



Purpose: It is the intention of this Administrative-Master Syllabus to provide a general description of the course, outline the required elements of the course and to lay the foundation for course assessment for the improvement of student learning, as specified by the faculty of Wharton County Junior College, regardless of who teaches the course, the timeframe by which it is instructed, or the instructional method by which the course is delivered. It is not intended to restrict the manner by which an individual faculty member teaches the course but to be an administrative tool to aid in the improvement of instruction.

Course Title – Physical Geology Laboratory

Course Prefix and Number – GEOL 1103

Department - Geology

Division – Math and Natural Science

Course Type: (check one)

- Academic General Education Course (from ACGM – but not in WCJC Core)
 Academic WCJC Core Course
 WECM course (This course is a Special Topics or Unique Needs Course: Y or N)

Semester Credit Hours # : Lecture hours# : Lab/other hours # 1:0:2

Equated Pay hours for course - 1

Course Catalog Description - Laboratory exercises involving the study of rocks, minerals, and map interpretations.

Prerequisites/Corequisites - Concurrent enrollment in GEOL 1303 or credit for GEOL 1303.

List Lab/ Other Hours
Lab Hours 2
Clinical Hours
Practicum Hours
Other (list)

Approvals – the contents of this document have been reviewed and are found to be accurate.

Prepared by Danny Glenn	Signature 	Date 9/29/08
Department Head Danny Glenn	Signature 	Date 9/29/08
Division Chair Frank Carey	Signature 	Date 9-30-08
Vice President Dr. Ty Pate	Signature 	Date 10-1-08



I. Topical Outline – Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, clinical or other non lecture instruction):

Course Objectives:

- A. General
 - 1. To stress the importance of physical geology.
 - 2. To familiarize the student with theoretical concepts.
- B. Specific
 - 1. To provide an understanding of physical geology at an entry level for science majors and non-majors.
 - 2. To provide an understanding of the formation of the earth and its processes and its benefits for mankind.
- A. Laboratory Topics
 - 1. Laboratory Orientation and Safety
 - 2. Introduction to Mineral Properties
 - 3. Mineral Identification
 - 4. Introduction to the Rock Cycle
 - 5. Igneous Rocks
 - 6. Sedimentary Rocks
 - 7. Metamorphic Rocks
 - 8. Comparisons of the Rock Types
 - 9. Geologic Structure
 - 10. Topographic Maps & Aerial Photos
 - 11. Water Systems: Groundwater, Rivers & Coastlines

II. Course Learning Outcomes

Course Learning Outcome	Method of Assessment
<ul style="list-style-type: none"> • Recognize the importance of minerals and rocks, especially the economically important ones. • Assess the acquisition of theoretical concepts of science and their impact on the social environment of mankind. • Demonstrate an understanding of physical geology at an entry level, which will serve as a foundation for further studies in earth science if the student chooses so. • Be able to interpret the relationships within physical geology and connections between earth's beginning and present 	<ul style="list-style-type: none"> 1. Laboratory Practical Exams will be given where by the student identifies the actual specimens. 2. The student is tested over the scientific method of problem solving and how it can be used to solve today's problems 3. The student's exams and term paper assignments reflect basic foundational concepts of all other branches of geology . 4. The student's exams and term paper assignments reflect basic foundational concepts including the connections between earth's beginnings and the present.

III. Required Text(s), Optional Text(s) and/or Materials to be Supplied by Student.

Investigations into Physical Geology, by Mazzulo ISBN: 0-03-020294-9

IV. Suggested Course Maximum – 24 per lab session

V. List any specific spatial or physical requirements beyond a typical classroom required to teach the course.

(lab space, special equipment or workstations, etc.):

Designated geology secure laboratory outfitted with sufficient lockable storage units containing lab specimens of minerals & mineral identification tools, rocks & rock identification tools, chemical storage for acids and other chemicals, maps, and charts. An overhead projector, a TV with VCR/DVD capacity, and an internet connection is also needed.

VI. Course Requirements/Grading System – Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course

A. Examinations

Mineral Identification Practical	33%
Rock Identification Practical	33%
Geological Concepts/Mapping Practical	33%

B. The instructor will record numerical grades of the student’s exam/quiz/project scores. The instructor will never record student’s grades as only letter grades such as A+, B, C-, etc. The actual numerical grade will be put on each item the student turns in to the instructor. After showing the grade(s) to the student(s), the only grade that the instructor will record in the numerical grade.

