



The Hebrew University of Jerusalem

Syllabus

INTRODUCTION TO REMOTE SENSING OF VEGETATION - 71304

Last update 13-09-2020

HU Credits: 3

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: Plant Science in Agriculture

Academic year: 0

Semester: 1st Semester

Teaching Languages: Hebrew

Campus: Rehovot

Course/Module Coordinator: Dr. Ittai Herrmann

Coordinator Email: Ittai.Herrmann@mail.huji.ac.il

Coordinator Office Hours: By appointment

Teaching Staff:

Dr. ittai herrman,
Mr.

Course/Module description:

This is a theoretical course that introduces remote sensing while focusing at vegetation. The course integrates hands on ENVI software (designated for hyperspectral imagery) computer assignments to develop software skills as well as support the theory.

Course/Module aims:

to introduce remote sensing methods, sensors and applications of vegetation (focus on agricultural) and develop capability to analyze spectral data of vegetation.

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

- + Describe remote sensing methods and sensors.
- + Select the relevant tools and methods for sensing vegetation.
- + Use ENVI to pre-process and analyze spectral data.

Attendance requirements(%):

No restriction, it is recommended to join all classes and assignments.

Teaching arrangement and method of instruction: based on the current condition, this semester:

Lesson - online

Assignments- online

Exam - online

Course/Module Content:

- + Introduction and basic terms
- + Physical background
- + Pre-processing (radiometric, geometric and atmospheric)
- + Variety of sensors and their applications
- + Nano-satellites and Radar

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- + *Spectral signature of vegetation*
 - + *Vegetation indices*
 - + *Classification*
 - + *Thermal sensing for sensing vegetation*
 - + *Drones as a tool for plant sensing*
 - + *remote sensing in the eyes of the industry*

Required Reading:

Will be provided during the course

Additional Reading Material:

Course/Module evaluation:

End of year written/oral examination 60 %

Presentation 0 %

Participation in Tutorials 0 %

Project work 0 %

Assignments 40 %

Reports 0 %

Research project 0 %

Quizzes 0 %

Other 0 %

Additional information:

Assignments 40 % (30% all assignments + 10% concluding assignment)