Course Syllabus

GEOL 2409  
Mineralogy & Petrology I (4006015203)

Course Description: Study of mineral crystallography, chemistry, classification, identification, and occurrence. Includes the genesis, classification, and identification of igneous, sedimentary, and metamorphic rocks.

Semester Hours Credit: 4

Lecture/Lab Hours: 3-3

Prerequisite: Three (3) hours of chemistry

To enroll in any science course, students must demonstrate readiness to perform college level academic coursework in reading and writing according to Coastal Bend College academic skills assessment guidelines. Basic computer skills are also required.


Student Learning Outcomes:

Upon successful completion of this course, students will:

1. Become familiar with the science of crystallography, the use of Hermann-Mauguin notations, Miller indices, orientation of crystal axes and projections.

2. Use the methods above to identify and report the major crystal classes and the more common and useful divisions of those classes.

3. Become familiar with the chemistry of minerals as it applies to composition, bonding, unit cells and coordination number, ionic size and substitution of different ions in the lattices.

4. Use the physical properties of a mineral to identify specimens that are distinctive and as a guide to identifying specimens that are not, using other means.
5. Become acquainted with the principles of optical mineralogy and use of the polarizing petrographic microscope, but not to the point of proficiency.

6. Become familiar with the use of phase diagrams, the succession of minerals formed from a melt, the conditions that affect the formation of one mineral over another, and how it applies to the formation of different types of igneous rocks and their sedimentary and metamorphic derivatives.

7. Recognize sixty (60) of the most common minerals and be aware of the chemical species that make them up.

8. Identify unknown specimens by the methods listed above.

**Evaluation Methods:**

Students receive a grade based on the completion of at least four (4) lecture exams and a final exam in the lecture. The grades may also be determined by homework assignments and announced quizzes.

Laboratory grades are based on the scores of two (2) major practical exams: the crystallography exam and the mineral identification exam. The final exam is semi-comprehensive, usually 50%, and counts the same as other exams.

The final grade will be determined by the number of points earned divided by the total points possible and multiplied by 100. Lecture will count 75% and lab 25% of your total grade. Lab policies and grades are explained in a separate handout.

**ADA Statement:** No qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of the College District, or be subjected to discrimination by the College District. Nor shall the College District exclude or otherwise deny equal services, programs, or activities to an individual because of the known disability of an individual with whom the individual is known to have a relationship or association. 42 U.S.C. 12132; 28 CFR 35.130(g).

See at: [GL (Legal)]

**Special Needs Services:** Students with special needs, including physical and learning disabilities, who wish to request accommodations in this course should contact the Student Development Office as soon as possible to make arrangements; this should occur no later than the second week of class or as soon as the student has the documentation on the disability and requested accommodation per a certified medical or psychological professional. In accordance with federal law, a student requesting accommodations must provide documentation of disability to the Student Development Advisor.
Academic Dishonesty: Each student is charged with notice and knowledge of the contents and provisions of Coastal Bend College’s rules and regulations concerning student conduct. All students shall obey the law, show respect for properly constituted authority, and observe correct standards of conduct. Scholastic dishonesty shall constitute a violation of these rules and regulations and is punishable as prescribed by Coastal Bend College Policies FLB (Local) and FM (Local). Scholastic dishonesty shall include, but not be limited to, cheating on a test, plagiarism, and collusion.

See at: FLB (Local) and FM (Local).

See the Student Handbook for further explanation of Scholastic Dishonesty.

Copyright Law and Intellectual Property Rights Policy: Copyright is the right of an author, artist, composer or other creator of a work of authorship to control the use of his or her work by others. Protection extends to literary works, musical works, dramatic works, pantomimes and choreographic works, pictorial and graphic works, sculpture, motion pictures and other audiovisual works, sound recordings and architectural works. Generally speaking, a copyrighted work may not be reproduced by others without the copyright owner’s permission. The public display or performance of copyrighted works is similarly restricted. Generally, the unauthorized reproduction, performance or distribution of a copyrighted work is copyright infringement and may subject the infringer to civil and criminal penalties. The Fair Use Doctrine outlines exceptions to this Law and is outlined in Coastal Bend College Policy, CT (Legal).

Coastal Bend College, its faculty, students and employees must comply with Copyright Law. Detailed information on Copyright Law and Intellectual Property Rights is available in Coastal Bend College Policy CT (Legal) and CT (Local).

Questions regarding this information should be directed to the Director of Library Services at: library@coastalbend.edu or the Office of Marketing and Public Relations at: socialmedia@coastalbend.edu.

Intellectual Property: Student/Third Party Works: Rights to copyrightable or patentable works created by a student or a third party, that is, not a College District employee, shall reside with the author/creator. Detailed information on Copyright Law and Intellectual Property Rights is available in Coastal Bend College Policy CT (Legal) and CT (Local).

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NOTE: The College website (www.coastalbend.edu) serves as the main source with the most current version of the Coastal Bend College Board Policies and the Coastal Bend College Catalog.