

University of Haifa
Information and Knowledge Management
Information Retrieval (9:00 – 12:00)
Course number: 218.4030
Instructor: Ossi Mokryn
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Course Overview and Objectives

Information Retrieval is the activity of providing users content of an unstructured nature (usually text) that satisfies their information need.

The objective of this course is to provide students with the understanding of the fundamentals of this process, with an emphasis on content mining and classification.

Graduate of this course will have knowledge in

- IR basic models
- Evaluating IR systems
- Classification
- Text and opinion mining
- Ranking and visualization

Methodology

Lectures are given in Hebrew, using slides that are in English. The purpose is twofold: familiarize the students with the technical terminology, and with the style in the textbooks.

Lectures are supplemented by

- In-class discussions
- In-class exercises
- Homework

Grades

3 Homeworks (15% each): 45% (at the 1st, 3rd, 5th weeks)

Participation in class: 10%

Final Exam: 45%

Attendance policy is defined by the program's requirements

Homework

Submission is allowed and even encouraged *in pairs*, to promote collaboration between the students. Please do not split the work but rather work on it together. The final exam is given under the assumption you have thought yourself on each and every exercise given in the homeworks.

Submitting Homeworks:

All homeworks must be submitted via the Moodle system.

Math calculations must be submitted via Excel.

Final Exam

The exam will be in Hebrew, with technical words appearing in English if that is how they were taught during the course.

The exam will be open book, open notes.

The exam may include questions on anything that was mentioned -- by the lecturer, author, or student -- in any of the readings or lectures (in other words, *anything*).

Additional Materials (Optional)

1. An Introduction to Information Retrieval, Christopher D. Manning, Prabhakar Raghavan, and Hinrich Schütze. (An online draft exists in the web). Chapters 1, 6, 8, and 19.
2. [Web data Mining - Exploring Hyperlinks, Contents and Usage Data](#), By Bing Liu, Second Edition, Springer, July 2011, ISBN 978-3-642-19459-7. Chapters 5, 6,



and 11. If you follow the link you can get to Liu's [new book on sentiment analysis and opinion mining](#), out of which chapters 1, 2, and 3 are relevant.

3. [As we may think – Bush Vannevar, July 1945, The Atlantic](#). Chapter 6 in particular.

Schedule:

Date	Topic	Assignment
9/5/17	Introduction	Assignment 1
17/5/17	From unstructured text to weighted terms	
23/5/17	TFIDF	Assignment 1 due; Assignment 2
6/5/17	VSM	
13/6/17	Evaluation / Naive Bayes	Assignment 2 due; Assignment 3
20/6/17	Visualization (Dr. Joel Lanir); In class practice with Ronit Marco	
27/6/17	Naive Bayes	
4/7/17	Sentiment Analysis	Assignment 3 due