GEOL 105 Environmental Geology  
Credit Hours:  4  
Scheduled hours per week  
   Lecture: 3  
   Lab: 2  
   Other: N/A  

Catalog Course Description: An introduction to the study of the Earth’s processes, and interconnections between humans and Earth. The physical, chemical, and biological processes that shape Earth will be studied in conjunction with environmental issues. The study of Earth’s subsystems (the lithosphere, biosphere, hydrosphere, and atmosphere) and the human impact on the subsystems. The laboratory work will emphasize; minerals and rocks, interpretation of maps, and geologic processes.

Pre-requisites: N/A  

Co-requisites: GEOL 105L Environmental Geology Laboratory  

Course Learning Outcomes:  
• Ability to demonstrate critical thinking by analyzing data to infer logical conclusion.  
• Demonstrate and practice the scientific method of investigation of a problem or idea.  
• Ability to collect accurate scientific data by practicing accurate data collecting techniques.  
• Practice experimentation and/or observation of nature in order to evaluate scientific questions or scientific problems.  
• Ability to analyze data by using graphing and other techniques to infer general trends in data and make inductive inferences.  
• Ability to make hypothetical-deductive predictions relative to scientific concepts and understand how to test those predictions.  
• Capability to correctly practice the steps involved in solving problems with the scientific formulas.  
• Ability to take measurements and do calculations using the basic metric system of measurement.  
• Learn and practice methodical study and work habit.  
• To study the earth’s environment, resources, and environmental problems.  
• To study the earth’s resources, hazards, and resource extraction methods.  
• To study the damage to the earth and humans by various methods.  
• To study the relationship of the earth to the universe as a whole.  

Topics to be studied:  
• Rocks and mineral resources  
• Population growth and environmental impact  
• Running water and groundwater resources  
• Pollution in the environment  
• Mass wasting; cause and impact  
• Fossil fuels; exploration, deposits, resources, environmental impacts  
• Renewable resources; development and impact  
• Earth resources and environmental issues  
• Climate change  
• Environmental Health  

Relationship of Course to Program or Discipline Learning Outcomes:  
WVUP UCS Form Revised June 2017
## Relationship of Course to Science Learning Outcomes:

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will learn the process and reasoning behind the Scientific Method and be able to conduct experiments that meet the requirements of the model.</td>
<td>X</td>
</tr>
<tr>
<td>Students exhibit the basic safety-related rules and regulations of working in the lab.</td>
<td>X</td>
</tr>
<tr>
<td>Students be able to recount the basic safety tenants associated with a specific scientific discipline.</td>
<td>X</td>
</tr>
<tr>
<td>Students will become proficient at Science Writing.</td>
<td>X</td>
</tr>
<tr>
<td>Students will recognize and identify the applications of their specific discipline in the ‘real world.’</td>
<td>X</td>
</tr>
<tr>
<td>Students will accurately recount important milestones in the history of scientific inquiry in their discipline.</td>
<td>X</td>
</tr>
</tbody>
</table>

5/3/2016

## Relationship of Course to General Education Learning Outcomes:

<table>
<thead>
<tr>
<th>Area</th>
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<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Composition and Rhetoric</strong></td>
<td>Students illustrate a fundamental understanding of the best practices of communicating in English and meet the writing standards of their college or program-based communication requirements.</td>
<td>X</td>
</tr>
<tr>
<td><strong>Science &amp; Technology</strong></td>
<td>Students successfully apply systematic methods of analysis to the natural and physical world, understand scientific knowledge as empirical, and refer to data as a basis for conclusions.</td>
<td>X</td>
</tr>
<tr>
<td><strong>Mathematics &amp; Quantitative Skills</strong></td>
<td>Students effectively use quantitative techniques and the practical application of numerical, symbolic, or spatial concepts.</td>
<td>X</td>
</tr>
<tr>
<td><strong>Society, Diversity, &amp; Connections</strong></td>
<td>Students demonstrate understanding of and a logical ability to successfully analyze human behavior, societal and political organization, or communication.</td>
<td>X</td>
</tr>
<tr>
<td><strong>Human Inquiry &amp; the Past</strong></td>
<td>Students interpret historical events or philosophical perspectives by identifying patterns, applying analytical reasoning, employing methods of critical inquiry, or expanding problem-solving skills.</td>
<td>X</td>
</tr>
<tr>
<td><strong>The Arts &amp; Creativity</strong></td>
<td>Students successfully articulate and apply methods and principles of critical and creative inquiry to the production or analysis of works of art.</td>
<td>X</td>
</tr>
</tbody>
</table>

5/3/2016

### Special requirements of the course:

N/A

### Additional information:

N/A

### Prepared by:

Valerie Keinath
Date: 10/20/2017