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**GEOL 303/GGS 308/EVPP 503
FIELD MAPPING TECHNIQUES FALL 2015**

Prerequisites	30 Credits including MATH 105 or equivalent and GEOG 102 or GEOL 101
Class Meeting Times	Wednesdays, 4:30pm-5:45pm in Exploratory 1309 Fridays, 1:30pm-5:30pm in Exploratory 1309
Instructors	Lori Mandable, 3417 Exploratory Hall Email Address: lmandabl@masonlive.gmu.edu Cell Phone: 703-966-5316 Dr. Julia Nord, 3453 Exploratory Hall Email Address: jnord@gmu.edu Office Phone: 703-993-3395
Office Hours	Lori: Wednesdays 2:45pm – 4:15pm Fridays 11:30am – 1:15pm Other times by appointment Julia: by appointment
Text	No text. Selected readings will be given out in class and are considered assigned material.

IMPORTANT - ALL STUDENTS NEED TO READ AND UNDERSTAND THIS SYLLABUS!!!!

- The objective of this course is to enable you to make field measurements efficiently, assess the precision and accuracy of these measurements, and convert these data into a map. By the end of the semester, the goal is to have you feel comfortable with the concepts of field mapping as well as developing the habits of performing field reconnaissance, mission planning, equipment preparation, data collection, data processing and the ability to present/communicate the data as well as its significance.
- Projects are due as designated. If submitted late, your grade will be reduced by one point for each day after the due date, which are specified on the syllabus and must be handed in by the end of the class period.
- Projects that receive a low grade may be repeated, and re-submitted. If this is done, they will be re-graded, however, the maximum possible score for repeated labs will be half the difference between the original grade and the maximum possible grade. Original graded work must be re-submitted with the repeated work.

- For each Project, please hand-in the following:
 - A short summary of the Project objective, date(s) measurements/field work conducted, equipment used, team members
 - A **readable** Xerox copy of your field notes (do NOT prepare a separate copy of your data)
 - Your field map
 - A final, drafted copy of the Project - if requested
 - An analysis of the precision and accuracy of your results, and the sources of error inherent in this type of mapping
- Projects will be graded on the basis of completeness, accuracy, error analysis, and final presentation. A rubric will be provided to detail the grading process for each Project.

Necessary Field Equipment

- Field Notebook (waterproof)
- Pencils, hardness of at least 2
- Waterproof, thin ink pen
- Protractor
- Clipboard with Cover
- **Engineers** Rule (inches) needs to be graduated in 10th, 20ths, 30ths, 40ths, 50ths, and 60ths.
- Calculator (with Trig Functions)
- Field Boots or Sturdy Shoes & Weather appropriate clothing (layers, rain gear, etc.)
- Sunscreen
- Water bottle
- Hat
- Bug repellent
- Rain Gear - a Poncho is best
- Snacks

You are personally responsible for any equipment checked out in your name. Please treat the equipment as if it were your own. Final grades will not be assigned to anyone who has not returned all field equipment.

When working in the field, please try to adhere to the following:

- **COME PREPARED.** Have the proper equipment, and be sure it is in proper working order. Know beforehand what you are supposed to accomplish, and be familiar with the techniques and equipment involved.
- **WORK SAFELY.** Never work alone, especially in rugged terrain. Always tell someone where you will be, just in case you don't return. Wear proper field clothes. Always keep your wits about you. Remember to drink plenty of fluids and eat!
- **WORK EFFICIENTLY AND BUDGET YOUR TIME.** Develop a way to do your fieldwork in a comfortable, but efficient manner. Keep in mind there is a limited amount of time in which to complete the Project. Leave enough time after fieldwork to prepare the report.
- **PLOT YOUR RESULTS IN THE FIELD.** Get in the habit of collecting data, calculating, compiling, and plotting results while at the field site. This is the most important way to check your work for accuracy. **This may save you from making unnecessary trips back to the field.**

Students as Scholars Class

This class is listed as a *Students as Scholars* Inquiry-level course. This means that one of the goals of the course is that as students you will learn about the recursive process of scholarly inquiry through your work with weekly projects and a large scale final project. We expect that you will learn content and skills that make you capable of evaluating scholarly work as well as prepare you to conduct your own scholarly research and/or projects in the future.

