Wharton County Junior College

Administrative - Master Syllabus
COVER SHEET

***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 – Historical Geology Lab
Course Prefix and Number – GEOL 1104
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 include the study of plant and animal fossils and practical application of the Principles of Historical Geology

Prerequisites/Co requisites – Credit for or concurrent enrollment in GEOL 1304

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

Prepared by Danny Glenn ***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 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

Course Learning Outcome	Method of Assessment
• Be able to demonstrate a basic knowledge of the history of life on earth throughout geologic time. • Realize the importance of historical geology as it relates to everyday life such as acquisition of coal, oil and other fossil fuels. • Relate the acquisition of theoretical concepts to problem solving situations in everyday life. • 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. • Recognize the relationships within historical geology and the connections between earth's beginning and the present, emphasizing the evolution of life on earth.	1. Lecture exams and term papers reflect the student's exposure to the evolution of life on earth through time. 2. Term papers over current geological topics reflect the student's ability to relate geology to everyday life. 3. The student is tested over the Scientific method of problem solving. 4. The student's exams and term papers reflect basic concepts of all other branches of geology. 5. The student's exams and term papers reflect basic foundational concepts including the connection between earth's beginning and the present.

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 per lab session

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 will follow a pre-set semester lab schedule

7 Scheduled Lab Quizzes with the Averageequalling	20%
Geological Concepts Practical (Chapters 1 - 4)	20%
Fossil Practical #1 (Chapters 5 - 11	20%
Fossil Practical #2 (Chapters 12 - 15)	20%
Lab Notebook Filled out by student during the course of the semester	20%
TOTAL	100%

B. Grade Scale (from which no instructor may deviate)

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

X☐ - **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.

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Core Curriculum Checklist

Page 1: Competencies

Course Prefix & Number: GEOL 1104	
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.	
COMPUTER LITERACY: Computer literacy at the college level means the ability to use computer-based technology in communicating, solving problems, and acquiring information.	

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Core Curriculum Checklist

Page 2: Perspectives

Course Prefix & Number: GEOL 1104	
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;	Practical exams over fossils and geochronology involve using geological techniques for specimen identification.
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.

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Core Curriculum Checklist

Page 3: Exemplary Educational Objectives

Course Prefix & Number: GEOL 1104	
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.