

**University of Haifa  
Information and Knowledge Management  
Information Retrieval (13:00 – 16:00)  
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

2 Homeworks (20% each): 40% (at the 4<sup>th</sup> and 7<sup>th</sup> weeks)  
Participation in class: 10%  
Final Exam: 50%  
Attendance policy is defined by the program's requirements

## Homework

All homeworks are graded on a pass/fail basis. If you 'pass', you get full marks, i.e. 100 points. If you 'fail', you get 15 points off your grade for that homework, and you may re-submit again within 7 days. This continues until you pass. So, if you pass the first time, you get 100 points. If you pass the second time, you get 85 points. And so on.

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.

## 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
13/10/15	Introduction
20/10/15	From unstructured text to weighted terms
27/10/15	VSM
3/11/15	Evaluation
10/11/15	Classification
17/11/15	Sentiment Analysis
24/11/15	Web Search: from indices to ranking
1/12/15	Visualization