C. No instructor shall at any time allow a student access to another student’s grade, visually or verbally.

D. There will be no deviance from the following grading scale for exams or semester grades.

Grade Scale

90 – 100 = A

80 - 89 = B

70 - 79 = C

60 - 69 = D

Below 60 = F

VII. Curriculum Checklist

- **Academic General Education Course** (from ACGM – but not in WCJC Core)
No additional documentation needed

- **Academic WCJC Core Course**
Attach the Core Curriculum Checklist, including the following:

- Basic Intellectual Competencies
- Perspectives
- Exemplary Educational Objectives

- **WECM Courses**
Attach the following:

- Program SCANS Matrix
- Course SCANS Competencies Checklist



Page 1: Competencies

Course Prefix & Number: GEOL 1103 Physical Geology Lab	
Competency	Method of Assessment
READING: Reading at the college level means the ability to analyze and interpret a variety of printed materials – books, articles, and documents.	N/A
WRITING: Competency in writing is the ability to produce clear, correct, and coherent prose adapted to purpose, occasion, and audience.	N/A
SPEAKING: Competence in speaking is the ability to communicate orally in clear, coherent, and persuasive language appropriate to purpose, occasion, and audience.	N/A
LISTENING: Listening at the college level means the ability to analyze and interpret various forms of spoken communication.	N/A
CRITICAL THINKING: Critical thinking embraces methods for applying both qualitative and quantitative skills analytically and creatively to subject matter in order to evaluate arguments and to construct alternative strategies.	The scientific method of investigation is utilized in all labs.
COMPUTER LITERACY: Computer literacy at the college level means the ability to use computer-based technology in communicating, solving problems, and acquiring information.	N/A



Page 2: Perspectives

Course Prefix & Number: GEOL 1103 Physical Geology Lab	
Perspective	Method of Assessment
1. Individual and society/world; cultural and ethnic diversity	N/A
2. Individual, political, economic, and social aspects of life; being a responsible member of society	N/A
3. Health and wellness	N/A
4. Technology and science: use and understanding	The student list, contrast, and identify geologic processes by utilizing the "Scientific Method" during practical exams. These exams involve the use of geological techniques for specimen identification.
5. Personal values for ethical behavior	N/A
6. Ability to make aesthetic judgments	N/A
7. Logical reasoning in problem solving	Students must demonstrate their competency in "puzzle-like" cross-sections of strata, particularly during exams covering Mapping and Geochronological problems, which to correctly solve, the student must utilize logical thought processes.
8. Integrate knowledge from and understand interrelationships of the scholarly disciplines	The student must demonstrate their knowledge of rocks and minerals by being able to remember the physical, chemical, and mathematical techniques used on lab exams that reflect the eclectic nature of Geology .



Page 3: Exemplary Educational Objectives

Course Prefix & Number: GEOL 1103 Physical Geology Lab	
Component Area: Natural Sciences	
Exemplary Educational Objective	Method of Assessment
1. Understand and apply method and appropriate technology to the study of natural science.	The student will be tested over several aspects of the tools used by geologists today as well as in the past . Focus is on the Scientific Method of problem solving. This method is used by the student to identify specimens of minerals, rocks, and fossils. Practical examinations over specimens, as well as lecture exams and the student's term paper reflect this.
2. Recognize scientific and quantitative methods and the difference between these approaches and other methods of inquiry; and communicate findings, analyses, and interpretations both orally and in writing.	The student will be tested over several aspects of the Scientific Method of problem solving. This method is used by the student to identify specimens of minerals, rocks, and fossils. Practical examinations over specimens, as well as lecture exams and the student's term paper reflect this.
3. Identify and recognize the differences among competing scientific theories.	The student's exams and term papers expose the student to the various competing theories of aspects of the earth.
4. Demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies.	Current topics such as fuel availabilities, natural resource utilization, and secular mistakes such as the so-called "global warming misunderstanding" are an integral part of the student's exams and term paper topics.
5. Demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture.	Again, the student's exams and term paper topics reflect their being exposed to the foundational concepts, and how these concepts influence their daily lives.