Scholarly Inquiry courses must meet the student learning outcome, "Students will articulate a scholarly question; engage in the key elements of the scholarly process; and situate the concepts, practices, or results of scholarship within a broader context."

Scholarly Inquiry courses must address **both** of the following elements:

1. Articulate and refine a scholarly question.
2. Follow ethical principles.

And, address **at least one** of the following elements:

- 3a. Choose an appropriate discovery process for scholarly inquiry.
- 3b. Gather evidence appropriate to the question through your field work
- 3c. Apply appropriate scholarly conventions during scholarly inquiry.
- 3d. Apply appropriate scholarly conventions when reporting or performing.

And, address **at least one** of the following elements:

- 4a. Assess the validity of key assumptions and evidence.
- 4b. Situate the scholarly inquiry within a broader context through your report to the Director of Environmental Studies on the Piedmont.

For more information on students as Scholars and undergraduate research please go to <http://oscar.gmu.edu/>.

General Policies

- Attendance: You are expected to attend every class session and to be there on time. If you must miss a class please let the instructor know ahead of time. Most Projects are team-based and your colleagues will miss you!
- Academic Integrity: GMU is an Honor Code university; please see the University Catalog 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 in doubt (of any kind) please ask for guidance and clarification. For information on avoiding Plagiarism please visit: <http://writingcenter.gmu.edu/?p=499#more-499>
- GMU Email Accounts Students must use their Mason email accounts to receive important University information, including messages related to this class.
- Office of Disability Services If you are a student with a disability and you need academic accommodations, please contact the instructor and contact the Office of Disability Services (ODS) at 993-2474. All academic accommodations must be arranged through the ODS. <http://ods.gmu.edu>
- University Policies: The University Catalog, <http://catalog.gmu.edu>, is the central

resource for university policies affecting student, faculty, and staff conduct in university academic affairs. Other policies are available at <http://universitypolicy.gmu.edu/>. All members of the university community are responsible for knowing and following established policies

- Other Useful Campus Resources:
 - Writing Center: A114 Robinson Hall; (703) 993-1200; <http://writingcenter.gmu.edu>
 - University Libraries "Ask a Librarian" <http://library.gmu.edu/mudge/IM/IMRef.html>
 - Counseling And Psychological Services (Caps): (703) 993-2380; <http://caps.gmu.edu>

- Cell phones: As a courtesy to your classmates, professor and guest speakers, please turn your cell phone off during class. If you are experiencing a medical or family situation where you need to receive an incoming call, please let us know, mute the ring on your phone, and feel free to exit the class to receive your call. You will be able to use your phone for class related issues when in the field off campus.

- Inclement Weather: We will hold class rain or shine, and at any temperature so long as Mason is officially in session.

- Inclement Weather and Class Cancelation: GMU posts closings on its website (www.gmu.edu.) You can receive notification from Mason Alerts you via email or text to a cell phone; please let us know if you need more information. However, please use your common sense about weather conditions in your area. If you do not feel safe traveling to class please do not attempt the journey.

