**EAS 56600/EAS B7000: Solid Earth Geochemistry**

**Description**: This class is designed to introduce fundamental geochemical concepts and tools to undergraduate/junior graduate students for understanding chemical and isotopic variations of Earth’s materials, and using these tools to study, particularly, the deep earth involvement in Earth Systems Science, including: 1) thermodynamics and kinetics; 2) major element variations of rocks; 3) trace element characteristics of evolving earth systems; and 4) case studies about the petrogenesis of Mid-ocean ridge basalts, Ocean island basalts, and Arc lavas. 3 lect. hr./wk.; 3 cr.

**Time**: Tuesdays and Thursdays, 3:30-4:45 pm

**Location**: Marshak 107

**Text books**: Geochemistry (by William White); Origin of Igneous rocks: the isotopic evidence (by Gunter Faure);

**Class policy and grades**: Attendance to the class is strongly encouraged. The Final grade is based on 50% homework + 15 % mid-term + 35% final. Mid-term exam will be a 1.5-hour closed-book, closed-note exam, final is a 3-hour closed-book and closed-notes exam. Graduate students are expected to finish a small project and hand in a 10-page long Journal-style term paper.

**The conversion from points to letter grades** is done as follows:

A+ >97 C+ 77-80

A 93-97 C 73-77

A- 90-93 C- 70-73

B+ 87-90 D 60-70

B 83-87 F < 60

B- 80-83