ENME 489Y – Remote Sensing: Spring 2017 Syllabus
Department of Mechanical Engineering

Lecture Details
Tuesday & Thursday, 9:00 am to 10:45 am

Instructor
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Prerequisite
ENME 351: Electronics & Instrumentation II

Course Description
This course explores the fundamentals of remote sensing techniques including light detection and ranging (lidar), radar, and digital image processing in the context of emerging technologies such as autonomous navigation and terrain modelling.

The course includes lectures from guest speakers of significant reputation in their respective branches of remote sensing.

The course requires completion of a design project employing the course material, CAD, rapid prototyping, and data collection & processing. The project provides students an opportunity to experience a hands-on project involving a remote sensing technology that is closely related to their area of study. Specific project details will be provided in the beginning weeks of the course.

Course Objectives
Full details regarding course objectives can be found on the departmental website. These include:
1. Analyze the performance of active remote sensing techniques such as those using lidar and radar.
2. Analyze the performance of passive remote sensing techniques such as those using digital image processing.
3. Apply engineering knowledge and techniques to the design, assembly, and evaluation of remote sensing instrumentation.
4. Use computer-aided analysis and design tools (CREO, Matlab).

Academic Integrity
By enrolling in this course, each student assumes full responsibility as a participant in UMCP’s scholarly community in which everyone’s academic work and behavior are held to the highest standards of honesty. For more information on the Code of Academic Integrity or the Student Honor Council, please visit http://www.shc.umd.edu.

ABET Criteria
In addition to teaching the subject material, accreditation of the Department of Mechanical Engineering at UMCP by ABET requires the curriculum to meet certain criteria. This course is designed to provide the students with the following ABET originated concepts:
a) An ability to apply knowledge of mathematics, science, and engineering.
b) An ability to design and conduct experiments, as well as to analyze and interpret data.
c) An ability to design a system, component, or process to meet desired needs within realistic constraints.
d) An ability to function on multi-disciplinary teams.
e) An ability to identify, formulate, and solve engineering problems.
f) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Syllabus Note

This course syllabus is subject to change. The most recent version is available on the course website (Canvas). Please check regularly for updates.