

# **Department of Geological Sciences**

## **Upper Division Writing Intensive Program, Fall 2011**

### **Background**

During the Fall Semester of 2004, the Department of Geological sciences developed a plan to distribute our upper level writing intensive requirement for the BS degree over four courses instead of the traditional single WI course. The details of this plan were distributed to the Campus Writing Board for discussion and review, and the plan was approved at the December 2004 meeting of the Board. We started the program during the Spring Semester of 2005 and have now completed twelve semesters of this distributed WI program. The program has been quite successful, and we are requesting approval to continue using this program to fulfill the upper level WI requirement for the BS degree in Geological Sciences.

This report describes the details of the program and includes links to syllabi and writing assignments from the four courses that are included in the program.

### **Courses and Faculty Members Involved**

The program currently involves seven professors distributed among the four courses. Three of the courses are taught during the Spring Semester – Structural Geology (4150/7150 – Dr. Bauer), Igneous & Metamorphic Petrology (3900 – Drs. Whittington or Nabelek), and Sedimentary Environments and Facies (3800 – Dr. Barquero-Molina). One of the courses, Plate Tectonics, is taught during the Fall Semester, (4600/7600 – Drs. Liu, Sandvol, or Cormier). All four courses are required for the B.S. Degree, and each of the professors noted above have taught their respective course several times as part of this program. Plate tectonics is typically the last course that students complete in the sequence, and this is the only course among the four that the Registrar's Office monitors for our student's completion of their advanced WI credit.

Each faculty member involved in the program has participated in a CWP workshop, and the writing assignments for each course generally confirm to the established CWB guidelines for assignments. The total number of pages of student writing produced by the assignments is more than twice that of a single WI course; most, but not all of the assignments include revisions. Typical enrollment in each of the courses is 10 to 16 students. Dr. Bauer acts as the department coordinator for the program.

### **Advantages of This Approach**

We have found four major advantages in this distributed WI approach: 1) It gives our students a greater breadth of writing experiences in our upper level courses. 2) It involves more of our faculty in improving our students' writing skills, while distributing the faculty workload involved in teaching writing skills within our curriculum. 3) It provides a more equitable distribution of the students' writing

assignment workload among our laboratory and non-laboratory upper level courses. 4) The total amount of assigned writing is significantly greater than would be required in a single WI course.

### Course Sequencing and WI Designation for the Registrar’s Office Accounting

Year	Fall Semester	Winter Semester
So		Sedimentary Environments
Jr		Structure / Ig-Met Petrology (Sedimentary Environments)
Sr	Plate Tectonics	(Ig-Met Petrology)

The table above shows the typical (and possible – in parentheses) sequences for the courses. Structural Geology is a pre-requisite for the Plate Tectonics course, but none of the other courses are pre-requisites for one another. Students generally take Sedimentary Environments during the Spring Semester of the sophomore year, although students may also take it during their junior year. Students generally take Structural Geology during the Spring Semester of their junior year followed by Plate Tectonics during the Fall Semester of their senior year. Students generally take Petrology during the Spring Semester of their junior year, but some do not take Petrology until their senior year. Plate Tectonics, which is typically the last course taken in the sequence, has been the designated WI course to satisfy the WI-requirement accounting processes in the Registrar’s office. Undergraduate students outside of the Geological Sciences Department are unlikely to take Plate Tectonics due to the Structural Geology prerequisite. Some implications of this course sequencing are also considered below in the general discussion of the Writing Assignments.

### Grading and Teaching Assistants

The WI assignments are graded by faculty members with assistance from a department-funded (OTS) Teaching Assistant. All three of the courses taught during the Spring Semesters are laboratory courses, and the TA assigned to teach the respective laboratory sections also assists in grading the WI assignments. Plate Tectonics, taught during the Fall Semester, does not have associated laboratories, so one designated teaching assistant during the Fall Semester is assigned to assist in reviewing writing assignments for this course. The TA’s review the assignments and flag certain areas and/or make comments on aspects of mechanics. Professors complete a second stage of review with comments on organization, clarity, reasoning, and content prior to returning papers to students for revisions. Professors assign the final grade based on review of the revised copy. The Fall Semester TA’s WI assignment constitutes ~1/3 of their total teaching assignment, not their full assignment.

