

**School:** School of Sustainability Founded by Israel Corp. ICL

## Introduction to Geographic information systems

**Lecturer:**

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**Teaching Assistant:**

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Course No.:	Course Type :	Weekly Hours :	Credit:
2420	Lecture	2	2

Course Requirements :	Group Code :	Language:
Exam	201242002	English

**Prerequisites**

**Prerequisite:**

689 - Principles Of Statistics

690 - Principles Of Statistics **OR** 9009 - Statistics I for Economics

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## Course Description

Geographic information systems (GIS) are found everywhere: these are the technologies and digital systems that power daily consumer services such as online maps, navigation systems, and location-aware apps. They are furthermore at the core of all modern location-related work, including city planning, land use, traffic, ecology, agriculture, and disaster management.

GIS is used extensively in commercial, academic, governmental, and non-profit environments, and so is a critical skill for the sustainability community.

In this course students learn the fundamentals of Geographic Information Systems (GIS). Students will acquire experience with GIS through hands-on practice with the various GIS applications, including mobile phone-based platforms, Google Earth, and the professional-level ArcGIS application in the computer lab.

Students will practice hands-on GIS in and outside the computer lab using examples and case studies from various fields, including environment, society, urban studies, history, and so on.

Among the terms and concepts covered in the course are: mapping, data layers, databases, projections and coordinate systems, data input from various sources, metadata, georeferencing, geoprocessing, ArcGIS tools, querying, and analysis of spatial data.

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## Course Goals

Spatial analysis skills (and GIS in particular) are crucial in the strive towards sustainability. By the end of the course, students will:

- Become familiar with *spatial thinking*.
- Be able to gather, organize, modify, present and communicate information through static and interactive maps.
- Acquire the fundamentals of usage of various well-known GIS software and platforms,

including the ESRI ArcGIS suite of applications.

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## Grading

40% Final exam (in the computer lab)

50% Personal assignments

10% Attendance

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## Lecturer Office Hours

Monday, 15:45 (immediately after class). Either in the computer lab or in the lecturer's office, room SL405 on the 2nd floor of the Sustainability & Law building. Please send an email to [tomér.fishman@idc.ac.il](mailto:tomér.fishman@idc.ac.il) beforehand.

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## Teaching Assistant

Ms. Hema Peswani, [hemavigail@gmail.com](mailto:hemavigail@gmail.com) 054-7417600

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## Reading List

As a hands-on course, we will be using various software, data sources, tutorials and exercises, and on-line documentation.

The following two books cover many of the topics of the course, and we will be using some tutorials and contents from them in class.

- **Getting to Know ArcGIS Desktop Updated for ArcGIS Desktop 10.6 edition** (2018) by Michael Law and Amy Collins. Esri Press.
- Ormsby, Napoleon, Burke, Groessl, and Bowden, 2010, ***Getting to Know ArcGIS***, 2nd edition, ESRI Press.