



Course program and reading list

Semester 2 Year 2021

School: Adelson School of Entrepreneurship B.A

Data Science Implementation for Entrepreneurs

Lecturer:

Dr. Gail Gilboa Freedman gail.gilboa@runi.ac.il

Tutors:

Mr. Pecani Efraim efraim.pecani@post.runi.ac.il

Teaching Assistant:

Mr. Pecani Efraim efraim.pecani@post.runi.ac.il

Course No.:	Course Type :	Weekly Hours :	Credit:
26006	Lecture	3	3

Course Requirements :	Group Code :	Language:
Final Paper	212260069	Hebrew

Prerequisites

Students who took one of the courses listed below will not be allowed to register to the course Data Science Implementation for Entrepreneurs (26006):

3078 - Data Science- group 1

3411 - Data Science Implementation for Entrepreneurs

"Information is the resolution of uncertainty." Claude Shannon, the father of Information Theory.

Indeed, information is a key business asset, and data analytic skills are crucial for solving many business problems.

This course serves as an introduction to Data Science. It covers selected methods for converting data sets into valuable information, including Evolutionary Optimization, Kmeans, Naïve Bayes, Decision Tree. It will also deal with important soft skills such as effective data visualization, and storytelling with data.

To make the learning contextual, we will apply these methods for business cases and real industrial data.

The lecturer:

Dr. Gail Gilboa Freedman

gail.gilboa@idc.ac.il

[Gail's homepage](#)

[Gail's LinkedIn](#)



Course Goals

Getting familiar with selected algorithms, along with their applications to business problems.

Learning how to "think data" for the purpose of making better decisions on business actions.



Grading

Assignments - 60% (individual)

Final Project - 40% (teams of 4)

Up to 5 point may be added to your final grade, by submission of the additional tasks in Python.

The assignments:

All assignments are mandatory, and submitted via the Moodle platform. The grades are in the scale of 0-100.

1. Alignment with Excel (15%)

Learning by practice exercise, including 3 parts: basic commands; Pivot; Solver.

2. Kmeans (15%)

Application of the algorithm to a problem of clustering.

3. Naïve Bayes (15%)

Application of the algorithm to a problem of classification.

4. Decision Tree (15%)

Application of the algorithm to a problem of classification.



Learning Outcomes

At the end of this course, you will be able to:

- Apply Machine Learning algorithms for solving business problems.
 - Use Excel for solving clustering and classification problems.
 - Explain the data analysis cycle from formulating a business problem to evaluating a proposed solution.
 - Describe what data science is, and the skill sets needed for a data scientist.
 - Prepare effective data presentations.
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Lecturer Office Hours

By appointment



Tutor Office Hours

TBA



Teaching Assistant

Jonathan.Landau@post.idc.ac.il



Additional Notes

Attendance Requirements:

- Open camera
- You may miss up to 3 classes.

Tutorials:

1. Excel basics (and perpetration for HWA#1)
 2. Kmeans (and perpetration for HWA#2)
 5. Summary of material learnt so far
 3. Naïve Bayes practical example (and perpetration for HWA#3)
 4. Decision tree practical example (and perpetration for HWA#4)
 6. Preparation for the final project
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**Reading List****Algorithms:**

- KM: Tan, Steinbach, Karpante, Kumar, Introduction to data mining, chapter 8
- NB: Foster and Fawcett, Data Science for Business, chapter 9.
- DT: Tan, Steinbach, Karpante, Kumar, Introduction to Data Mining, chapter 4

Tools:

- Excel: define and solve problems by using [Excel solver](#)
- Python: [datacamp python-for-data-science](#)

Platforms:

- Gephi: [gephi documentation](#)
- BigML: [bigml documentation](#)