

Faculty Advising Plan

Department of Earth & Environmental Sciences

David P. Moecher, Associate Professor and Director of Undergraduate Studies

March 3, 2009

There are two components to advising undergraduate majors on issues related to intellectual and professional development. First, all majors are required to take GLY 295 Orientation to Geoscience, a 1 credit (P/F) survey of post-baccalaureate professional development options. Topics covered include graduate school preparation, membership and activity in professional societies, and career paths to the most common fields that employ geologists (energy industry, environmental consulting, government, academe). The content is delivered by guest speakers that include faculty in the Department, staff scientists from other UK units, and professionals from various fields in which geologists are commonly employed, most of whom are alumni of the Department. The attached 2008 syllabus provides a list of topics and guest speakers. Students are encouraged to meet and talk informally with guest speakers. We encourage students to take this course as early as possible in their undergraduate careers. Due to staffing and scheduling the course is offered in even-numbered years.

In my role as DUS for the past decade; as an instructor in several of the courses required for the major; and as faculty representative on the alumni board, I provide the second component of the advising and development process. I try to meet with students as soon as possible after a student declares Geology as a major. I am notified of the declaration by the A&S professional advisor (Steven Davis-Rosenbaum) and schedule a meeting to talk to a student to discuss their interests in earth and environmental sciences, explore their backgrounds and paths to UK, and to broadly outline career options. This is also the first of several opportunities I have as DUS to assess a student's intellectual aptitude, specific interests within the field, and their potential interest in undergraduate research. Depending on those interests, their level of motivation, and maturity, I may immediately introduce them to regular or adjunct faculty with similar interests who might help nurture those interests through a research project and/or part time employment.

In addition to GLY 295, I teach GLY 360 (Mineralogy), a required course that students take in their second year as a major. This is a relatively quantitative course that affords me a second opportunity to assess student aptitudes and potential research interests. At this point students are starting to acquire a better sense of their specific interests and aptitudes. I have by this time also had at least one additional advising session with students. Here again, I attempt to steer appropriate students into research projects with faculty in their field of interest. During this time I also keep majors informed via email of part time work available on campus or locally; of potential employers attending Career Days in early Spring term; of local and national summer REU and internship opportunities; future full time job opportunities for seniors; graduate school selection and application process; and Department, College, University, and extramural scholarship opportunities. Through my contacts with alumni I attempt to bridge the gap to employment in a more personal manner than is possible through the Career Center. The staff at the Career Center has been helpful, but cannot provide the personal service and consistent connections with our alumni who are in a position and are often predisposed to hiring our students. I also coordinate visits to campus by industry recruiters specifically hiring geology undergraduate and graduate interns and permanent employees.

Students who are considering a faculty-mentored research project typically enroll in GLY 395 Special Problems in Geology (independent research). This allows students to receive credit toward completion of the undergraduate degree requirements. Students are expected to complete a research project of sufficient rigor and scope that the results are presentable at a professional meeting (Geological Society of America, Seismological Society of America, The Society for Organic Petrology). Professors Frank Ettensohn, Sue Rimmer, Bill Thomas, Ed Woolery, Alan Fryar, Paul Howell, and myself regularly supervise student research projects. Most of the students who complete these projects go on to attend graduate school, some of whom stay at UK.

We are fortunate in the Earth and Environmental Sciences to have other units on campus that provide research and part time employment opportunities for Geology majors. The Kentucky Geological Survey (KGS) and UK Center for Applied Energy Research (CAER) have staff scientists and financial resources to provide combined part time work and research opportunities for our majors. Dr. Jim Hower at CAER has employed one to four students per year continuously for the past decade. These students become members of Dr. Hower's research team, complete an independent research project, are part time employees of CAER, and present that research at national and international coal and earth science society meetings. Numerous KGS staff scientists have hired our majors as part time employees and/or members of their research teams. I attempt to facilitate the communication between our students and these staff scientists.

There is also an active regional network of environmental consulting firms that employ our students. I attempt to maintain close communication with alumni of the Department who are in a managerial or supervisory position and able to hire our graduates in full time environmental science and consulting jobs. In the public sector, several managers and a large proportion of the staff scientists working for the State Environmental Protection Cabinet and the Energy Cabinet are alumni of the Department, and are thus in a position to consider our graduates for employment.

Department of Earth and Environmental Sciences
GLY 295 Geosciences Orientation (1 Credit, Graded Pass/Fail)
Syllabus Spring 2008

Course Description

Geology as a science is an interdisciplinary field that draws on the principles of physics, chemistry, biology, logic, and mathematics to explore Earth's history, the processes that formed Earth, and processes that continue to shape it. This course is an *introduction* to the diverse disciplines and potential career paths in Geosciences; it's an introduction, because you never stop learning more about geoscience. As you proceed through the degree program, you will develop an even deeper understanding of geoscience. However, we feel that we can better prepare you for the process by outlining in this course some of the things to expect as you proceed through the degree program and prepare for the next step: a career in some field of geoscience!

