



**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.

*Historical Geology Lab*

**Course Title** – ~~Physical Geology~~

**Course Prefix and Number** – GEOL 1104

**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 include the study of plant and animal fossils and practical application of the principles of historical geology.

**Prerequisites/Corequisites** - Concurrent enrollment in GEOL 1304 or credit in GEOL 1304.

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 <i>Danny Glenn</i>	Date 9/29/08
Department Head Danny Glenn	Signature <i>Danny Glenn</i>	Date 9/29/08
Division Chair Frank Carey	Signature <i>Frank Carey</i>	Date 9-30-08
Vice President Dr. Ty Pate	Signature <i>Ty Pate</i>	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 historical geology.
  - 2. To familiarize the student with theoretical concepts.
- B. Specific
  - 1. To provide an understanding of historical geology at an entry level for science majors and non-majors.
  - 2. To provide an understanding of the evolution of life on earth by providing the student with “hands-on” comparisons of the major fossil groups.

Topical Outline (major areas of coverage):

- A. Laboratory Topics
  - 1. Laboratory Orientation
  - 2. Introduction to Sedimentary Environments
  - 3. Introduction to Fossils and Fossilization
  - 4. Corals and Bryozoans
  - 5. Brachiopods and Bivalves
  - 6. Gastropods and Cephalopods
  - 7. Echinoderms and Arthropods
  - 8. Microfossils and Plants
  - 9. Geochronology
  - 10. Geologic Maps and Mapping Techniques

**II. Course Learning Outcomes**

<b>Course Learning Outcome</b>	<b>Method of Assessment</b>
<ul style="list-style-type: none"> <li>• Be able to demonstrate a basic knowledge of the history of life on earth throughout geologic time.</li> <li>• Realize the importance of historical geology as it relates to everyday life such as acquisition of coal, oil and other fossil fuels.</li> <li>• Relate the acquisition of theoretical concepts to problem solving situations in everyday life.</li> <li>• Have an understanding of historical geology at an entry level upon which the student can build if he or she decides to pursue a career in the sciences.</li> <li>• Recognize the relationships within historical geology and the connections between earth's beginning and the present, emphasizing the evolution of life on earth.</li> </ul>	<ul style="list-style-type: none"> <li>1. Lecture exams and term papers reflect the student's exposure to the evolution of life on earth through time.</li> <li>2. Term papers over current geological topics reflect the student's ability to relate geology to everyday life.</li> <li>3. The student is tested over the Scientific method of problem solving.</li> <li>4. The student's exams and term papers reflect basic concepts of all other branches of geology.</li> <li>5. The student's exams and term papers reflect basic foundational concepts including the connection between earth's beginning and the present.</li> </ul>

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

Historical Geology a Paleontological Approach, by Glenn. ISBN: 0-7872-9684-8

**IV. Suggested Course Maximum - 24**

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

(classroom & lab space, special equipment or workstations, etc.): Designated geology secure laboratory outfitted with sufficient lockable storage units containing lab specimens of fossils, rocks, minerals, 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

Weekly Lab Quiz Average	25%
Fossil Practical	25%
Geological Concepts Practical	25%
Lab Notebook	25%
TOTAL	100%

B. 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 1104 Historical 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 whereby students have "hands-on" experience in identifying and categorizing specimens of fossils and rocks.
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 1104 Historical Geology Lab	
<b>Perspective</b>	<b>Method of Assessment</b>
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 1104 Historical Geology Lab	
<b>Component Area: Natural Sciences</b>	
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.