<center>**Proposal for Training Courses**</center>

Instructor(s)

Dr. Amelie Dorn – University of Vienna (AT)

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Duration: 16 classroom hours (each unit 50 minutes; distributed over 4 weeks)

Learner level: Undergraduate & Graduate

I. Title

Introduction to Data-driven Research Methodologies for Digital Humanities: frameworks, practices & applications

II. Introduction and justification

This course aims to give students a theoretical as well as practical introduction to general frameworks data-driven projects in a Digital Humanities context. Generally speaking, a data-driven approach is when decisions and research questions are based on the inspection, analysis and interpretation of a particular set of data rather than on anecdotal judgements and observations. One of the larger aims of data-driven projects is the process of collecting and analysing data in order to derive insights and propose solutions for a defined challenge or general problem. In the field of Digital Humanities, data-driven research is particularly interesting as it allows not only to apply a variety of data processing tools, but also to gain insights into aspects of complex data, often hidden or unexplored. Data-driven as opposed to hypothesis-driven research has become an important way of conceptualising research projects nowadays, not only in academia but also across other sectors including business, finance, etc. With the ever-increasing amount of big data that has also become a popular source for academic research purposes, understanding the basics for implementing data-driven research projects in an academic context, and particularly in the Digital Humanities has become a key objective for any student. While in the social sciences research has typically been done based on a hypothesis-based approach, dealing with a data-driven approach requires not only a different way how the data is accessed, collected and inspected, but also a different way how it is stored, processed and interpreted.

In this course, we will start with a general introduction to larger frameworks, such as Responsible Research and Innovation (RRI) [*Investigação e Inovação Responsáveis*], the Sustainable Development Goals (SDGs) [*Objetivos de Desenvolvimento Sustentável (ODS)]* and the Environmental, Social and Governance (ESG) Goals [*Critérios ISR (Ambiente, Sociedade e Governação Empresarial)*]], in which data-driven projects can be embedded. In addition, students will be introduced to different sources of Open data; examples of data-driven Digital Humanities projects; as well as to methods for planning a scientific research project. We will also have hands-on sessions in which we will work with different canvases for a) prototyping a project idea and b) implement some basic elements in an IDE using the Python Programming Language.

III. Objectives in research and teaching activities

This course has the following objectives:
- Introduce students to larger frameworks in which data-driven Digital Humanities projects can be developed
- Introduce students to examples of data-driven Digital Humanities projects
- Provide students with typical structures and methods used to plan and develop a scientific data-driven research project
- Provide students with a broad basis and understanding of open data and open data sources
- Develop skills to ideate and prototype their own data-driven research projects
- Develop a basic understanding of coding IDEs for the humanities and their application for managing a data-driven project
- Support an active, collaborative, and inclusive learning environment.

The course includes the following teaching activities:
- Lectures on frameworks and larger initiatives
- Seminar-style interactions for project ideation and prototyping
- Hands-on sessions for creating basic data processing environments

At the end of this course students will be able to:
- Understand the differences between a data-driven approach and a hypothesis-driven research approach

- Understand the basic structure of ideating a data-driven scientific research project
- Critically evaluate different phases of planning a project
- Understand how to prototype a research project

IV. Research methodologies to be addressed

The following research methodologies will be addressed:

- Data-driven research methodologies
- Social Innovation tools & canvases (brainstorming, ideation, problem definition, personas)
- Basic introduction to IDEs and the Python Programming Language

V. Work Plan

The following work plan shows the devised lectures and seminar sessions for both graduate and undergraduate students

Classroom Hours (à 50mins)	Week	Topic	Format	Instructor(s)
1	1	Introduction & Course outline	Lecture	Amelie Dorn
2	1	Frameworks I: SDGs, GLGs, ESGs, RRI & Citizen Science	Seminar	Amelie Dorn
3				
4	1	Frameworks III: Open Data & Data management	Seminar	Amelie Dorn
5				
6	2	Frameworks II: DDL & data literacy	Seminar	Amelie Dorn
7	2	Practices I – DH projects using data-driven methodologies	Seminar	Amelie Dorn
8				
9	2	Practices II – Methodologies for project planning	Seminar	Amelie Dorn
10	3	Prototyping I: Ideation, Problem definition & Personas	Seminar	Amelie Dorn
11				
12				
13	4	Prototyping II: Python basics & Processing environments	Seminar	Amelie Dorn, Renato Rocha Souza
14				
15	4	Presentation of student's project ideas & Wrap-up	Seminar	Amelie Dorn
16				

VI. References

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