and if you are behind with the materials, you have the entire length of the course to complete them. We recommend that you complete each of the following before the end of each week so you don't fall behind:

- Video lectures (separated into practical and conceptual videos)
- Readings and handouts/exercises
- Participation in the discussion forums
- Quizzes covering concepts from video lectures and/or readings

Course outline

MODULE 1: Finding and getting data

Instructor: Marco Túlio Pires

In this module you will learn how to:

- Find usable data online
- Assess sources of data
- Understand different data file formats
- Download the data

MODULE 2: Preparing data

Instructor: Marco Túlio Pires

In this module you will learn how to:

- Process and clean data
- Get the data ready to be analyzed and visualized
- Develop good practices in data processing

MODULE 3: Finding stories in data

Instructor: Minhaz Kazi

In this module you will learn how to:

- Identify potential insights in data sets
- Use free tools to conduct basic exploratory analysis

MODULE 4: Machine learning in data journalism

Instructor: Dale Markowitz

In this module you will learn how to:

- Identify what machine learning is and isn't
- See applications of machine learning in newsrooms
- Use these tools for investigative journalism

MODULE 5: Visualizing data

Instructors: Duncan Clark, Katherine Riley & Debra Anderson

In this module you will learn how to:

- Create visualizations that don't just consist of designing beautiful maps and charts, but that are understandable
- Understand essential visualization concepts, such as visual encodings
- Choose the right chart or map depending on the nature of the data and the messages it's meant to convey

MODULE 6: Data-driven storytelling

Instructor: Jan Diehm

In this module you will learn how to:

- Determine how storytelling fits into the broader data landscape
- Identify what makes a good data story, and what makes it relatable and memorable
- Identify the different shapes that data storytelling can take
- Embrace experimentation, with examples from The Pudding