Course Schedule

Date	Topic	Projects/Assign
September 2	Course Overview Lat/Long, UTM, Projections	
September 4	Topo Maps	Project 1: Topo Maps Project 1 DUE: 9/11/2015
September 9	Safety & Equipment, Field Notes/Notebooks, GPS, Precision & Accuracy	
September 11	GPS	Safety Presentation Project 2: Geocaching Project 1 Due Project 2 Due in Class
September 16	Mapping Projects, ArcGIS	
September 18	Mapping Project: Mason Pond	Project 3: Mapping Mason Pond Project 3 DUE: 9/30/2015
September 23	Trigonometry Overview, Watershed Map	Math 1 Math 1 DUE: 10/2/2015
September 25	Watershed Mapping	Project 4: Mason Watershed Project 4 DUE: 10/7/2015
September 30	Brunton Compasses, Measurement	Math 2 Math 2 DUE: 10/9/2015 Project 3 due
October 2	Pace & Compass	Project 5: Pace and Compass in front of Exploratory Hall Project 5 DUE: 10/14/2015 Math 1 due
October 7	Bruntons Part II	Clocks & Sharks DUE 10/9/2015 Project 4 due
October 9	Orienteering Course + Slope	Project 6: Orienteering Course Project 6 DUE: 10/21/2015 Math 2 due Clocks & Sharks Due
October 14	Topo Maps II & Prep for Manassas field trip	Where is the JC on campus? DUE 10/16/2015 Project 5 due
October 16	Manassas Field Trip	Project 7: Plotting the Cannons at the Battlefield Project 7 DUE: 10/28/2015 Where is the JC Due

October 21	Transits/Differential Leveling	Math 3 Math 3 DUE: 11/4/2015 Project 6 due
October 23	Transits	Project 8: Transit of Mason Pond Project 8 DUE: 11/4/2015
October 28	Contours & Angles	Math 4 Math 4 DUE: 11/18/2015 Project 7 due
October 30	Finish Transit Maps	Finish Project 8
November 4	Making Contour Maps	Math 3 due Project 8 due
November 6	Contour Map of Mason Pond	Project 9: Contours of Mason Pond Project 9 DUE: 11/18/2015
November 11	Guest Speaker – Dr. Larrie Ferreiro	
November 13	Finish Contour Maps	Finish Project 9
November 18	Project 10 Requirements, Planning Project 10	Math 4 due Project 9 due
November 20	Visit ES on the Piedmont	Initial Planning Visit
November 21 & 22	Northern Virginia Mineral Show at GMU (HUB/SUB II Upstairs) Saturday 10am-6pm; Sunday 10am-4pm Free Admission with GMU ID	
November 25	Thanksgiving Break – Enjoy the Holidays! ☺	
November 27		
December 2	Making a Detailed Map	
December 4	Field Trip – Overnight!!!!	Project 10 Field Work Project 10 & Presentation DUE: 12/11/2015
December 9	Work on Final Project	
December 11		Project 10 Presentations and Work Due

Grading

Item	Points
Project 1	10
Project 2	10
Project 3	10
Project 4	10
Project 5	10
Project 6	15
Project 7	15
Project 8	15
Project 9	15
Math 1	5
Math 2	5
Math 3	10
Math 4	10
Clocks & Sharks	5
Where is the JC on Campus?	5
Project 10	35
Project 10 Presentation	15
Total	200

Graduate Students taking EVPP 503 will need to do a Graduate Research Project in addition to the Project work assigned as stated above. This Project will need to be original and students will need to meet with Dr. Julia Nord to have the topic approved. This Project will be graded in two parts: a proposal detailing the Project objectives, equipment needed, timeframes, etc. that is worth 15 points and the actual Project with an Executive Summary, Project outline and maps that is worth 35 points. This will make the graduate student total points possible 250 instead of the 200 shown in the chart above for undergraduate students.

Grading Schema

A+, GPA 4.00 points earned	97% and above
A, GPA 4.00 points earned	93% - 96.99%
A-, GPA 3.67 points earned	90% - 92.99%
B+, GPA 3.33 points earned	87% - 89.99%
B, GPA 3.00 points earned	83% - 86.99%
B-, GPA 2.67 points earned	80% - 82.99%
C+, GPA 2.33 points earned	77% - 79.99%
C, GPA 2.00 points earned	73% - 76.99%
C-, GPA 1.67 points earned	70% - 72.99%
D, GPA 1.00 points earned	60% - 69.99%
F, GPA 0.00 points earned	59.99% and below