האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

Geoinformatics A - 40107

Last update 20-08-2018

HU Credits: *4.5*

Degree/Cycle: *1st degree (Bachelor)*

Responsible Department: *Geography*

Academic year: *0*

Semester: *1st Semester*

Teaching Languages: *Hebrew*

Campus: *Mt. Scopus*

Course/Module Coordinator: *Prof Noam Levin*

Coordinator Email: *noamlevin@mail.huji.ac.il*

Coordinator Office Hours: *Wednesday 10:00 – 11:00*

Teaching Staff:

Prof Noam Levin
Mr.
Mr. Lavi Miednik

Course/Module description:

The module is designed to introduce students to basic concepts of cartography and proper usage of maps. Mathematical and geodetic background of mapmaking, development of cartographic techniques, different sources of data acquisition, mapping in the digital age: remote sensing, geographic information systems, web mapping and Big Data. The course is composed of lectures, exercises and field trips. The course will also teach students how to use Excel.

Course/Module aims:

Acquiring knowledge in map usage, ways of presenting geographic information on maps, understanding of basic meanings of the map as a medium for communication and developing skills for critical map reading, mapping in the digital age: remote sensing, geographic information systems, web mapping and Big Data, and using Excel

Learning outcomes - On successful completion of this module, students should be able to:

- determine coordinates from the map
- recognize basic map projections
- calculate height, length, areas, scale from map
- distinguish topographic relief features
- analyze visibility
- differentiate between geographic information and its representation
- use Excel for mathematical calculations, analyzing data-sets and creating charts
- Basic geodetic calculations
- Understanding map projections, and how to use them for mapping
- Update OpenStreetMap

Attendance requirements(%):

None

Teaching arrangement and method of instruction: Lectures
Exercises
Tours
Reports

Course/Module Content:

- Definitions of geography, cartography and map
- Basics topography.
- Basics of projections.
- Measurement methods and basic geodesy
- Scale choice and generalization.
- Aerial and satellite imagery
. - GIS (GIS) and Cartography.
- Israel mapping and projections
- Thematic maps.
- Representation of geographic information.
- Analysis of geographic patterns from maps.
- Interactive cartography on the Web.

Required Reading:

To be announced

Additional Reading Material:

ד. גביש, פענוח תצלומי אויר, בתוך: נ. קדמון וא. שמואלי (עורכים), מפות ומיפוי, תל אביב 1982, עמ' 61-71.

Jones Y., (l973) 'British Military Surveys of Palestine and Syria l840- l84l'. The Cartographic Journal, Vol. l0 No. l, pp. 29-4l.

ה. בירגר, טופוגרפיה, הקיבוץ המאוחד, מהדורה ו', 1978.
ישראל טאובר, צעדים כפולים, 2011, מדריך מפה לניווט,

מ. אבי יונה, "מפת מידבא - תרגום ופירוש". ארץ ישראל, כרך ב', (ספר זלמן ליף) עמ' 129-156.
מ. פרומין, ר. רובין, ד. גביש, על מפה רוסית של מפרץ חיפה (1772), קתדרה, 107 (אפריל 2003), עמ' 155-166.
ד. צביאלי א. גלילי, ב. רוזן, נמל עכו במפות ימיות מודרניות, אופקים בגאוגרפיה, 56 (2003), עמ' 62-77.

Kalner (Amiran) D.H., 'Jacotin's Map of Palestine Surveyed During Napoleon's Campaign in l799'. PEQ l944, pp. l57-l63.
Karmon Y., 'An Analysis of Jacotin's Map of Palestine', IEJ, Vol. l0 (l960) pp. l55-l73; 244-253.
Monmonier, Mark S. (1996). How to Lie With Maps, Chicago.
Shirley, Rodney W., (1984) The mapping of the world: early printed world maps, 1472-1700, London
Slocum, T. et al. (2010). Thematic Cartography and Geovisualization, 3rd ed., Upper

Saddle River, NJ

Robinson, A.H.M. et al., (1995) Elements of Cartography, (6 Edition), New York
Crampton, J.W. (2010) Mapping: a Critical Introduction to Cartography and GIS. Oxford.
Dent, B.D. (2009) Cartography: Thematic Map Design. (6th edition). New York :
Imhof E., (1982) Cartographic Relief Presentation, Walter de Gruyter, Berlin – New York

Course/Module evaluation:

End of year written/oral examination 50 %
Presentation 0 %
Participation in Tutorials 0 %
Project work 0 %
Assignments 40 %
Reports 10 %
Research project 0 %
Quizzes 0 %
Other 0 %

Additional information:

there are two obligatory excursions