



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

Course Prefix and Number – GEOL 1103

Department – GEOLOGY

Division – Math and 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 – 1.2

Course Catalog Description – Laboratory exercises involving the study of rocks, minerals and map interpretation

Prerequisites/Co requisites – Credit for or concurrent enrollment in GEOL 1303

Type: ACAD

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

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Date 02/20/2012

Reviewed by department head Danny Glenn

Date 02/20/2012

Accuracy verified by Division Chair Kevin Dees

Date 4/12/12

Approved by Dean of Vocational Instruction or Vice President of Instruction Lac

Date 11-9-12



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.

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**

If needed, revise the Program SCANS Matrix & Competencies Checklist



Page 1: Competencies

Course Prefix & Number: GEOL 1103	
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.	
WRITING: Competency in writing is the ability to produce clear, correct, and coherent prose adapted to purpose, occasion, and audience.	
SPEAKING: Competence in speaking is the ability to communicate orally in clear, coherent, and persuasive language appropriate to purpose, occasion, and audience.	
LISTENING: Listening at the college level means the ability to analyze and interpret various forms of spoken communication.	
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.	Practical exams over rocks and minerals involve using geological techniques for specimen identification based upon a logic-based flowchart of characteristics. Mapping and geochronological problems on exams emphasize logical thought processes.
COMPUTER LITERACY: Computer literacy at the college level means the ability to use computer-based technology in communicating, solving problems, and acquiring information.	Online laboratory study guides for all GEOL 1103 lab topics are offered for the student. Use of these guides enhances the student's computer skills while helping to raise the student's exam scores.



Page 2: Perspectives

Course Prefix & Number: GEOL 1103	
Perspective	Method of Assessment
1. Establish broad and multiple perspectives of the individual in relationship to the larger society and world in which he or she lives, and help the student to understand the responsibilities of living in a culturally- and ethically-diversified world;	
2. Stimulate a capacity to discuss and reflect upon individual, political, economic, and social aspects of life to understand ways to be a responsible member of society;	
3. Recognize the importance of maintaining health and wellness;	
4. Develop a capacity to use knowledge of how technology and science affect lives;	
5. Develop personal values for ethical behavior;	
6. Develop the ability to make aesthetic judgments;	
7. Use logical reasoning in problem solving;	Mapping and geochronological problems on exams emphasize logical thought processes.
8. Integrate knowledge and understanding of the interrelationships of the scholarly disciplines	All exams reflect the eclectic nature of Geology, drawing upon many scientific disciplines.



Page 3: Exemplary Educational Objectives

Course Prefix & Number: GEOL 1103	
Component Area: Natural Sciences	
Exemplary Educational Objective	Method of Assessment
1. Understand and apply method and appropriate technology to the study of natural science.	Use of "Scientific Method" is stressed in discussion and exam questions.
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.	Dimensional analysis, logic problems, and other quantitative approaches are used to emphasize uses of scientific methods and approaches of problem solving. Exams and term papers reflect this.
3. Identify and recognize the differences among competing scientific theories.	All pertinent opposing theories are presented (ie. evolution vs creationism) and many students opt to use this for term paper topics. Exam questions exemplify contrasting theories.
4. Demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies.	Current topics in World Geology are discussed and incorporated into exam questions.
5. Demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture.	The eclectic nature of Geology allows for the exam questions to be taken from many different scientific disciplines.

