# Semester Lecture Plan

**Name of the college:** Government College of Arts, Science & Commerce, Sanquelim, Goa-India

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| **Name of Faculty:** Ms. Magnolia Aurea Miranda | **Subject:** Geology | |
| **Paper code:** GEC-1O5, Mineralogy | **Program/Course: TY B.Sc.** | **Division:** |
| **Academic year: 2024 - 2025** | **Semester: V** | **Total Lectures: 60** |

**Course Objectives:**

1. This course will provide knowledge on mainly the optical properties of minerals and their identification
2. It will also provide the general description and distinction of silicate group of minerals.

**Course Learning Outcome:**

1. Explain to a peer the working of a petrological microscope and differentiate and distinguish from biological microscopes
2. Identify the optical properties and use them in subdividing minerals
3. Distinguish and differentiate between different silicate group minerals
4. Compare the working of various binary systems and their applications to magmatic textures and processes

| Month | Lectures From: | To: | No. of lectures allotted | Topic, Subtopic to be covered | Exercise/ Assignment | ICT Tools | Reference books |
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| June | 28/6/24 | 29/6/24 | 1 | Introduction to mineralogy, definition of a mineral | | Projector | Dexter Perkins- Mineralogy<br>Cornelis Klein – Manual of Mineralogy |

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| July | 1/7/24 | 6/7/24 | 4 | Optical Mineralogy, nature of light, polarized light | | Projector | Dexter Perkins-Mineralogy<br>Cornelis Klein – Manual of Mineralogy |
| | 08/7/24 | 13/7/24 | 4 | polarizing microscope, Properties in plane polarized light | | Projector | Dexter Perkins-Mineralogy<br>Cornelis Klein – Manual of Mineralogy |
| | 15/7/24 | 20/7/24 | 4 | Properties in plane/cross polarized light | | Projector | Dexter Perkins-Mineralogy<br>Cornelis Klein – Manual of Mineralogy |
| | 22/7/24 | 27/7/24 | 4 | Properties in cross polarized light | | Projector | Dexter Perkins-Mineralogy |

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| | | | | | | | Cornelis Klein – Manual of Mineralogy |
| | 29/7/24 | 31/7/24 | 3 | Properties in cross polarized light | | Projector | Dexter Perkins-Mineralogy<br>Cornelis Klein – Manual of Mineralogy |
| **August** | 1/8/24 | 3/8/24 | 1 | conoscopic light | | Projector | Dexter Perkins-Mineralogy<br>Cornelis Klein – Manual of Mineralogy |
| | 5/08/24 | 10/8/24 | 4 | Properties under conoscopic light, applications in the study of uniaxial and biaxial minerals | | Projector | Dexter Perkins-Mineralogy<br>Cornelis Klein – Manual of Mineralogy |

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| | 12/8/24 | 17/8/24 | 4 | Uniaxial and Biaxial indicatrix | | Projector | Dexter Perkins-Mineralogy<br>Cornelis Klein – Manual of Mineralogy |
| | 19/8/24 | 24/8/24 | 4 | Accessory plates: Mica, Quartz, Gypsum, 2v, 2e. | | Projector | Dexter Perkins-Mineralogy<br>Cornelis Klein – Manual of Mineralogy |
| | 26/8/24 | 31/8/24 | 4 | Phase rule, system, Phase components, degrees of variance, Mineralogical Phase rule | | Projector | Dexter Perkins-Mineralogy<br>Cornelis Klein – Manual of Mineralogy |
| **September** | 2/9/24 | 7/9/24 | 3 | Binary system-with eutectic (Di-An), Binary system-with with solid solution (Ab-An). | | | Dexter Perkins-Mineralogy |

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| | | | | | | | Cornelis Klein – Manual of Mineralogy |
| | 9/9/24 | 14/9/24 | 1 | Binary system-with with solid solution (Ab-An). | | Projector | Dexter Perkins-Mineralogy<br>Cornelis Klein – Manual of Mineralogy |
| | 16/9/24 | 21/9/24 | 4 | Or- Ab system and formation of perthites, Influence of PH2O on crystallization | | Projector | Dexter Perkins-Mineralogy<br>Cornelis Klein – Manual of Mineralogy |
| | 23/9/24 | 28/9/24 | 4 | Olivine and Pyroxene group | Assignment | Projector | An introduction to rock forming minerals- Deer, Howie, Zussman |
| | 30/9/24 | | 1 | Pyroxene group | Assignment | Projector | An introduction to rock forming minerals- |

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| | | | | | | | Deer, Howie, Zussman |
| **October** | 1/10/24 | 5/10/24 | 3 | Feldspar Group | Assignment | Projector | An introduction to rock forming minerals- Deer, Howie, Zussman |
| | 7/10/24 | 12/10/24 | 4 | Feldspathoids, mica | Assignment | Projector | An introduction to rock forming minerals- Deer, Howie, Zussman |
| | 14/10/24 | 19/10/24 | 4 | Mica Group, Amphibole Group | Assignment | Projector | An introduction to rock forming minerals- Deer, Howie, Zussman |
| | 21/10/24 | 22/10/24 | 2 | Revison | | | |

**Assessment Rubrics**

| Component | Max Marks |
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| ISA 1 | 10 |
| ISA 2 | 10 |
| Practical | 50 |
| Project | - |
| Semester End Exam | 80 |