Earth Science 450/550: Introduction to Petrology (CRN: 20665), Winter 2006

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Office Hours: T 11-12, W 2-4, R & F 11-12, by appointment, or feel free to drop in most times.
Required Text: Earth's Materials: Minerals and Rocks, Sen, G., 2001.
Recommended: Minerals in Thin Section, 2nd ed., Perkins, D., and Henke, K.R., 2004.

Grading Scheme:		**Percent**	**Approx. Point Distribution**
	Midterm Exam	25 %	100-125 points
	Final Exam	30 %	120-150 points
	Sample Description & ID Exam(s)	15 %	60-80 points
	Thin Section Papers/Presentations	10 %	50 points
	Assignments and Problem Sets	20 %	75-100 points
	TOTAL		approx. 500 points

Additional Notes: If you are prevented from taking an exam by a *verifiable* catastrophe see me asap. I will not give a make-up exam after I have returned it to the class. Late papers will be assessed a 10%/day late penalty, meaning your score will be reduced 10% per day including weekends. I will not accept an assignment after it is graded and returned the class.

WEEK	DATE	LECTURE TOPICS (tentative)	READING
1	1/9-1/13	Course Overview / Classifying Earth Materials Earth: Overview, Tectonics, & Compositional Attributes Overview of Minerals / Physical Properties	*S*: pp. 16, 19, 233 *S*: Ch. 1 (1-15) *S*: Ch. 3 (52-53; 60-66)
2	1/16-1/20	Mineral Chemistry Atoms, Elements, Compounds; Chemical Bonding Classifying Minerals / Mineralogy of Silicates	*S*: Ch. 2 (p. 20-24, 26) *S*: Ch. 3 (p. 55-66)
3	1/23-1/27	Chemical Mineralogy Phase Relations and Phase Diagrams	*S*: Ch. 7 (p. 178-179; 185-212)
4	1/30-2/3	Introduction to Igneous Rocks Occurrence, Petrography, and Classification	*S*: Ch. 8 (p. 234-252; 257-258)
5	2/6-2/10	Igneous Rocks *cont.* **Midterm Exam:** Thursday, Feb. 9	*S*: Ch. 8
6	2/13-2/17	Petrogenesis and Modification of Magma: Magma Formation and Segregation Differentiation and Variation Diagrams	*S*: Ch. 9 (p. 266-274) *S*: Ch. 10 (p. 281-296)
7	2/20-2/24	Basaltic Magmas: Classification and Origin Layered Mafic Intrusions	*S*: Ch. 10 (p. 279-280); Ch. 11 *S*: Ch. 10 (p. 296-306)
8	2/27-3/3	Andesitic and Rhyolitic Magmas Volcanic Arc Rocks: Compositions and Textures	*S*: Ch. 12 (p. 333-339) *S*: Ch. 12 (p. 340-352)
9	3/6-3/10	Granitoids: Plutonic rocks Case Study in Petrology: Origin of Arc Magmas	*S*: Ch. 12 (p. 352-360) Additional reading materials provided
10	3/13-3/17	Metamorphism and Metamorphic Rocks: Origin of Textural Features; Facies and Tectonics	*S*: Ch. 15 *S*: Ch. 16 (p. 444-451)
Finals	3/20-3/24	**Comprehensive Final Exam**	Tuesday, Mar. 21, 8-10 am