Remote Sensing of Desert and Desertification Processes - Prof. Arnon Karnieli

1-2-4040 (3 credits). **Syllabus:**

Aim: The course provides the students with advance understanding of remote sensing applications for drylands and related desertification and climate change processes.

Pre-requisite: Introduction to remote sensing

Student evaluation: quizzes (50%), final written assignment (25%), presentation (25%).

Main topics:

1. Definitions of desert and desertification related to remote sensing;
2. NOAA-AVHRR based models;
3. The Sahara-Sahel environment;
4. The Negev Desert studies;
5. Droughts;
6. Change detection;
7. Geostatistics;
8. Grazing gradient and invasion species;
9. Aeolian mapping in the reflectivity and radar spectral regions;
10. Hydrology and water resources;
11. Fires, scars, and smoke;
12. Human induced degradation;
13. Dust – uploading, transfer, and settling;
14. Soil and vegetation salinity.