

# SUR 5365 Digital Mapping

## Instructor:

Dr. Bon Dewitt

## Grading:

Class Assignments	15%
Exam I	20%
Exam II	20%
Semester Project	45%

\*\* No Final Exam will be given. Instead, semester projects will be presented during the scheduled final exam period. (Final grades will be curved)\*\*

## Text Book:

No Text is required, but recommended references are:

- Digital Elevation Model Technologies and Applications: The DEM Users Manual. David Maune, editor, ASPRS, 2001, ISBN 1-57083-064-9
- Digital Photogrammetry: An Addendum to the Manual of Photogrammetry. Gliff Greve, Editor, ASPRS, 1996, ISBN 1-57083-037-1
- Manual of Photogrammetry, 5th ed, ASPRS (Brand New)

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## Lecture Topics:

<i>Lecture</i>	<i>Topic</i>
1	Introduction
2-3	Coordinate Systems, Datums and Map Projections
4-6	Affine & other 2D Transformations
7-9	Generation of Spatial Information
10-12	Digital Map Accuracy Standards
13	AutoCAD Drawing Interchange File Format (DXF)
14-16	Digital Terrain Models - Interpolation methods (2-1/2 D)
17-19	Triangulated Irregular Networks
20-21	Digital Imagery
22	Exam I
23	Raster File Format (BMP)
24-25	Digital Orthophotography

26	<i>Histograms &amp; Contrast Manipulation</i>
27	<i>Image Convolution - "Moving Window"</i>
28-29	<i>Resampling</i>
30	<i>Intensity - Hue - Saturation Information</i>
31-32	<i>Image Pyramids &amp; Quad trees</i>
33	<i>Laplacian Transformation / Edge Detection</i>
34-36	<i>Fourier Transformation</i>
37-38	<i>Kalman Filter</i>
39-41	<i>Digital Image Matching</i>
42	<i>Exam II</i>