### Associated Instruction in Scientific Writing

As part of the distributed WI requirement, each student is required to attend a sequence of four lectures on “Scientific Writing” presented by Dr. Bauer. These lectures are offered during the Spring Semester; students are only required to attend the lectures during the first semester that they take any one of the WI courses. Although attendance is optional in subsequent semesters, several students have

attended a second session in subsequent semesters. To supplement the lectures, the students have assigned readings from a required text "The Craft of Scientific Writing" by Michael Alley.

## Writing Assignments

Writing assignments and course syllabi for each of the four courses are available from course website links or as PDF files from the links listed below. The assignments in Structural Geology (linked below) are a modified subset of the assignments that were part of a full WI course that Dr. Bauer taught for several years.

Ideally, in a single Writing Intensive course, the assignments would be progressively more rigorous, allowing the students to build upon the feedback provided with prior assignments. In general, our assignments do provide this progression. The most rigorous writing assignment is the one assigned in the Plate Tectonics course, and typically students take Plate Tectonics as their last course in the sequence. However, exceptions, indicated in the table above, might occur. The assignments in Structural Geology, which is a prerequisite for Plate Tectonics, are shorter assignments, designed to help students with organization and introductory sections. As such, these assignments help to prepare students for the more rigorous paper assigned in the Plate Tectonics course.

### Structural Geology –

Web site link: <http://bengal.missouri.edu/~bauerr/Geol7150/>

Writing assignments link: <http://bengal.missouri.edu/~bauerr/Geol7150/Writing.html>

### Plate Tectonics –

WI 2011 Update Application:

[http://bengal.missouri.edu/~bauerr/WI/GeologyWI2011/Plate\\_Tectonics/SandvolGeol4650F11.pdf](http://bengal.missouri.edu/~bauerr/WI/GeologyWI2011/Plate_Tectonics/SandvolGeol4650F11.pdf)

### Igneous and Metamorphic Petrology –

Syllabus: [http://bengal.missouri.edu/~bauerr/WI/GeologyWI2011/Ig\\_Met\\_Pet/SyllabusSp2011.pdf](http://bengal.missouri.edu/~bauerr/WI/GeologyWI2011/Ig_Met_Pet/SyllabusSp2011.pdf)

Writing assignments:

[http://bengal.missouri.edu/~bauerr/WI/GeologyWI2011/Ig\\_Met\\_Pet/WI1Sp11GraniteAssignment.pdf](http://bengal.missouri.edu/~bauerr/WI/GeologyWI2011/Ig_Met_Pet/WI1Sp11GraniteAssignment.pdf)

[http://bengal.missouri.edu/~bauerr/WI/GeologyWI2011/Ig\\_Met\\_Pet/WI2Sp11StFMAssignment.pdf](http://bengal.missouri.edu/~bauerr/WI/GeologyWI2011/Ig_Met_Pet/WI2Sp11StFMAssignment.pdf)

### Sedimentary Environments –

Syllabus:

<http://bengal.missouri.edu/~bauerr/WI/GeologyWI2011/Sedimentology/CourseSyllabusSpring2011.pdf>

Course Schedule:

<http://bengal.missouri.edu/~bauerr/WI/GeologyWI2011/Sedimentology/Spring2011Schedule.pdf>

WI-1 <http://bengal.missouri.edu/~bauerr/WI/GeologyWI2011/Sedimentology/WI1Sedimentology.pdf>

WI-2 <http://bengal.missouri.edu/~bauerr/WI/GeologyWI2011/Sedimentology/WI2Sedimentology.pdf>

WI-3 <http://bengal.missouri.edu/~bauerr/WI/GeologyWI2011/Sedimentology/WI3Sedimentology.pdf>