Integrating Applications of Structural Geology in Other Disciplines into Structural Geology Courses

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Only a very small percentage of students in most structural geology courses will become structural geologists. Many, however, will someday use structural concepts and techniques to solve problems in other fields. We can help students see the relevance of structural geology to geological problem-solving, as well as better prepare them for future work in geology and geological engineering, by integrating problems that apply structural geology, but that come from other disciplines, into structural geology courses.

Examples and Current Development Efforts of the Working Group

We hope that this list will inspire you to choose examples involving other disciplines when you look for ways to illustrate structural concepts.

Our working group was inspired by these ideas, and members of the working group are currently developing the following activities for use in structural geology courses. As soon as activities are developed, we will post them in the Teaching Structural Geology Resources Collection.

- Writing assignment asking structural geology students to develop an essay on how structural geology applies to their field of study and on some or all of the ways they have studied subject (Barbara Tewksbury, Hamilton College).
- an exercise on the relationship between newly discovered faults and geology (Diane Dodelin, Dartmouth College).
- an exercise on evaluating the groundwater potential of fractured bedrock aquifers (Eric Nelson, Colorado School of Mines).
- an exercise illustrating the role of structural geology in archaeological site evaluation (Brian Dade, Dartmouth College).
- a case study of the role of bedrock weaknesses and climate on slope stability in the Virginia Blue Ridge (Kirsten Menking, Vassar College).
- a case study of the role of climate in the evolution of structures (Barbara Tewksbury, Hamilton College).
- a case study of the role of structural geology in hydrocarbon deposit formation (John Dembosky, SUNY Geneseo).
- an exercise on the role of structural geology in development of structural traps (Brian Dade, Dartmouth College).
- an exercise on the role of structural geology in development of topographic patterns (John Dembosky, SUNY Geneseo).
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You may also view what is currently in the collection at http://struc.geology.ucsb.edu/NSAG/Workshop/structure/TSG_Resources.html

On our web submission form we ask you to:
- Provide a brief description of a specific example, rather than a generic case. We have provided three descriptors as guides for writing your brief description.
- List a single supporting reference to provide the interested browser with an entry into relevant background material.
- If you already have an activity developed for the topic, submit the brief description and supporting reference, and then submit the activity to our Activities and Assignment Resources Collection.

Development of an On-line Resource Collection

Do you have good examples to contribute??

We encourage you to contribute specific ideas to our growing collection of examples that illustrate applications of structural geology to other disciplines.

To submit an example, use our on-line submission form shown at right (information on tear-off sheet below).

We hope that you will help us build this collection!

Please tear off one of the sheets at right and take it with you. Go to our website, and contribute your good ideas.

This assignment is an example of the kind of activity that can be developed to allow students to practice skills in structural geology, and also explore the relevance of structural geology to another discipline.

This assignment can be downloaded from our Assignments and Assignments Collection: at http://struc.geology.ucsb.edu/NSAG/Workshop/structure/TSG_Resources.html

Want to join our working group?

Send an e-mail to Barbara Tewksbury at Hamilton College
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