MNG 432 - ROCK MECHANICS II
Fall 2010 Syllabus

1. Textbook information

Required textbook:

Reference texts:
Publishers, Boston.

2. Topical outline

• Rock slope engineering (basic mechanics of slope failure, graphical presentation of geological
data, Shear strength of rock, groundwater flow, plane failure, wedge failure, circular failure)
• Rockmass classification and empirical methods of design (Terzaphi’s rock load classification,
Geomechanics classification, Q-system)
• Rock support principles and methods (Mechanics of rock-support interaction, mechanics of rock
bolts, design guidelines for rock bolt systems)
• Rock dynamics (waves and vibration, blasting monitoring, rockburst and seismicity, geophysical
methods for ground control)
• Course design/research project

3. Grading

Course design/research project
Project proposal (Mid-term presentation) 15%
Final report (Final presentation) 25%
Homework 30%
Final exam 30%


4. Ethical homework preparation

All work is done on the honor system. It will be considered unethical (in this course) to confer on
answers or look at other people’s work. You may discuss the work with other in a general way, but can
not use another person to help you with the problems.

5. Instructor

Maochen Ge, Ph.D.
Missouri University of Science and Technology
Department of Mining Engineering
324 McNutt Hall, 1400 N. Bishop Ave, Rolla, MO 65409
Tel: 573 341 6029   email: gem@mst.edu