

# Geology BS

## Goal 1: Software skills for geology majors

### Goal Description:

Improve software skills for geology majors to enable them to perform data analysis using various software packages and then use these software tools to solve problems. Most if not all employers are going to want our graduates to be able to use software on the job. We want our students to be comfortable using EXCEL and other software packages (TBD).

**Providing Department:** Geology BS

**Progress:** Draft

### RELATED ITEMS/ELEMENTS

#### RELATED ITEM LEVEL 1

### Goal 1 Objective 1: Improve student EXCEL capabilities

#### Learning Objective Description:

Students will learn how to use various functions available in EXCEL to write formulas and create graphs. Rubrics will be developed to assess student performance which will be used to guide us in improving our teaching methods.

#### RELATED ITEM LEVEL 2

### ICF Goal 1 Objective 1: Improved EXCEL capabilities

#### Indicator Description:

All students enrolled in GEOL 3326 and GEOL 3404 will complete 2 or 3 EXCEL projects in each course and be scored using a rubric to measure their ability to use the functions available in EXCEL.

#### Criterion Description:

At least 70% of the students will receive a score of \_\_\_\_ or higher on the rubric. The remaining 30% will receive a score of \_\_\_\_ or higher on the rubric.

#### Findings Description:

This is a brand new plan that is still in development. See Plan for Continuous Improvement.

#### RELATED ITEM LEVEL 3

### ICF Goal 1 Objective 1: Improved EXCEL capabilities

#### Action Description:

This is a brand new plan that is still in development. See Plan for Continuous Improvement.

#### RELATED ITEM LEVEL 1

### Goal 1 Objective 2: Improve student data analysis capabilities using EXCEL and/or other software

#### Learning Objective Description:

Students will learn how to use EXCEL and other software packages (TBD) to analyze data sets provided by the instructor. Rubrics will be developed to assess student performance which will be used to guide us in improving our teaching methods.

#### RELATED ITEM LEVEL 2

### ICF Goal 1 Objective 2: Improved data analysis capabilities

#### Indicator Description:

All students enrolled in GEOL 3326 and \_\_\_\_\_ will complete \_\_\_\_\_ data analysis projects and be scored using a rubric to measure their ability to use EXCEL and/or other software packages (TBD) to analyze data.

**Criterion Description:**

At least 70% of the students will receive a score of \_\_\_\_\_ or higher on the rubric. The remaining 30% will receive a score of \_\_\_\_\_ or higher on the rubric.

**Findings Description:**

This is a brand new plan that is still in development. See Plan for Continuous Improvement.

**RELATED ITEM LEVEL 3**

**ICF Goal 1 Objective 2: Improved data analysis capabilities**

**Action Description:**

This is a brand new plan that is still in development. See Plan for Continuous Improvement.

**RELATED ITEM LEVEL 1**

**Goal 1 Objective 3: Improve student problem solving capabilities using EXCEL and/or other software**

**Learning Objective Description:**

Students will learn how to use EXCEL and other software packages (TBD) to solve problems provided by the instructor. Rubrics will be developed to assess student performance which will be used to guide us in improving our teaching methods.

**RELATED ITEM LEVEL 2**

**ICF Goal 1 Objective 3: Improved problem solving capabilities**

**Indicator Description:**

All students enrolled in GEOL 3326 and \_\_\_\_\_ will complete \_\_\_\_\_ problem solving projects and be scored using a rubric to measure their ability to use EXCEL and/or other software packages (TBD) to solve problems.

**Criterion Description:**

At least 70% of the students will receive a score of \_\_\_\_\_ or higher on the rubric. The remaining 30% will receive a score of \_\_\_\_\_ or higher on the rubric.

**Findings Description:**

This is a brand new plan that is still in development. See Plan for Continuous Improvement.

**RELATED ITEM LEVEL 3**

**ICF Goal 1 Objective 3: Improved problem solving capabilities**

**Action Description:**

This is a brand new plan that is still in development. See Plan for Continuous Improvement.

**Goal 2: Writing skills for geology majors**

**Goal Description:**

Improve writing skills for geology majors to enable them to write coherent reports and become more effective at written communication. Most if not all employers are going to want our graduates to be able to write reports for their job. We want our students to be more effective in their use of written communication.

