

NDSU GEOLOGY 423 / 623 -- PETROGRAPHY 2008

COURSE INFORMATION AND TENTATIVE SCHEDULE

Time:	Thursdays, 11:00 am - 12:15 pm
Location:	Stevens Hall 134
Instructor:	B. Saini-Eidukat, office 129 Stevens Hall, ext. 1-8785 email: bernhardt.saini-eidukat@ndsu.edu
Office hours:	Wednesdays 2:00 p.m. - 4:00 p.m. and by appointment.
Text:	D. Perkins & K. Henke, Minerals in Thin Section, 2nd ed. Enrichment: Ehlers, E.G., 1987, Optical Mineralogy, Vol. 1: Theory and Techniques, Vol. 2. Mineral Descriptions. Klein and Dutrow,
Web Site:	www.ndsu.edu/instruct/sainieid/pet/

This laboratory course will introduce you to the theory and practice of optical microscopy; classification and identification of igneous and metamorphic rocks in hand specimen and thin section; and interpretation of rock textures and mineral assemblages.

Jan 10	Lab 1:	Nomenclature of Igneous Rocks, Principles of optical petrology
Jan 17	Lab 1, cont:	Optical properties of isotropic and uniaxial minerals
Jan 24	:	Steve Jacobsen visit
Jan 31	Lab 2:	Optical properties of biaxial minerals
Feb 7	Lab 3:	Feldspars, feldspathoids
Feb 14	Lab 4:	Mafic and ultramafic rocks (Sonju Lake intrusion, Duluth Complex)
Feb 21		Visit to SEM
Feb 28	Lab 5:	Whole rock chemistry
Mar 6		Spring break
Mar 13	Lab Exam 1:	(covers Labs 1 - 4); Lab 6 Volcanic rocks
Mar 20	Lab 8:	Granitoids
Mar 27	Lab 7:	Lunar petrology
Apr 3	Lab Exam 2:	(covers labs 5, 6, 8)
Apr 10	Lab 10:	Metapelites
Apr 17	Lab 11:	Contact metamorphic rocks
Apr 24	Lab 12:	High temperature and pressure metamorphic rocks
May 1		Project Work
May 6	9:00 am:	Lab Exam 3 (comprehensive)

(note – there is no Lab 9)

Intended Student Outcomes:

- To be able to identify common rocks and their constituent minerals in hand specimen and thin section
- To understand rock classification schemes
- To understand the Earth processes that form rocks

Examinations and Grading:

Grading will be based on laboratory assignments and three exams (short answer, problem solving, identification). Graduate students will be required to do an independent project.

Exams 1-3	50%
Lab assignments	50%

The final letter grade will be assigned based on the following table, unless the class average deviates significantly from 75%. In the latter case, a "curve" will be applied.

A = 90-100; B = 80-89; C = 70 - 79; D = 60-69; F = <60

"Borderline" cases will be judged individually, based on grade improvement, demonstrated effort, class participation, etc.

Special Needs: Students who need special accommodations for learning or who have special needs are invited to share these concerns or requests with the instructor as soon as possible.

Academic Responsibility: All work in this course must be completed in a manner consistent with NDSU University Senate Policy, Section 335: Code of Academic Responsibility and Conduct (www.ndsu.nodak.edu/policy/335.htm).