

Computer Methods - GLY 430 - Syllabus Spring 2015 (SEC: 201; CRN: 4715)

Dr. Scharman

Email: scharman@marshall.edu

Lecture: MWF 10-10:50am, Science 165

Office: Science 163

Phone: (304) 696-5435

Lab: M 1-2:50pm, Harris 444

Office Hours: W & F 11-noon; T & Th 9-11am; or by appointment

Please do not stop by in the hour before any scheduled class

Required Text:

Geostatistics Explained by Mckillup and Dyar (Cambridge University Press)

Additional references and material available on Blackboard.

Required Supplies

Notebook, pencils, calculator

Catalog Course Description

Computers are used to for compilation, data analysis, and modeling from a wide range of geological problems.

(4 credit hours; prerequisite: 12 hours of GLY)

Learning Outcomes

To be able to generate, acquire, compile, manipulate, analyze, and draw conclusions from various geological data - both spatial, and temporal. Throughout the semester, the course will focus on:

- Basic statistical methods used in geology
- Manipulation, representation, and analyzation of geological data sets
- Use of spreadsheet, statistical, graphical, and other related software
- How statistics and data analysis helps with geological interpretation and problem solving

Course Materials

Assigned readings are mostly drawn from the required text book. Additional materials will be distributed in lecture, lab, and/or be made available on Blackboard.

Communication

The only time requested you not stop by is the hour before any of my scheduled classes. See the general weekly schedule posted on my door to get a better idea when I am not available. Appointments can also be made (please email and suggest a time!).

Please e-mail, call my office phone, or drop by my office if you have questions related to the course topics. I will send e-mails about important class information, so check your e-mail regularly. You must use your Marshall University email address. E-mail is generally checked daily between 8am and 5pm on weekdays, and a response will be sent as soon as possible.

Note about Personal Conduct

Everyone in the course is expected to act in a professional and courteous manner. Any disruptive, abusive, or offensive behavior directed at anyone in the course will not be tolerated. Any violation will be met with a requirement to drop the course and forfeit any associated grades. All cell phones must be turned off, put away, and remain away, for the duration of each class period. It is extremely unprofessional, as well as a waste of the professor's time, if you are looking at a cell phone while a conversation/lecture/lab is in progress. Checking websites such as Facebook, or others unrelated to the course, is considered equally unprofessional while working on assignments in a computer lab.

Finally, I will only respond to emails that are written with at least a basic level of professionalism and courtesy.

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A Few Words about Teaching Style

Lecture PowerPoint slides will be posted on Blackboard after each topic. I urge you to take notes rather than relying exclusively on the provided slides. I discourage you from printing out the slides. Instead keep them electronically, and use them to supplement your own written notes from class attendance. I will stop posting lecture slides on Blackboard if attendance and/or participation decreases at any point in the semester.

Grading

Exam 1	15%
Exam 2	15%
Final Exam.....	20%
Lab Assignments	25%
Quizzes.....	15%
Class Attendance/Participation	10%
Total	100%

Final Grade Scale:

A: 100-90% B: 89-80% C: 79-70% D: 69-60%; F: Anything less than 60%

There will be no curve applied to the grades. If you feel your assignment has been assessed unfairly, please discuss the grade with me during office hours. Assignments are generally graded within 10 days.

Grades will not be posted/updated on Blackboard. Given that you have the grading scheme, associated grade scale, and completed required courses in algebra for college, you are required to keep track of your course grade as we progress through the semester. If you are unfamiliar with how to calculate your grade with the given information, please see me during office hours.

Attendance/Participation

Attendance and participation will be recorded for each class period.

- Each unexcused absence will subtract from these portions of your grade.
- Participation is based on active involvement in the lab work. Texting, sleeping, other forms of inattentiveness, inappropriate computer use, relying heavily on others to complete work, or forgetting required materials are examples of actions that will result in no credit for lecture/lab participation grade.

It is your responsibility to make up material covered during an absence. Time extensions for assignments/exams will only be allowed when a university-excused absence is issued. **Notice of an excused absence must be received by the instructor through the office of the Dean of Student Affairs** (see the MU Undergraduate Catalog for more information). No late penalty on assignments will be accumulated for an excused absence, as long as it is completed by a set deadline. Class participation is the only item that cannot be made-up.

