

## **Structural Geology I**

Earth Sciences 204

Section: D100

Term: 2005 Spring

Instructor: Dr. D. Gibson

Discussion Topics: This course introduces the fundamental concepts and principles of structural geology with a emphasis on practical applications. Lectures will cover the nature of structural geology; which includes the description and analysis of deformation and deformation processes at scales ranging from minerals to mountain belts. Topics will cover major types of structures and fabrics (folds, faults, joints, cleavage, foliation, etc.), dynamic and kinematic analyses of deformation (stress and strain), and an introduction to concepts of plate tectonics. Laboratory exercises will emphasize practical techniques applicable to the field analysis of geologic structures, including interpretation of geologic maps, stereographic projection and analysis of structural data, and cross section construction and interpretation.

Grading: Lecture Midterms: two at 15% each

Final Exam: 25%

Laboratory Exercises: 45%

Required Texts: Structural Geology of Rocks and Regions. Davis, G.H. and Reynolds, S. 2nd Edition, 1996, John and Wiley and Sons.

Recommended Texts: Basic Methods of Structural Geology, Marshak/Mitra, G. 1998, G.Prentice Hall.

Materials/Supplies: Mechanical pencil, colored pencils (hard lead), good eraser, ruler, tracing paper, protractor, plastic triangle, calculator.

Prerequisite/Corequisite: EASC 101 and EASC 102, PHYS 120

Notes: The laboratory exercises may include a Saturday or Sunday field exercise late in the term, weather permitting.

There will be lectures and a laboratory exercise the first week of classes.

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