

DH-405

Foundations of digital humanities

Kaplan Frédéric

Cursus	Sem.	Type
Digital Humanities	MA1, MA3	Obl.
Digital Humanities		Opt.
Learning Sciences		Opt.
Managmt, tech et entr.	MA1, MA3	Opt.

Language of teaching	English
Credits	6
Session	Winter
Semester	Fall
Exam	During the semester
Workload	180h
Weeks	14
Hours	6 weekly
Lecture	4 weekly
Practical work	2 weekly
Number of positions	

Summary

This course gives an introduction to the fundamental concepts and methods of the Digital Humanities, both from a theoretical and applied point of view. The course introduces the Digital Humanities circle of processing and interpretation, from data acquisition to new understandings.

Content

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Week 1

Introduction to the course and Digital Humanities, structure of the course

Week 2

Introduction to the DH circle of processing and interpretation (acquisition, processing, analysis, visualisation, UX, interpretation). From data acquisition to new understandings.

Part I : Pipelines**Week 3**

Pipeline for Written documents (Printed and Handwritten). Transcription, Named Entities, Semantic modelling, Topic and Document modelling.

Week 4

Pipeline for Maps. Vectorization. Alignment. Homologous Points.

Week 5

Pipeline for Artworks photographs. Segmentation. Features detection. Detail search.

Week 6

Pipeline for 3D spaces. Photogrammetry. Diachronic realignment.

Part II : Algorithms**Week 7**

Algorithms for Document processing : Document analysis and Deep learning methods

Week 8

Algorithms for Knowledge modelling : Semantic web, ontologies, graph database, homologous points, disambiguation.

Week 9

Algorithms for Generative models and simulation : Rule-based inference, Deep learning based generation

Part III : Platform management

Week 10

Data Management : Computing infrastructure, Data Management models, Sustainability. Apps. Example of Wikipedia and Europeana.

Week 11

User Management : Representation, Rights, Traceability, Vandalism, Motivation, Negotiation spaces

Week 12

Bot Management : Versioning. Open source repositories.

Learning Prerequisites**Required courses**

Basic math

One programming course

Recommended courses

Bachelor Course in Digital Humanities (SHS, HUM-369)

Learning Outcomes

By the end of the course, the student must be able to:

- Explain the great transformations of Human and Social sciences
- Synthesize the contents of several articles
- Compare different types of research
- Identify the main trends of the domain

Transversal skills

- Take account of the social and human dimensions of the engineering profession.
- Summarize an article or a technical report.
- Demonstrate the capacity for critical thinking

Teaching methods

Lectures, exercises

Assessment methods

Collective project

2 oral presentations (30%)

Written deliverables (Wiki writing) (40%)

Quality of the project (30%)

Details on fdh.epfl.ch**Resources****Websites**

- <http://fdh.epfl.ch>

Moodle Link

- <https://go.epfl.ch/DH-405>