

## **DATA JOURNALISM**

### **Undergraduate-Graduate Modul Program**

**Pınar Dağ - <https://khas.academia.edu/pinardag>**

#### **The aim of the course**

The [Data Journalism](#) course will present fundamentals of open /data collecting, gathering, cleaning, analysis, visualisation process and understanding FOIA. Data skills are getting more important to affect data driven works for media industry. In the developing Internet world; to understand and figure out how database journalism turns to data journalism; and as the future of journalism, to teach with open data disciplines how data became a strong role in transferring more efficient growing online resources, tools, and techniques. This course will also address common pitfalls in misinterpreting data.

#### **Course Content**

How Data is Used for Public Interest Stories  
How to Find a Story in Data  
Sector-Specific Data Stories  
Common Data Formats  
Finding Data Online  
Finding Open Data  
Alternative Data Sources (FOI)  
Planning a Data Story  
Enriching Stories With Data  
Analyzing Fact Sheets  
Organizing Data  
Verifying Data  
Summarizing and Simplifying Data Insights  
Essential Statistics  
Evaluating Data Interpretation  
Data Privacy  
Purpose of Data Visualization  
Matching Data and Graph Types  
Design and Color Basics  
Map Theory  
Ethics of Data Visualization  
Visual Storytelling  
Reaching your Audience  
Data Driven Interviews  
Anatomy of a Data Story  
Data-Driven Leads  
Data-Driven Writing  
Scraping  
Excel 1,2,3,4,5,6  
Cleaning  
Visualization 1,2  
Visualization 3 Tableau  
Mapping CARTO 2  
Tableau Dashboards 1

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| <b>Learning Outcomes of the Course Unit</b>  |
| Understand the history, current practice and likely impact of data journalism. Demonstrate the skills involved in accessing, analysing and curating data from publicly available sources, data collection. Work efficiently in teams and newsroom environments to produce data journalism packages. Demonstrate editing and production skills, online web tools, understanding technologies available to create online, interactive data-driven stories. Design basics, effective visual communication, and data visualisation. Understanding the development process for creating data stories and dealing with messy data. Freedom of Information Request and Understanding the Open Data. Learning techniques for Verification of Digital Content. Making Open Data Creation Practice. Understanding how to use Social Media Data and Analysis & Technical Development. Learning Extended Search Techniques during the solo and group projects. |

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| <b>Planned Learning Activities and Teaching Methods</b>  |
| Weekly course reading materials, use and try the tools before lecture and homework linked group, and solo projects practice and quizzes. |

