

## **SIO 120 Schedule** (Subject to change as necessary)

### **LECTURE:**

### **LAB:**

#### **WEEK 1: JAN. 7/9**

**TU-** Introduction to mineralogy: what is a mineral, why are we interested?  
**TH-** Introduction to mineralogy: what is a mineral, why are we interested?

**TU- NO LAB**  
**TH-** Introduction to mineral science

#### **WEEK 2: JAN. 14/16**

**TU-** Physical properties of minerals (**Ch.2**)  
**TH-** Mineral chemistry and bonding (**Ch. 3+4**)

**TU-** Hand sample identification of minerals  
**TH-** Hand sample identification of minerals

#### **WEEK 3: JAN. 21/23**

**TU-** Crystallography: symmetry operators, Hermann-Mauguin notation, 32 crystal classes (**Ch. 6-10**)  
**TH-** Crystallography: 6 crystal systems, crystal axes, miller index (**Ch. 6-10**)

**TU-** Crystallography I- Symmetry patterns  
**TH-** Crystallography II- Crystal models and systems

#### **WEEK 4: JAN. 28/30**

**TU-** Crystallography: Miller index, defects, twins (**Ch. 6-10**)  
**TH-** Analytical techniques in mineralogy: XRD, XRF, ICP, Ion microprobe, SEM (**Ch. 14**)

**TU-** Crystallography II- Crystal models and systems  
**TH-** Crystallography- Miller indexes

#### **WEEK 5: FEB. 4/6**

**TU-** Introduction to systematic mineralogy  
**TH-** EXAM #1

**TU-** Introduction to systematic mineralogy/Review for quiz  
**TH-** LAB QUIZ 1 (mineral ID's and crystallography)

#### **WEEK 6: FEB. 11/13**

**TU-** Nesosilicates and sorosilicates (**Ch. 19**)  
**TH-** Cyclosilicates and phyllosilicates (**Ch. 19**)

**TU-** Nesosilicates and sorosilicates  
**TH-** Cyclosilicates and phyllosilicates

**LECTURE:**

**WEEK 7: FEB. 18/20**

**TU-** Inosilicates and tectosilicates (**Ch. 19**)

**TH-** Native elements and sulfides (**Ch. 15**); Halides, carbonates, oxides (**Ch. 16-17**)

**WEEK 8: FEB. 25/27**

**TU-** Sulfates, phosphates, arsenates, vanadates and tungstates (**Ch. 17**)

**TH-** Introduction to optical mineralogy and the petrographic Microscope (**Ch. 13**)

**WEEK 9: MAR. 4/6**

**TU-** Optical mineralogy: isotropic and opaque minerals

**TH-** Optical mineralogy: uniaxial minerals (**Ch. 13**)

**WEEK 10: MAR. 11/13**

**TU-** Optical mineralogy: biaxial minerals (**Ch. 13**)

**TH-** Optical mineralogy: biaxial minerals (**Ch. 13**)

**LAB:**

**TU-** Inosilicates and tectosilicates

**TH-** Native elements, sulfides, Halides, carbonates, oxides

**TU-** Sulfates, phosphates + arsenates/vanadates/tungstates

**TH-** **LAB QUIZ 2 (systematic mineralogy) +**

Introduction to the petrographic microscope

**TU-** isotropic and opaque minerals in thin section

**TH-** Uniaxial minerals in thin section

**TU-** Biaxial minerals in thin section

**TH-** Biaxial minerals in thin section

**FINAL EXAM Tuesday, March 18<sup>th</sup> 8:00-11:00 AM in Vaughan 100**