**GLY3200 - Principles of Mineralogy**

# Fall, 2019

**Introduction:**

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| Edition | 1 | 2 | 3 |
| Introduction | Chap. 1 | Chap. 1 | Chap. 1 |

**Crystallography**

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| --- | --- | --- | --- |
| Symmetry and point groups | 6-18 | 11-23 | 12-24 |
| Crystal faces and miller indices | 19-23 | 25-30 | 25-32 |
| Zones, Forms, and Habits | 23-34 | 31-47 | 33-49 |

**Mineral studies**

|  |  |  |  |
| --- | --- | --- | --- |
| Introduction to optics and the microscope | 114-121 | 136-143- | 142-149 |
| Interference figures & Isotropic indicatrix | 121-122 | 143-144 | 149-150 |
| Intro and optics of anisotropic minerals | 122-130 | 144-152 | 150-158 |
| Optical Indicatrix | 130-133 | 152-157 | 158-164 |
| Interference figures | 151-156 | 175-190 | 167-181 |
| Color, pleochroism, extinction angle,  | 136-139 | 158-159 | 164-167 |

**Crystal Chemistry**

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| --- | --- | --- | --- |
| Basic chemistry | Chap. 3 | Chap. 3 | Chap. 3 |
| Crystal structure and Pauling’s Rules | 57–65 | 67-76 | 71-81 |
| Substitutions and Ternary Diagrams | 65-72 | 76-84 | 81-88 |
| Mineral Stability and Stability Diagrams | 74-84 | 85-98 | 89-102 |
| Twinning and Postcrystallization Processes | 87-93 | 98-115 | 102-119 |

**Systematic mineralogy**

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| --- | --- | --- | --- |
| Systematic mineralogy and intro to silicates | 183-200 | 211-229 | 219-238 |
| Nesosilicates | 305-325 | 338-358 | 350-369 |
| Soro-, and cyclo-silicates | 291-305 | 323-358 | 335-347 |
| Ino and Phyllosilicates | 235-289 | 266-322 | 277-333 |
| Tectosilicates | 201-234 | 231-264 | 240-274 |
| Carbonates, sulfides, phosphates | 326-355 | 359-389 | 371-400 |
| Oxides, hydroxides, halides, native elements | 356-404 | 390-413 | 402-424 |
| Rocks and minerals – intro to petrology |  |  |  |

**Classes Canceled**

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| **Labor Day**  | **Sept. 2** |
| **Homecoming** | **October 4** |
| Veterans Day | **Nov. 11** |
| Thanksgiving | **Nov. 27 and 29** |
| Class canceled???? | **Dec. 2 and 4** |

**Reading Days: Dec. 5 & 6 – I am willing to provide a review one of these days**

**Class canceled: Dec. 2 and 4**

**Field Methods field trip: ??????????????????????**

 **1st Mid-term, September 23 or 25 (fixed)**

 **2nd Mid-term, October 28th (may change)**

**FINAL EXAM – Cumulative and mandatory: Monday Dec. 9, 3 to 5 pm**