Subject : Senior Seminar: Geol. 490-001 Term: Fall Year: 2004

Professor: H. G. Churnet,

Course Objective: Course offers opportunities to exercise judgment in solving geologic problems. Individual students will be asked to identify geologic problems, determine the components necessary for the solution of the problems, and present an item (original data, concept formulation, or new approach) to tackle the problem. In short, students will learn how to work in research that is geared for publication in journals of national or international repute. They shall present in a seminar form the result of their study, including:
1. details of the problem that they have identified,
2. summary of original research papers that deal with the solution of the same or similar problems to the one that they have identified, and
3. summarize the original work that they have done as part of the solution of the problem.
They shall distribute to the class an abstract of the research effort that their study incorporates, and they shall submit a well written term paper to the instructor.

Seminars shall be on Mondays 3:00- 4:50- Bretske Hall, Room 114

CLASS FORMAT**:**

This class consists of a series of brainstorm sessions on different research approaches to geologic problems.

The instructor will lead the brainstorming session on research topics on August 23. Students will conduct a literature review on subjects that interest them, and formulate potential projects and present in a written form and orally their project choices by August 30. From there on, each student will be allotted some class time to discuss his/her project. Other faculty members will be invited to present their research work during the seminar time. By the end of the semester, the student must present a well-organized paper, following the guidelines for writing scientific papers. Note: Standard scientific paper contains: 1. Abstract, 2. Introduction, 3. Methods, 4. Results, 5. Discussion, 6. Conclusion, 7. References. Student will be encouraged to include data that they may have gathered, if such apply.

Major topics to be covered in brainstorming sessions led by instructor (the order of presentation can be adjusted as requested by seminar participants):

1. Are there pieces evidence for supervolcanic eruptive deposits in the Paleozoic sequence ofTennessee and adjoining states?
2. Problems associated with piecing a geologic history based on incomplete record (insufficient data?): a case study of the Walden Creek deposits of Tennessee.
3. Topics related to geology with emphasis on igneous, metamorphic, or sedimentary rocks
4. Primary and deformational structures of rocks
5. Imposter Unconformity.
6. The Afar Triangle, Ethiopian Rivers

CRITERIA FOR TERM PAPER AND CLASS DISCUSSION:

Aug. 23. Instructor offers introduction and requirements of the seminar

Lecture on Appalachian tectonic provinces and reconstruction.
-Seeing ... by HG Churnet, 1997

Aug. 30. On a single piece of paper provide answers to the following

1. Title of your project
2. Briefly describe your project?

3. State the main hypothesis of your project
4. State the principal methodology
5. State perceived results.

** if project is unacceptable, instructor will ask the student on the instructor's selected project

Spt. 6. Labor day

Spt. 13. On a single piece of paper provide a progress report of your project.

1. Guest lecture by a professor.
2. Students discuss progress of their projects

Spt. 20. On a single piece of paper provide a list of references making sure of proper punctuation as given in GSA Bulletin format.

1. Guest lecture by a professor.
2. Students discuss progress of their projects

Spt. 27. Discussions

1. Guest lecture by a professor.
2. Students discuss progress of their projects

Oct. 4. Discussions

1. Guest lecture by a professor.
2. Students discuss progress of their projects

Provide an initial write up on results

1. Students hand in a first draft of the preliminary results of their project.
2. Students discuss their preliminary results.

Oct. 11. Professor returns first draft of results with his recommendations

1. Guest lecture by a professor.
2. Students discuss progress of their projects

Oct. 18 Provide a written copy discussion

1. Students hand in a first draft of the preliminary discussions of their projects.
2. Students discuss their preliminary discussions of their projects.

Oct. 25. Fall Break

Nov. 1. Professor returns first draft of discussions with his recommendations

1. Guest lecture by a professor.
2. Students discuss progress of their projects

Nov. 8. Provide a written conclusion and abstract

1. Professor returns first draft of discussions with his recommendations
2. Students discuss progress of their projects

Nov. 15. Provide a written introduction

1. Professor returns first draft of conclusions and abstract with his recommendations
2. Students discuss progress of their projects

Nov. 22. Give a final printed copy of your project to your instructor

1. Student give a formal presentation of their work to their classmates, and invited guests

Notes on report:

The report should have 1) abstract, 2) introduction with regional setting, 3) methods, 4) results, 5) discussion, 6) conclusion, 7) references, 8) Appendix describing your contribution, 9) Diagrams (sketches, photographs, maps, cross sections) numbered sequentially in the order that they are referred to in the text must be placed in the last pages of the report.

GRADING CRITERIA OF TERM PAPER:

Reports submitted each week are worth 3 points each. (30 pts)
Standard format and overall appearance of final report (12 pts)
Content in each aspect of the scientific paper (28 pts)

GRADING CRITERIA OF CLASS DISCUSSION:

Grades assigned by participating students

1. Usefulness of students discussion during the phase of selecting topics for study. (2 pts)
2. Cooperative as opposed to destructive attitude of student throughout the seminar period. (2 pts)
3. Interaction with audience and level of interest generated.... (2 pts)
4. Presentation of discussion, content, appearance, demeanor... (4 pts)

Total = (10 pts)

Grade assigned by Professor

5. Presentation of discussion, content, appearance, demeanor... (20 pts)

Total = (30 pts)

Grades A > 90, B = 80 - 90, C = 70 - 79; D = 60- 69, F < 60.

ADA Statement:

If you are a student with a disability (e.g., physical, learning, psychiatric vision, hearing, etc.) and think that you might need special assistance or a special accommodation in this class or any other class, call the Office for Students with Disabilities/College Access Program at 425-40006 or come by the office - 110 Frist Hall.