האוניברסיטה העברית בירושלים THE HEBREW UNIVERSITY OF JERUSALEM



# The Hebrew University of Jerusalem

Syllabus

## Foundations of Internet Research - 50040

Last update 13-03-2025

HU Credits: 3

Degree/Cycle: 2nd degree (Master)

**Responsible Department:** Communication & Journalism

Academic year: 0

Semester: 2nd Semester

<u>Teaching Languages:</u> Hebrew

Campus: Mt. Scopus

Course/Module Coordinator: Neta Kligler-Vilenchik

<u>Coordinator Email: neta.kv@mail.huji.ac.il</u>

Coordinator Office Hours: By appointment

Teaching Staff:

Prof. Neta Kligler-Vilenchik, Ms. Hadas Gur-Zeev

### Course/Module description:

The course deals with various aspects of internet research - theoretical, practical, ethical, and more. It addresses two main questions. The first question relates to understanding the internet as a whole and its unique characteristics. The second question examines how the internet can be used as a research tool for traditional research questions. How can data collected through the internet help us understand the world around us? This includes practical tools that have to do with data collection, data analysis, and data presentation. Thus, the course enables the exploration of online phenomena using contemporary online tools. At the beginning of the course, each student will choose a topic about which questions can be asked. This topic will guide students in exercises throughout the course.

### Course/Module aims:

The course presents how the internet can be used as a research tool, and also demonstrates how the internet itself can be researched. In addition to the lectures, the course has a very practical orientation, and students will acquire practical knowledge in using new tools.

Learning outcomes - On successful completion of this module, students should be able to:

At the end of the course, students will be able to recognize and gain experience with a variety of tools for internet research and research through the internet, such as:

- Understanding and analyzing the structure of the internet

- Analysis of social networks
- Visual data representation
- Using advanced search capabilities
- Using AI tools for internet research, and more.

<u>Attendance requirements(%):</u> 80

*Teaching arrangement and method of instruction: 1.5 hour lecture + 45 minute practical TA section.* 

Course/Module Content:

## Part A - The Internet as a Tool and Subject of Research

• Lesson 1 - Introduction to the course - The Internet as a tool and subject of research + topics / asking questions

• Section - Introduction + asking questions

Lesson 2 - What topics/questions can be asked and how they can be answered
Section - Working on questions that interest you / Internet as a tool (ngrams) and as a subject of research (pageviews analysis)

• Lesson 3 - History of the web, web history and archives - the preservation challenge

• Section - Archives and the Wayback Machine

## Part B - Collecting Data Through and About the Internet

- Lesson 4 Search engines, algorithms and biases
- Section Advanced search and Google Trends
- Lesson 5 Link analysis and link networks

• Section - Scraping

• Lesson 6 - Web structure and information collection methods (scraping vs. API)

Practice - Gephi

• Lesson 7 - Social networks and data collection from them

• Section- YouTube Data

## Part C - Data Analysis Through and About the Internet

- Lesson 8 Visualization
- Section YouTube Data + Gephi
- Lesson 9 AI tools for analysis
- Practice Notebook LLM

## Part D - Data Presentation

- Lesson 10 Research ethics and social biases
- Section- Preparation for summarizing and presenting data, voyer

• Lesson 11 - No frontal lesson due to ICA - Personal meetings with Hadas in preparation for presentations

- Lesson 12 Student presentations
- Lesson 13 Student presentations and course summary

### Required Reading:

See course Moodle page

<u>Additional Reading Material:</u> See course Moodle page

<u>Grading Scheme:</u> Essay / Project / Final Assignment / Home Exam / Referat 45 % Active Participation / Team Assignment 10 % Submission assignments during the semester: Exercises / Essays / Audits / Reports / Forum / Simulation / others 30 % Presentation / Poster Presentation / Lecture 15 %

Additional information: