Department of Cultural Studies

General information	
Name of the course	Programing in Humanities
Course instructor	**Benedikt Perak**
Study programme	Graduate study programme in Cultural Studies
Status of the course	Elective
Year of study	3rd
ECTS credits and manner of instruction	5
	Number of class hours (Lectures + Exercises + Seminars) 30+0+15

1. COURSE DESCRIPTION

1.1. Course objectives

This course introduces participants to humanities programming using Python for data acquisition, processing, and analysis with a goal to enrich the qualitative research in various humanities and social science topics. The course assumes no prior programming knowledge and will focus on accomplishing basic research tasks. The course discuses programming concepts through the design, implementation, and presentation of small projects working with humanities data. Students should finish the course feeling equipped to tackle a variety of typical problems in the digital era of humanities research.

Primary technologies and topics covered in this course will involve working in the browser based Colab Jupyter Notebook and Python; working with Python packages for data science, visualisation, and image processing, as well as data sources such as API's, CSV, EXCEL files, and data scraped from the web; and basic text analysis.

1.2. Course enrolment requirements and entry competences required for the course

No prior knowledge is required

1.3. Expected course learning outcomes

After passing the course, students will be able to:

Explain what programming is and what the Python programming language is; use one of the editors to write programs in the Python programming language. Describe different data types, variables, data containers, classes and functions and use them in specific programs. Explain how program flow control commands (branching, loops) work and use them in specific programs. At an advanced level to handle functions for processing text (string) data, regular expressions, dictionaries and create algorithms for their processing. Create functions. Handle file handling features. Use ready-made Python programming modules. Use NLP Natural Language Processing tools and resources. Use and develop programs for

retrieving, processing and visualizing data. Apply the Python programming language to develop an interactive application.

1.4. Course content

Python programming and programming language
- Data types, variables and operators
- Program flow control (branching, loops)
- Text (string) data processing
- Data containers (lists, strings, dictionaries)
- Working with files
- Object Oriented Programming, Classes and Objects
- Preparation, loading and storage of different types of data (CSV, TSV, JSON)
Application of acquired knowledge and skills:
- Tools for retrieving network texts (scraping) and data from the application programming interface (API)
- Tools and resources for natural language processing (NLP Natural Language Processing, Sentiment analysis, Named entity recognition, Digital stylistics)
- Data visualization
- Data modeling, corpus creation and knowledge base organization
- Interactive applications for text data processing
- Quantitative summarization, data classification, network analysis graph
- GEO Maping
Practical application through custom designed project

1.5. Manner of instruction

- ✓ Lectures
- ✓ Exercises
  Fieldwork
- ✓ Individual assignments
- ✓ Multimedia and network
- ✓ Mentorship
- ✓ Other: consultations