

CE 603 Photogrammetry II
Photogrammetry from Space
Spring 2007

- E/O (electro-optic) sensors (Quickbird, Ikonos, Orbview 3, Eros A, Spot 5, ...)
 - New Quickbird scene coming (0.6m spatial resolution, PRGBI) depending on coverage, may need some 511 students to help with more control points
 - Radiometry and system design
 - Geometric sensor model, triangulation, error propagation, rectification
 - Orbit mechanics
 - Replacement models, RPC generation and use
 - Commercial software (Socet Set, Erdas)
 - Fusion with DEM & rectified image, visualization
 - Multispectral statistical pattern recognition
- SAR, synthetic aperture radar (imagery)
 - Radar fundamentals
 - ERS 1/2 system description
 - Linear systems, Fourier transform
 - Scenes over Lafayette
 - Signal characteristics
 - Focusing or image formation processing (no optics !)
 - Range / Doppler algorithm
 - Range processing (cross correlation)
 - Range migration interpolation
 - Azimuth processing (cross correlation)
 - Geopositioning, stereo algorithm, least squares
 - Interferometry
 - Coregistration
 - Interferogram
 - Phase Unwrapping
 - DEM generation
 - Commercial tools, ASF, Erdas