Sinclair Community College
444 E. Third St.
Dayton, OH 45402

Master Syllabus

EET 1158 - Aerospace Spatial Visualization

Division: Science, Mathematics and Engineering

Department: Electronics Engineering Technology

Credit Hour Total: 2.0 **Lecture Hrs:** 1.0 **Lab Hrs:** 2.0

Date Revised: July 2014

Course Description:

This course provides a basic overview of remote sensing, highlights the need for space astronomy, describes the composition of the space environment, principles of black/white and color photography, highlights the importance and different aspects of aerial photography and videography, aerial ground control and land mapping, visual image interpretation, thermal radiation principles associated with thermal sensing, remote sensing history from space as well as the U.S. Landsat program operations and contribution, digital image processing and classification, and microwave sensing principles and applications. One classroom, two lab hours per week.

General Education Outcomes:

- Critical Thinking/Problem Solving Competency

Course Outcomes:

Remote sensing
Describe aspects of ideal remote sensing, differentiating between particle and wave theory and the need for space astronomy.

Assessment Method: Locally developed exams
Performance Criteria:

Earn 70% or higher

Basic principles of specialized photography
Utilize principles of black and white and color aerial photography and videography.

Assessment Method: Locally developed exams
Performance Criteria:

Score 70% or higher

Advanced remote sensing systems
Demonstrate operational understanding of advanced remote sensing systems including infrared, multi-spectral, and hyper-spectral sensors and their associated platforms.

Assessment Method: Locally developed exams
Performance Criteria:

Achieve 70% or better

Outline:

Different aspects of aerial photography and videography

Aerial ground control and land mapping

Multi-spectral sensing and hyper-spectral sensing

Remote sensing from space

Digital image processing

Microwave sensing principles

UAS flightline lay out and design

Relationships between UAS imagery requirements and operational parameters

Intro to UAS flight planning

Translation of customer requirements into project specifications

Environmental conditions affecting UAS flight acquisition

UAS post work flow and image processing