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| <p><b>Course Sources / Sites / Books:</b></p> <p>Open Data Institute / <a href="http://theodi.org/">http://theodi.org/</a><br/> School of Data / <a href="http://schoolofdata.org/">http://schoolofdata.org/</a><br/> Getting Started with Data Journalism<br/> /Writing data stories in any size newsroom<br/> /by Claire<br/> Miller/<a href="https://leanpub.com/datajournalism">https://leanpub.com/datajournalism</a><br/> Data Journalism HandBook /Edited by<br/> Jonathan Gray,Lilliona Bounegry and Lucy<br/> Chambers<br/> /<a href="http://datajournalismhandbook.org/">http://datajournalismhandbook.org/</a><br/> Data Journalism Heist /by Paul<br/> Bradshaw<a href="https://leanpub.com/DataJournalismHeist">https://leanpub.com/DataJournalismHeist</a><br/> Gazeteciliğin Geleceği: Veri<br/> Gazeteciliği-Pınar Dağ<br/> <a href="https://docs.google.com/document/d/1ueHN_Svev8C5FRf9c-wwfoTrdbTLfrRPYakpphC_Oj2Ig/edit">https://docs.google.com/document/d/1ueHN_Svev8C5FRf9c-wwfoTrdbTLfrRPYakpphC_Oj2Ig/edit</a><br/> Finding Stories in Spreadsheets<br/> <a href="https://leanpub.com/spreadsheetsstories">https://leanpub.com/spreadsheetsstories</a></p> <p><b>Tüm Boyutlarıyla İnternet Haberciliği</b><br/> <a href="http://www.verigazeteciligi.com/verigazeteciligi-bolumunun-de-yer-aldigi-tum-boyutlariyla-internet-haberciligi-kitabi-cikti/">http://www.verigazeteciligi.com/verigazeteciligi-bolumunun-de-yer-aldigi-tum-boyutlariyla-internet-haberciligi-kitabi-cikti/</a></p> | <p><b>Course Sources / Sites / Books:</b></p> <p><b>AVVG</b><br/> <a href="http://www.avvg.org.tr/yazilar/94-acik-veri-ve-veri-okuryazarligi-egitimleri%C2%A0herkesin-erisimine-acildi.html">http://www.avvg.org.tr/yazilar/94-acik-veri-ve-veri-okuryazarligi-egitimleri%C2%A0herkesin-erisimine-acildi.html</a></p> <p><b>Data Journalism: Inside the global future</b><br/> <a href="http://www.slideshare.net/mrdamian/data-journalism-inside-the-global-future">http://www.slideshare.net/mrdamian/data-journalism-inside-the-global-future</a><br/> <a href="https://www.amazon.co.uk/d/Books/Data-Journalism-Inside-global-future-Tom-Felle/1845496639">https://www.amazon.co.uk/d/Books/Data-Journalism-Inside-global-future-Tom-Felle/1845496639</a><br/> Data Journalism: Mapping the Future<br/> <a href="http://www.abramis.co.uk/books/bookdetails.php?id=184549616">http://www.abramis.co.uk/books/bookdetails.php?id=184549616</a></p> <p>Scraping for Journalists<br/> <a href="https://leanpub.com/scrapingforjournalists">https://leanpub.com/scrapingforjournalists</a></p> <p><b>NUMBERS IN THE NEWSROOM: USING MATH AND STATISTICS IN NEWS, SECOND EDITION, E-VERSION</b><br/> <a href="http://store.ire.org/products/numbers-in-the-newsroom-using-math-and-statistics-in-news-second-edition-e-version">http://store.ire.org/products/numbers-in-the-newsroom-using-math-and-statistics-in-news-second-edition-e-version</a><br/> <a href="https://docs.google.com/presentation/d/1O73PpejZOwN6WRehN-pH2IWAdoYfx4iCgOLQBJdj3Gg/edit#slide=id.g1b7278b63f0_96">https://docs.google.com/presentation/d/1O73PpejZOwN6WRehN-pH2IWAdoYfx4iCgOLQBJdj3Gg/edit#slide=id.g1b7278b63f0_96</a></p> |
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| <p><b>Tools used</b><br/> <a href="#">Excel</a><br/> <a href="#">Import.io</a> / <a href="#">Web Scraper</a><br/> <a href="#">Tabula</a><br/> <a href="#">Google Fusion tables</a><br/> <a href="#">Google Spreadsheet Charts</a></p> | <p><b>Grading</b></p> <p>Attendance / Participation 20%<br/> Practice/Exercise 10%<br/> Project (Assignment) 20%<br/> Homework Assignments 15%</p> |
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| <a href="#">Infogr.am</a><br><a href="#">R</a><br><a href="#">OpenRefine</a><br><a href="#">Tableau Public</a><br><a href="#">Google Drive</a><br><a href="#">Openoffice</a><br><a href="#">Adobe Reader</a><br><a href="http://blog.cartodb.com/">http://blog.cartodb.com/</a> | <p>Extra-Class Activities (Reading, Individual Work, etc.) 15%</p> <p>Final Exam 20%</p> <p>Grade is determined by participation, completion of all solo homework assignments &amp; completion of the two major team assignments. Assignments will be evaluated in terms of use of data, online web tools, story, context, design.</p> <p>Grades for each major assignment are further broken down as follows:</p> <p>Pitch (25%)<br/> Storyboard (12.5%)<br/> Draft (25%)<br/> Final (25%)<br/> Revision (12.5%)</p> |
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## Course Schedule