Quizzes/Exams

There will be three exams in the course, and a handful of quizzes. These will mostly be based on the conceptual ideas discussed during the semester in lecture. See course schedule for times. Make-up and early quizzes/exams will not be offered.

Lab Assignments

Lab assignments are intended to provide an opportunity to practice concepts introduced in the course. These assignments will introduce analysis of a range of geological data. Lab problem sets are assigned Monday afternoon during the lab period and must be completed by the start of lecture on the specified due date. Submit completed assignments in the bin on professor's door.

Deductions of one grade level per day will occur for late labs. For example: if late assignment due on a Monday morning before lecture is not submitted by the following Friday morning, at that time the highest possible grade is a 50%. If an assignment is not submitted by the second Friday morning after the due date, a grade of zero will be applied.

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Accommodations

For any student academic accommodations for disabilities that qualify under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act, please contact the Dean of Students Affairs office for information, policies, and procedures. Any accommodations must first be discussed and approved with the Dean of Students Affairs office, and I must receive official notification before action can be taken.

Academic Responsibility, University Policies

Next to fraud, plagiarism and cheating are the ultimate sins in the academic world and are grounds for failure on an assignment. In all papers and presentations be sure to give credit where credit is due. When you use another investigator's data, state their ideas, paraphrase their conclusions, or quote them directly, you must cite appropriately! You must distinguish between general knowledge (which does not need a reference) and other material in your paper. Be sure the reader can distinguish between your ideas and the ideas of others. If you have any questions on this subject, please come and see me well in advance of the assignment's due date.

Any suspected violations of these academic standards will be addressed accordingly, and if necessary, reported to the Dean of Students office.

By your continued enrollment in this course, you agree with the policies in this syllabus and to the University Policies listed below:

Excused Absence Policy for Undergraduates; Computing Services Acceptable Use; Inclement Weather; Dead Week; Students with Disabilities; Academic Forgiveness; Academic Probation and Suspension; Academic Rights and Responsibilities of Students; Affirmative Action; Sexual Harassment

The full text of each policy is available at:

<http://muwww-new.marshall.edu/academic-affairs/policies/>

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Date	Lecture/Lab Topic	Reading Assignment*
Jan. 12/14/16	Course Syllabus; Introduction; Lab: Excel Basics	Chapters 1, 2, 7.3
Jan. 19 - Martin Luther King, Jr. Holiday - No Class/Lab		
Jan. 21/23	Data types, quality, handling; Lab: ArcGIS Data Management	Chapters 2, 3.1, 3.2
Jan. 26/28/30	Displaying Data; Lab: ArcGIS Data Management	Chapter 3.3-3.9
Feb. 2/4/6	Data, Populations, Statistics; Lab: Joint Problem Set	Chapter 7
Feb. 9/11/13	M: Review; Lab: Exam 1; Scientific Data Use	Chapter 5
Feb. 16/18/20	Probability; Lab: Clast Erosion Calculations	Chapter 6
Feb. 23/25/27	Probability; Lab: Frequency of Large EQs	Chapter 6
Mar. 2/4/6	Normal Distributions; Lab: EQ Probability	Chapter 8
Mar. 9/11/13	Normal Distributions; Lab: EQ Probability (cont.)	Chapter 8
Mar. 16-20 - Spring Break - No Class/Lab		
Mar. 23/25/27	M Review; Lab: Exam 2; Experiment Design	Chapter 4
Mar. 30 Apr. 1/3	Types of Error; Lab: Fault Slip Analysis	Chapter 10
Apr. 6/8/10	Variance Analysis; Lab: Flood Probability	Chapter 10
Apr. 13/15/17	Spatial Analysis; Lab: ArcGIS Lineament Analysis	Chapter 22
Apr. 20/22/24	Spatial Analysis; Lab: ArcGIS Lineament Analysis	Chapter 22
Apr. 27/29 May 1 (Dead Week)	TBA; Review	TBA
May 4 - Final Exam - 10:15-12:15pm – Science 165		