



Course program and reading list

Semester 1 Year 2019

School: Arison School of Business B.A

foundations of data science for business

Lecturer:

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Teaching Assistant:

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Course No.:	Course Type :	Weekly Hours :	Credit:
2385	Lecture	3	3

Course Requirements :	Group Code :	Language:
Final Exam	191238501	Hebrew



Course Description

The course introduces the fundamental ideas of data science, the data-analytical thought process, and illustrates various ways of applying data science in the business context. Through the above, it facilitates developing an understanding of potential routes for extraction of business information, insight and and value from data.

The course utilizes business-domain examples to illustrate the key ideas and thereby also introduce some of the most commonly used methods in the field. Through these, the student learns how data science methods can be employed to support the business decision-making process.

class 1

- introduction: data-analytic thinking
- from business problems to data science solutions - part I

class 2

- from business problems and data science solutions - part II
- introduction to predictive modeling - from correlation to supervised segmentation - part I

class 3

- introduction to predictive modeling - from correlation to supervised segmentation - part II

class 4

- fitting a model to data

class 5

- issues in modelling: overfitting (variance), underfitting (bias) and their avoidance

class 6

- finding similarities - neighbors and clusters

class 7

- decision-analytic thinking I - what is a good model?

class 8

- visualizing model performance
- probabilities and evidence - probabilistic modelling approaches

class 9

- extracting information from textual data - representing and mining text

class 10

- decision analytic thinking II - toward analytic engineering

class 11

- addendum - additional data-science techniques
- data science and business strategy

class 12

- conclusion



Course Goals

Develop a solid understanding of the core ideas behind data-science and the data-analytical thought process; become acquainted with some of the most commonly used data-science methods and the process of applying data science tools in the business

context. Understand application of data science for extraction of business information, insight, and value from data.

Allow a smooth transition into more technical courses (in year 2 and 3) that rely on notions presented here.

Grading

Final exam: 70%; home assignments: 30%

In total, there are 14 assignments in the course (divided into 11 installments). To be graded, an assignment needs to be submitted by its designated deadline. Assignments not submitted in time will be regarded as not-submitted and will not be graded. To be entitled to take the exam, each participant is required to submit a minimum of 10 (out of the 14) assignments.

Lecturer Office Hours

Mondays, 9 to 12

I'm at the campus daily and am happy to meet when I'm not teaching or in a meeting.

Additional Notes

The meetings focus on addressing selected topics from the reading material and answering related questions. Students are required to read the relevant material for each class in advance (that is, before the class starts).

Reading List

All reading material is available on the course **Moodle** page: <http://moodle.idc.ac.il/2019/course/view.php?id=1900517>

Students are required to read the relevant material for each class **in advance** (that is, before the class starts). The class itself focuses on addressing selected topics from the reading material and answering related questions.

The course is based on **Data Science for Business** by Foster Provost and Tom Fawcett. The book may serve as a helpful reference and for enrichment.