GEOL 517
Petrology and Geochemistry of Source Rocks
Spring 2016
2 credit hrs

Course Syllabus

Professor: Dr. Sue M. Rimmer
Professor
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Class Time: Mon 5:00 pm to 7:00 pm. We will meet in Rm 306 or 110.

Office Hours: Mon and Tues 1:00-2:00 or by appointment.

Text: There is no required text. Readings will be from journals, special issues, etc. available through the library.

Course Objectives:

To further student understanding of the organic petrology and geochemistry of hydrocarbon source rocks, building on foundations established in GEOL 482, Organic Petrology.

Each student will select a world-class source rock to investigate. These investigations will emphasize: organic carbon accumulation models, kerogen typing, maturation, geochemical data, and hydrocarbon potential. Throughout the semester, students will present short summaries of various aspects of their source rocks, building towards an end-of-semester presentation.

Students will develop a source-rock petrographic atlas to demonstrate a thorough understanding of the diversity of organic components in source rocks of varying kerogen type and maturation level.

Grading Policy:

Student participation/short presentations/discussions/lab: 20%
Source-rock atlas (due Apr 4): 30%
Source-rock oral presentation (Apr 25 and May 2): 20%
Final paper (~15-20 pages) (due May 2): 30%

Assignments, Presentations and Reports:
In all cases, I expect you to follow established rules with regards to cheating and plagiarism; neither will be tolerated.

The source rock paper will be 15-20 pages of text (figures and tables would be in addition to this) and must include at least 15 primary (journal) references. Papers must be typed and be appropriately referenced. Additional details on format and scope will be provided. Grades will be
assigned based on content, organization, grammar, spelling, and appropriate referencing. Please use the reference style of the *International Journal of Coal Geology* and be consistent.

Based on these papers, each student will give a class presentation. Grades will be based on content and clarity, as well as presentation style. Grades will also be based, in part, on peer review. At the time of the presentation, you will provide a printout of your presentation (6 slides per page) to each class member.

Some examples of source rocks that *could* be the focus of your projects:

- New Albany Shale
- Marcellus Shale
- Antrim Shale
- Bakken Shale
- Maquoketa Shale
- Eagle Ford Shale
- Kimmeridge Shale
- Green River Shale
- Niobrara Shale
- Monterey Shale