



**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 1303

**Department** - Geology

**Division** - Math & 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 #**    3:3:0

**Equated Pay hours for course** - 3

**Course Catalog Description** - Introduction to the materials, processes, and structure of the earth. Topics include the formation of the earth, tectonics, earthquakes, glaciations, mineral resources, mountain-building, oceans, volcanoes, weathering and erosion, and economic resources. GEOL 1103 must be taken with this course to fulfill the 4 semester credit hour requirement for natural science in a degree plan.

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

**Prerequisites/Co-requisites** - TSI satisfied in Reading and Writing

**Prepared by** Danny Glenn

**Date** 09/08/2013

**Reviewed by Department Head** Danny Glenn

**Date** 09/08/2013

**Accuracy Verified by Division Chair** Kevin Dees

**Date** 09/08/2013

**Approved by Dean or Vice President of Instruction** *ggghunt*

**Date** 09/08/2013



**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):

1. Introduction to Geology
2. Universe Beginnings
3. The Earth's Structure
4. Continents
5. Evolution of Land Forms
6. Crustal Deformation
7. Plate Tectonics
8. Ocean Basins
9. Geochemistry & Minerals
10. Igneous Rocks & Igneous Activity
11. Volcanism
12. Weathering & Erosion & Soils
13. Sedimentary Rocks
14. Metamorphic Processes
15. Geologic Time
16. Earthquakes
17. Geologic Structure
18. River Systems, Groundwater and Karst Topography
19. Glacial Systems
20. Deserts of the World
21. Coastline Processes
22. Economic Resources

**II. Course Learning Outcomes**

<b>Learning Outcomes</b> Upon successful completion of this course, students will:	<b>Methods of Assessment</b>
1. Describe how the scientific method has led to our current understanding of Earth's structure and processes.	1. Quizzes, Labs, Exams
2. Interpret the origin and distribution of minerals, rocks and geologic resources.	2. Quizzes, Labs, Exams
3. Describe the theory of plate tectonics and its relationship to the formation and distribution of Earth's crustal features.	3. Quizzes, Labs, Exams
4. Quantify the rates of physical and chemical processes acting on Earth and how these processes fit into the context of geologic time.	4. Quizzes, Labs, Exams

5. Communicate how surface processes are driven by interactions among Earth's systems (e.g., the geosphere, hydrosphere, biosphere, and atmosphere).	5. Quizzes, Labs, Exams
6. Identify and describe the internal structure and dynamics of Earth.	6. Quizzes, Labs, Exams
7. Describe the interaction of humans with Earth including sustainable development of natural resources and the assessment and mitigation of hazards.	7. Essay, Group Power Point Project

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

GEOL, Reed Wicander and James Monroe, Cengage Publishing, (January 1, 2013)

ISBN-13: 978-1- 133-10874-0

**IV. Suggested Course Maximum - 36**

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

Lecture Classroom and designated geology lab room with storage/housing of specimens of minerals, rocks, fossils and other geology-related teaching materials.

**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**

Grading Components are:

- the “**Lecture Average**” = 75% of Student’s Overall Course Grade
- the “**Course Final/EXIT**” = 25% of Student’s Semester Course Grade

The “**Lecture Average**” is defined as the numerical average of components A, B, & C listed below. The average of these three components will constitute 75% of the “Student’s Overall Course Grade” and consists of:

- A. At least 3 major Lecture Exams (Not including the Final/EXIT)
- B. 1 - Essay/Term Paper (Grade equally weighted as a lecture exam)
- C. 1 - Group Power Point Project (no less than 5% of Lecture Grade)

The Final/EXIT:

- D. The Course Final/EXIT accounts for the last 25% of the student’s Overall Course Grade”

The Student’s Overall Course Grade is compiled by:

(“Lecture Average” times 3) plus (Final/EXIT grade), and divide all by 4 will equal the “Overall Student Course Grade”

**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 Review Forms

- Critical Thinking
- Communication
- Empirical & Quantitative Skills
- Teamwork
- Social Responsibility
- Personal Responsibility

- **WECM Courses**  
If needed, revise the Program SCANS Matrix & Competencies Checklist.



**Core Curriculum Review Form**

Foundational Component Area: **Life & Physical Sciences**

Course Prefix & Suffix: \_\_\_\_\_

Core Objective: **Critical Thinking Skills**—to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information

*Student Learning Outcome supporting core objective:*

*For each core objective, there must be at least two different methods of assessment.*

SLO Status	Student Learning Outcome (SLO)	Learning Activity	Assessment
The SLO is:	Insert SLO (from Administrative Master Syllabi) below	Provide a brief name and description of the sample learning activity:	Provide a brief name and description of the sample quiz, exam, rubric, assignment, etc. for assessing the objective:
<input type="checkbox"/> Existing <input type="checkbox"/> Revised <input type="checkbox"/> New <input type="checkbox"/> State Mandated			
<input type="checkbox"/> Existing <input type="checkbox"/> Revised <input type="checkbox"/> New <input type="checkbox"/> State Mandated			
<input type="checkbox"/> Existing <input type="checkbox"/> Revised <input type="checkbox"/> New <input type="checkbox"/> State Mandated			

Department Head: \_\_\_\_\_

Date: \_\_\_\_\_



**Core Curriculum Review Form**

Foundational Component Area: **Life & Physical Sciences**

Course Prefix & Suffix: \_\_\_\_\_

Core Objective: **Communication Skills**—to include effective development, interpretation and expression of ideas through written, oral and visual communication

*Student Learning Outcome supporting core objective:*

*For each core objective, there must be at least two different methods of assessment.*

SLO Status	Student Learning Outcome (SLO)	Learning Activity	Assessment
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**Core Curriculum Review Form**

Foundational Component Area: **Life & Physical Sciences**

Course Prefix & Suffix: \_\_\_\_\_

Core Objective: **Empirical and Quantitative Skills**—to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions

*Student Learning Outcome supporting core objective:*

*For each core objective, there must be at least two different methods of assessment.*

SLO Status	Student Learning Outcome (SLO)	Learning Activity	Assessment
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Department Head: \_\_\_\_\_

Date: \_\_\_\_\_



**Core Curriculum Review Form**

Foundational Component Area: **Life & Physical Sciences**

Course Prefix & Suffix: \_\_\_\_\_

Core Objective: **Teamwork**—to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal

*Student Learning Outcome supporting core objective:*

*For each core objective, there must be at least two different methods of assessment.*

SLO Status	Student Learning Outcome (SLO)	Learning Activity	Assessment
The SLO is:	Insert SLO (from Administrative Master Syllabi) below	Provide a brief name and description of the sample learning activity:	Provide a brief name and description of the sample quiz, exam, rubric, assignment, etc. for assessing the objective:
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Department Head: \_\_\_\_\_

Date: \_\_\_\_\_