GGS 658: Digital Terrain Mapping
Fall, 2015

Tuesday 7:20-10:00 pm
Exploratory Hall 2103
3 credit hours

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Office hours are by appointment.

Textbook: *Digital Elevation Model Technologies and Applications: The DEM Users Manual, 2nd Edition,* David F. Maune, PhD, CP, Editor. Available at www.asprs.org with a discount for student members.

Course overview: This course covers methods for acquiring and representing digital terrain models (DTM). Terrain model quality assessment methods and statistics, in terms of accuracy and precision, will motivate DTM specifications and a discussion of current standards. We will discuss terrain model processing to derive characteristics such as slope and aspect, along with current applications based on DTMs. Homework will use ArcGIS and other programs to work with digital terrain datasets.

Grading:
Homework: 30%
Midterm: 30%
Final: 40%

Approximate schedule:

Date	Topic	Note
9/1	Background, Vertical reference systems	Introduction/logistics
9/8	Representations: contours	
9/15	Representations: rasters	
9/22	Representations: TINs	
9/29	Representations: point clouds, other	
10/6	Accuracy and precision measurement, Specifications	Midterm review
10/13	NO CLASS—Columbus Day	
10/20	**Midterm**	
10/27	Terrain data processing	
11/3	Applications	
11/10	Data acquisition: photogrammetry	
11/17	Data acquisition: lidar	
11/24	Data acquisition: SAR, IFSAR	
12/1	Data acquisition: bathymetry, other	
12/8	Final review	Last day of class
12/15	**Final**: 7:30—10:15 pm	

Policies

Homework is expected to be individual work, unless otherwise specified.

Extra credit: I do not give extra credit projects.

Electronic devices (such as laptops, cell phones, etc.): please be respectful of your peers and your instructor and do not engage in activities that are unrelated to class. Such disruptions show a lack of professionalism and may affect your participation grade.

Accommodations for disabilities: If you have a learning or physical difference that may affect your academic work, you will need to furnish appropriate documentation to the Office for Disability Services. If you qualify for accommodation, the ODS staff will give you a form detailing appropriate accommodations for your instructor.

Academic integrity: GMU is an Honor Code university; please see the Office for Academic Integrity for a full description of the code and the honor committee process. The principle of academic integrity is taken very seriously and violations are treated gravely. What does academic integrity mean in this course? Essentially this: when you are responsible for a task, you will perform that task. When you rely on someone else' s work in an aspect of the performance of that task, you will give full credit in the proper, accepted form. Another aspect of academic integrity is the free play of ideas. Vigorous discussion and debate are encouraged in this course, with the firm expectation that all aspects of the class will be conducted with civility and respect for differing ideas, perspectives, and traditions. When in doubt (of any kind) please ask for guidance and clarification.

Privacy: Students must use their MasonLIVE email account to receive important University information, including messages related to this class. See http://masonlive.gmu.edu for more information.