

GEOL726 – Igneous Processes & Crustal Genesis
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Spring Semester 2011

Course Objective & Content

The objective of this course is to convey an understanding of the igneous processes that have played a role in the formation and evolution of the continental crust. The course will review key principles of petrology and geochemistry, and survey the scientific literature on the subject of igneous processes and crustal genesis. Most topics focus on petrological and geochemical data, but geophysical and geodynamical subjects and examples will also be covered. The course is intended for graduate students who have broad interests in orogenic systems and lithospheric evolution.

Learning Outcomes

Students taking this class will learn to interpret major element, trace element and isotopic geochemical data from igneous rocks in the context of melt formation and evolution in the earth and their role in crust-forming processes.

Lectures: MW from 12:30 to 1:45 in EWS208.

Take-Home Exams

Each subject area covered in class will have a corresponding set of 1-3 take-home exam questions, which will be provided to students throughout the semester. These will be graded on a 10-point scale and will be the primary basis by which course grades are determined. Responses to take-home questions must be typed (single-spaced) and no more than 500 words in length. Use of figures and graphs is encouraged. The level of detail in the responses need not exceed the level at which the material is covered in class. The final due date for all questions is Friday, April 29, 2011.

Oral Presentations

Students will be required to compile literature and data in a research area of their interest, and to lead one class meeting on that topic. Grades for this will be assigned on the basis of the oral presentation only (i.e., there is no written requirement for the assignment).

Grades

Course grades will be assigned based on take-home exam questions (80%) and oral presentations (20%). Letter grades will be assigned using the traditional scale where A's are awarded for scores of 90-100%, B's for 80-89%, C's for 70-79%, and so on.