| Week           | Theme   | Info   |
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| <b>Modul 1</b> | <b>Basic Data Concepts</b><br>Lesson 1: What is data, what are types<br>Lesson 2: International Data<br>Lesson 3: National Data<br>Lesson 4: Civil Data: Social Media, Mass Source<br>Lesson 5: Case Studies: Turkey<br>Lesson 6: Example: Tips & Tools | - Introductions<br>Read this piece:<br><a href="http://www.holovaty.com/writing/fundamental-change/">http://www.holovaty.com/writing/fundamental-change/</a><br>Github.<br>Spreadsheets, part 1: Structuring your data. Why it matters |
| <b>Modul2</b>  | <b>Data Research Techniques</b><br>Lesson 1: Effective Data Research Methods<br>Lesson 2: Data Collection and Validation Methods<br>Lesson 3: Working with the "Data Biography" Template  | Making research practice according to data formats before lesson   |

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|                | <p>Lesson 4: Importance of data filtering skill from the databases</p> <p><b>(Exercise)</b></p>   |  |
| <b>Modul 3</b> | <p><b>Data Cleaning</b></p> <p>Lesson 1: Data Cleaning and Ethics</p> <p>Lesson 2: Definition of Messy Data</p> <p>Lesson 3: Messy Data Cleaning with Open Refine</p> <p>Lesson 4: Using Github</p> <p>Lesson 5: Uploading data into Github</p> <p><b>(Exercise)</b></p>  | <p>Open refine, read</p> <p><a href="http://kwantu.net/blog/2016/12/28/how-to-clean-up-messy-data-using-open-refine">http://kwantu.net/blog/2016/12/28/how-to-clean-up-messy-data-using-open-refine</a></p>                      |
| <b>Modul 4</b> | <p><b>Data Literacy, MetaData, Open Data</b></p> <p>Lesson 1: What is Open Data</p> <p>Lesson 2: What is Open Gov. Data</p> <p>Lesson 3: Open Data Index</p> <p>Lesson 4: Open Data Practice: Turkey</p> <p>Lesson 5: Data Literacy Rationale, who is data literate?</p> <p>Lesson 6: How metadata should be?</p> <p><b>Exercise   Open Your Data</b></p> | <p><a href="http://opendatahandbook.org/guide/en/">opendatahandbook.org/guide/en/</a></p> <p><a href="http://opendefinition.org/">http://opendefinition.org/</a></p> <p><a href="http://www.avvg.org.tr">www.avvg.org.tr</a></p> |
| <b>Modul 5</b> | <p><b>Effective Utilization Methods from FOI</b></p> <p>Lesson1:What is FOIA? How it is working in Turkey? And globe?</p> <p>Lesson2: Shared data types and formats from FOIA ( CSV focused)</p> <p>Lesson3:FOI tools and sample reviews</p> <p>Lesson4:Making FOI request</p> <p><b>(Exercise)</b></p>   | <p><a href="https://www.whatdotheyknow.com/">https://www.whatdotheyknow.com/</a></p> <p><a href="https://www.bimer.gov.tr/">https://www.bimer.gov.tr/</a></p>  |
| <b>Modul6</b>  | <p><b>Thinking Like a Data Journalist</b></p> <p>Lesson 1: What is Data Journalism</p> <p>Lesson 2: Who Should Be a Data Journalist?</p> <p>Lesson 2: Data Journalism Sites and Data Journalists</p> <p>Lesson 3: Examples   Award-winning</p>  | <p><a href="https://www.datajournalismawards.org/">https://www.datajournalismawards.org/</a></p>   |

