Geology 1003: Igneous and Metamorphic Petrology, Spring 2013

MW 12:00 - 12:50 pm, Thaw 203

Instructor: Charles E. Jones (cejones@pitt.edu)
Office: SRCC 503
Phone: 624-6347
Office Hours: Whenever. Just drop by when you're in the building, or call ahead.
TA: Nicole Fontanella will teach two labs/week on MW or TTh.

Textbook: **Principles of Igneous and Metamorphic Petrology** (2nd ed.) by John D. Winter (2010)

Grading:			
	Exam 1:	15%	Monday, Feb. 11
	Exam 2:	20%	Monday, Mar. 25
	Final:	30%	Saturday, Apr. 27, 2:00-3:50 pm
	Labs:	35%	

Field trips: I would love to do a field trip, but I've never developed one for ig/met. I know there are a lot of nice exposures along the C&O canal near Washington, D.C., but that's about it for me. If anyone would like to develop a trip, that would be great. Then we just have to avoid scheduling the weekends of March 23-24, 30-31, or April 6-7.

Exams: The exams will be short- and long-answer. I'll ask a general question, and hopefully you will answer it concisely, crisply, and completely. Labelled sketches will often be most efficient.

Honor Code: The purpose of a university education is for you to acquire certain skills and to learn how to think. Neither can be done if you copy work from other people. Thus, I expect everyone to fully abide by the University Honor Code. All in-class exams are to be taken without the assistance of books, notes, or other people. When it comes to studying for these exams, or to preparing labs, I encourage you to study in groups and to discuss difficult points. This is not only a good way to learn, but collaborative projects are the norm in academic and business settings. However, unless directed by the TA to work as a group writing up a specific project, people should independently do and write up their own labs. This is the only way to develop your skills!

GEOL 1003: Igneous Metamorphic Petrology
Spring Term 2013 Schedule

Wk #	Date	Lecture Topic	Reading Chapter	Lab Date	Laboratory Topic
1	M Jan 7	Overview of the Earth	Winter text	M/T	Mineralogy/Microscopes Review
	W Jan 9	Overview of the Earth	1	W/Th	Rock Description and Classification
2	M Jan 14	Classification and Texture of Igneous Rocks	2	M/T	Igneous Textures
	W Jan 16	Forms and Structures of Volcanic Rocks	3	W/Th	Igneous Textures
3	M Jan 21	*no class-Martin Luther King Day*	–	M/T	No lab.
	W Jan 23	Forms and Structures of Plutonic Rocks	4	W/Th	Ultramafic Rocks
4	M Jan 28	Phase Rule and One-Component Systems	4	M/T	Mafic Plutonic Rocks
	W Jan 30	Two-Component Systems	6	W/Th	Plagioclase
5	M Feb 4	Two-Component Systems	6	M/T	Phase Diagrams
	W Feb 6	Three-Component Systems & More	7	W/Th	Magma Chambers
6	M Feb 11	***Examination 1: Mid-Term Exam***	-	M/T	Review
	W Feb 13	Three-Component Systems & More	7	W/Th	Midterm Exam
7	M Feb 18	Chemical Petrology I: Major Elements	8	M/T	Silicic Plutons
	W Feb 20	Chemical Petrology II: Trace Elements	9	W/Th	Silicic Plutons
8	M Feb 25	Chemical Petrology III: Isotopes	9	M/T	Volcanic Mafic/Intermediate Rx
	W Feb 27	Generation of Basaltic Magma	10	W/Th	Silica Saturation
9	M Mar 4	Diversification of Magmas	11	M/T	Felsic Igneous Rocks
	W Mar 6	Ocean Ridge & Intraplate Magmatism	13-15	W/Th	Felsic Igneous Rocks
10	M Mar 11	*Spring Break*	–	M/T	*Spring Break*
	W Mar 13	*Spring Break*	–	W/Th	*Spring Break*
11	M Mar 18	Plate Margin Magmatism	16-17	M/T	Intro to Metamorphic Rocks
	W Mar 20	Properties & Classification of Metamorphic Rocks	21-23	W/Th	Intro to Metamorphic Rocks
12	M Mar 25	***Examination 2: Mid-Term Exam***	-	M/T	Foliated Metamorphic Rocks
	W Mar 27	Properties & Classification of Metamorphic Rocks	21-23	W/Th	Foliated Metamorphic Rocks
13	M Apr 1	Stable Mineral Assemblages (Phase Rule & Equilibrium)	24	M/T	Non-foliated Metamorphic Rocks
	W Apr 3	Stable Mineral Assemblages (Chemographic Diagrams)	24	W/Th	Non-foliated Metamorphic Rocks
14	M Apr 8	Metamorphic Facies (Equilibrium in Metamorphic Rocks)	25	M/T	Review
	W Apr 10	Metamorphic Facies Series	28	W/Th	Final
15	M Apr 15	Metamorphism & Global Tectonics	30	M/T	No lab.
	W Apr 17	Relation of Metamorphism to Granitic Magmatism; Review	18	W/Th	No lab.
16	***FINAL EXAM: Saturday, April 27, 2:00—03:50 pm***				