OBJECTIVES:
The aim of this course is to provide a solid theoretical understanding and comprehensive introduction to the use of remote sensing technologies for different applications in geography. This course presents the basic technical and methodological skills needed to employ various types of remotely sensed images and aerial images as a source of quantitative information in geography: including urban planning, landscape ecology, recreation resource management, wildlife management and others. Students will be exposed to several common image and analysis techniques and will have the opportunity to develop these skills further with an independent project.

COURSE SYNOPSIS:
The course provides a substantial and balanced introduction to the basic theory and methodology of applied remote sensing technologies. It explores the principles of electromagnetic radiation, as well as the interactions of solar radiation with the earth's atmosphere. The spectral reflectance of main land cover types; e.g., forest vegetation, soil, crops and urban areas, will be emphasized. During the course, students will compare the spatial, spectral, radiometric and temporal characteristics of different multispectral sensor systems and their data products. Hands-on experience using ArcGIS with techniques will be provided. An introduction to airborne LiDAR data will be provided as well.

LECTURE TOPICS:
- Theoretical fundamentals of optical, radar remote sensing
- Characteristics of remote sensing systems
- Remote sensing data types and formats
- Remote sensing of vegetation
- Land use/land cover mapping
- Remote sensing and GIS
- Image analysis and classification

RECOMMENDED READING LIST:
Geography Major Programme Learning Outcomes (PLOs)

In order to meet the demands and challenges in this dynamic and ever-changing world, the Department has designed a series of well-structured and contemporary courses to cater to the different interests of students. Its courses are designed to align with the University’s educational aims which hope to nurture future generations not only with a critical and intellectual mindset, but also with a passion to contribute to society in general.

After completing the programme, Geography Major students should be able to:

PLO1 critically analyse the geographical aspects of the relationship between people and the natural environment;
PLO2 demonstrate and develop an understanding of how these relationships have changed with space and over time;
PLO3 identify, collect and utilize primary and secondary data to investigate and analyse the issues and problems facing people, places and society;
PLO4 integrate, evaluate and communicate information from a variety of geographical and other sources;
PLO5 participate in promoting social, economic and environmental sustainability at the local, regional and global scales; and
PLO6 effectively apply a range of transferable skills in academic, professional and social settings.

Last update [8/30/2021 17:12:59]