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|                | Data Journalism Projects<br><b>(Exercise)</b>  |   |
| <b>Modul7</b>  | <b>What is Good / Bad Data</b><br>Lesson 1: Reviewing and Creating Data Sets<br>Lesson 2: Building Good Data<br>Lesson 3: Bad Data Set Review and importance of structured data<br>Assignment  Please structure your data<br><b>(Exercise)</b>   | <a href="https://github.com/Quartz/bad-data-guide">https://github.com/Quartz/bad-data-guide</a>   |
| <b>Modul8</b>  | <b>Data Analysis and Interpretation</b><br>Lesson 1 - Data Analysis by using Excel and PivotTable<br>Lesson 2: Data Scraping from PDF and Web<br>Assignment Analyze Your data<br><b>(Exercise)</b>   | <a href="http://tabula.technology/">http://tabula.technology/</a><br><a href="https://data-miner.io/">https://data-miner.io/</a><br><a href="http://www.firstpythonnotebook.org/prerequisites/cli.html">http://www.firstpythonnotebook.org/prerequisites/cli.html</a>   |
| <b>Modul9</b>  | <b>Statistics for Journalists</b><br>Lesson 1. Basic Statistics for Everyone<br>Lesson 2. Measuring Central Tendency<br>Lesson 3. Distribution / Measuring Differentiation<br>Basic Statistics and Practices in Excel<br><b>(Exercise)</b>   | <a href="http://journalistsresource.org/tip-sheets/research/statistics-for-journalists">http://journalistsresource.org/tip-sheets/research/statistics-for-journalists</a><br><a href="http://www.avvg.org.tr">www.avvg.org.tr</a>   |
| <b>Modul10</b> | <b>Data Visualization Principles</b><br>Lesson 1: How to Visualize Data<br>Lesson 2: Data Visualization Rules<br>Lesson 3: Data Visualization Elements<br>Lesson 4: Data Visualization Color<br>Lesson 5: Matching Data and Graph Types<br>Lesson 6: Design and Color Basics<br>Lesson 7: Map Theory<br>Lesson:8 Ethics of Data Visualization<br><b>(Exercise)</b> | <a href="https://www.fusioncharts.com/whitepapers/downloads/Principles-of-Data-Visualization.pdf">https://www.fusioncharts.com/whitepapers/downloads/Principles-of-Data-Visualization.pdf</a><br><a href="http://paldhous.github.io/ucb/2016/dataviz/week2.html">http://paldhous.github.io/ucb/2016/dataviz/week2.html</a><br><a href="https://datavizcatalogue.com/">https://datavizcatalogue.com/</a><br><a href="http://www.avvg.org.tr">www.avvg.org.tr</a> |

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| <b>Modul11</b> | <b>Data Visualization</b><br>Lesson 1: Purpose of Data Visualization<br>Lesson: Using spreadsheet for making graphics (Line, Bar, Pie-Population Pyramid)<br>Lesson 2: GIS, Mapping with Fusion Table<br>Lesson 3: Techniques for Creating Effective Infographics<br>Assignment   Visualize your data<br><b>(Exercise)</b> | <a href="http://www.creativebloq.com/design-tools/data-visualization-712402">http://www.creativebloq.com/design-tools/data-visualization-712402</a>   |
| <b>Modul12</b> | <b>R for Data Journalism</b><br>Lesson 1- Introduction to R<br>Lesson 2-RStudio program setup<br>Lesson 3: Data visualization examples<br>R<br><b>(Exercise)</b>   | <a href="https://rddj.info/">https://rddj.info/</a>   |
| <b>Modul13</b> | <b>Story Telling with Data</b><br>Lesson 1: Using Data for breaking news<br>Lesson 2: Story Telling with Data<br>Lesson 3: Visual Storytelling<br>Lesson 4: Reaching your Audience<br>Lesson 5: Data Driven Interviews<br>Lesson 6: Anatomy of a Data Story, Data-Driven Leads, Data-Driven Writing<br><b>(Exercise)</b>   | <a href="https://www.journalism.co.uk/news/-nicar2016-3-tips-for-using-data-for-breaking-news/s2/a618607/">https://www.journalism.co.uk/news/-nicar2016-3-tips-for-using-data-for-breaking-news/s2/a618607/</a> |
| <b>Modul14</b> | WORKING ON FINAL PROJECT<br>CLASS PRESENTS FINAL PROJECT   | <a href="http://www.verigazeteciligi.com/?s=solo+project">http://www.verigazeteciligi.com/?s=solo+project</a>   |
| <b>Modul15</b> | FINAL EXAM   |   |