The course will be "taught" primarily by guest speakers from various sub-disciplines of geoscience: environmental consulting, the energy industry; state and federal government; and UK, who will discuss career issues specific to geosciences, including consideration of appropriate educational preparation for each career path. Students will be introduced to and guided through the graduate school application process. In addition to presentations and in-class discussions, assignments will include readings from the literature, writing assignments including resumes and cover letters, and web exercises. This course is intended for majors who have had an introductory course in Physical Geology (GLY 220). This course should be taken during the sophomore or junior year.

Teaching Objectives: upon completion of this course, the student will:

- have a better understanding of the spectrum of disciplines in the public and private sector that require a geoscience education.
- have a knowledge of the post-baccalaureate career, educational, and research opportunities in geosciences.
- have had opportunities for students to meet geoscience professionals and establish mentoring relationships
- have an understanding of the process of searching for print or electronic geoscience and career information

In addition to completing the required assignments, students will be required to join one professional geoscience organization. You may choose any organization.

Meeting Times: M 4:00-4:50 p.m.

Location: Rm. 201 Slone Bldg.

Class may run slightly longer some days, especially if a guest speaker requires more time for their presentation. Please be patient and wait for the instructor to dismiss you.

Course Coordinator: Prof. Dave Moecher, Director of Undergraduate Studies. Office: 304 Slone Bldg.; Phone: 257-6939; 257-3758; e-mail: moker@uky.edu. Office Hours: Whenever I am in my office - just knock, don't feel like you are bothering me!

Grades: Passing grade will **require** attendance at **every** class session (with consideration of absences for legitimate reasons, students having a valid excuse, and satisfactory completion of missed assignments) and maintaining at least a C average on all assignments.

Useful Web Links

UK Stuckert Career Center: <http://www.uky.edu/CareerCenter/>

American Geological Institute: <http://www.agiweb.org/careers/>

Geological Society of America, student services: <http://www.geosociety.org/students.htm>

American Association of Petroleum Geologists: <http://www.aapg.org/>

American Geophysical Union: <http://www.agu.org>

Mineralogical Society of America: <http://www.minsocam.org>

Society of Exploration Geophysicists: <http://www.seg.org>

Society of Economic Geologists: <http://www.economicgeology.org>

Society of Sedimentary Geology: <http://www.sepm.org>

GLY 295 Orientation to Geoscience

Spring 2008 Class Schedule: all meeting times Monday 4:00-4:50 p.m., Rm. 201 Slone Bldg.

Month	Day	Speaker	Position	Topic	Assignment
Jan.	14	Moecher		Overview of Geoscience Fields and the Major	Read article by Heath; AGI Careers website
	21	MLK Day: no class			
	28	Dr. Sue Rimmer	Prof. and Dir. Grad. Studies, DEES	Graduate School; Careers in Research	Visit a Grad Program Web Page
Feb.	4	Mr. Chuck Taylor	Geologist, U.S.G.S	U.S. Geological Survey; Federal Govt.	USGS Web Page
	11	Dr. Jim Cobb	State Geologist of KY	State Geological Surveys	KGS Web Page
	18	Mr. Steve Sullivan	CFO Corradino Group	Private Industry: Env. Consulting - the Business Side	
	25	Dr. William Thomas	Professor and Chair, DEES	Professional Organizations	Join a Professional organization
March	3	Mr. Rusty Ashcraft	Geologist, Alliance Resources	Private Industry: Coal	
	10	Spring Break!			
	17	Ms. Jamie Johnson	A&S Career Counselor	Visit Stuckert Career Center	Build a Resume
	24	Ms. Martha Brock	Attorney, U.S. Env. Protection Agency	Environmental Law	
	31	Mr. Mike Currie	Geophysicist Newfield Exploration Co.	Private Industry: Petroleum exploration	Write cover letter
April	7	Dr. Peter Goodman	Head, KY Env. Protection Cabinet, Groundwater Division	Government: State Sector	
	14	Ms. Karen Thompson	Geologist Smith (Environmental) Management Group	Private Industry: Environmental Consulting	
	21	Mr. Tommy Cate	Geologist Greensburg Oil, LLC	Private Industry: Oil and Gas Development	
	28	Mr. Kevin Wente	Geologist, LFUCG	Local Government	

Assignments must be completed in order to obtain a passing grade (P): instructions and due dates for each assignment will be provided when the assignment is distributed.