

Igneous and Metamorphic Petrology 206-12121 – 4 credits

Dr. Yaron Katzir

Syllabus

Classification of igneous rocks, field relations of volcanic and plutonic rocks, igneous textures. Gibbs phase rule and binary phase diagrams. Ternary phase diagrams. Geochemistry of igneous rocks ? major and trace elements and isotopes. Tectonomagmatic settings: mid oceanic ridges, island arcs and hot spots. Classification of metamorphic rocks; metamorphic structures and textures; metamorphic facies and pelitic and basitic assemblages. Deformation and recrystallization during metamorphism. The phase rule in metamorphic systems. Metamorphic reactions and geothermobarometry. Metamorphic fluids and metasomatism

Bibliography

John D. Winter/ Principles of igneous and metamorphic petrology.

Pearson, 2010 John D. Winter/ .An Introduction to Igneous and Metamorphic Petrology. Prentice-Hall, 2001.

Bruce W. Yardley / An Introduction to Metamorphic Petrology. Longman, 1989

Course Requirements

Prerequisites: Introduction to Sedimentology, Mineralogy, Introduction to Physical Chemistry 1

2.5 hr lecture

0.5 Weekly tutorial hours

2 hr lab

1 Field Exc.