Applications of Satellite Data and Geospatial Analysis in Environmental, Economic, and Social Science Research

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January26(Mon), 28(Wed), July29(Thu) @W520
13:15-16:30 (3rd & 4th period)
, January27(Tue) @W520 15:00-18:15 (4th & 5th period)

Course Overview & Objectives

This course will be given in English, same contents provided in 2025

This lecture aims to integrate analytical techniques with open data to address the limitations faced in traditional data collection methods. By harnessing freely available data and tools, we can overcome resource constraints and enhance research capabilities in social sciences and related fields. The feature of the lecture includes (a) Practical skills development (hands-on experience with GIS, remote sensing, spatial statistics, and machine learning), (b) Utilization of open data (learning to access and analyze data from platforms like Google Earth Engine and OpenStreetMap), (c) Application of open-source tools (using software such as QGIS, GeoDA, and R to conduct spatial analysis), (d) Interdisciplinary approach (bridging technology and social science to address real-world problems).

Schedule   *For more details, please check the syllabus on KULASIS.

Lecture 1 & 2 — January 26
Introduction to GIS and Spatial Analysis (Foundations of GIS, Spatial Statistics, and Spatial Regression)
Lecture 3 & 4 — January 27
Open Data Sources for Spatial Research (Google Earth Engine and OpenStreetMap)
Lecture 5 & 6 — January 28
Introduction to Machine Learning and Spatial Analysis (Machine learning concepts for spatial data)
Lecture 7 & 8 — January 29
Applied Examples in Resource, Environmental, and Development Economics (Case studies utilizing spatial approaches in research)

[Registration for Academic Credits]
If you have not yet registered in KULASIS and would like to earn credit, please contact us.
[Registration for Auditing]
Please email US your ID, Affiliation and Name.

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