**Providing Department:** Geology BS

**Progress:** Draft

RELATED ITEMS/ELEMENTS -----

RELATED ITEM LEVEL 1

**Goal 2 Objective 1: Students will learn to develop an abstract**

**Learning Objective Description:**

Students will learn how to develop and write an abstract that effectively summarizes an article. Rubrics will be developed to assess student performance which will be used to guide us in improving our teaching methods.

RELATED ITEM LEVEL 2

**ICF Goal 2 Objective 1: Abstract development and writing**

**Indicator Description:**

All students enrolled in \_\_\_\_\_ and \_\_\_\_\_ will complete \_\_\_\_\_ abstract writing projects and be scored using a rubric to measure their ability to effectively summarize an article.

**Criterion Description:**

At least 70% of the students will receive a score of \_\_\_\_\_ or higher on the rubric. The remaining 30% will receive a score of \_\_\_\_\_ or higher on the rubric.

**Findings Description:**

This is a brand new plan that is still in development. See Plan for Continuous Improvement.

RELATED ITEM LEVEL 3

**ICF Goal 2 Objective 1: Abstract development and writing**

**Action Description:**

This is a brand new plan that is still in development. See Plan for Continuous Improvement.

RELATED ITEM LEVEL 1

**Goal 2 Objective 2: Students will learn to write geologic report based on their own observations**

**Learning Objective Description:**

Students will learn how to record observations and construct a report based on those observations. Rubrics will be developed to assess student performance which will be used to guide us in improving our teaching methods.

RELATED ITEM LEVEL 2

**ICF Goal 2 Objective 2: Geologic report based on student observations**

**Indicator Description:**

All students enrolled in GEOL 3405 and \_\_\_\_\_ will complete \_\_\_\_\_ observation-based geologic report projects and be scored using a rubric to measure their ability to accurately convey their observations in a written format.

**Criterion Description:**

At least 70% of the students will receive a score of \_\_\_\_\_ or higher on the rubric. The remaining 30% will receive a score of \_\_\_\_\_ or higher on the rubric.

**Findings Description:**

This is a brand new plan that is still in development. See Plan for Continuous Improvement.

RELATED ITEM LEVEL 3

**ICF Goal 2 Objective 2: Geologic report based on student observations**

**Action Description:**

This is a brand new plan that is still in development. See Plan for Continuous Improvement.

#### RELATED ITEM LEVEL 1

### **Goal 2 Objective 3: Students will learn how to write technical research reports**

#### **Learning Objective Description:**

Students will learn how to write technical research reports using a standard format, appropriate references, and correct citations. Rubrics will be developed to assess student performance which will be used to guide us in improving our teaching methods.

#### RELATED ITEM LEVEL 2

### **ICF Goal 2 Objective 3: Technical research reports**

#### **Indicator Description:**

All students enrolled in \_\_\_\_\_ and \_\_\_\_\_ will complete \_\_\_\_\_ technical research report projects and be scored using a rubric to measure their ability to effectively communicate content, follow standard formats, use appropriate references, and cite them correctly.

#### **Criterion Description:**

At least 70% of the students will receive a score of \_\_\_\_\_ or higher on the rubric. The remaining 30% will receive a score of \_\_\_\_\_ or higher on the rubric.

#### **Findings Description:**

This is a brand new plan that is still in development. See Plan for Continuous Improvement.

#### RELATED ITEM LEVEL 3

### **ICF Goal 2 Objective 3: Technical research reports**

#### **Action Description:**

This is a brand new plan that is still in development. See Plan for Continuous Improvement.

## **Update to Previous Cycle's Plan for Continuous Improvement Item**

### **Previous Cycle's Plan For Continuous Improvement (Do Not Modify):**

#### **Closing Summary**

The Geology Program has yet to have the meetings necessary to develop a coherent plan of assessment. We changed up the coordination of the labs to refresh and update our approach to teaching introductory lab courses but have not done anything to assess our progress. These changes resulted in no assessment data being collected. We have regressed in our assessment procedures.

The field methods course continues to be a success based on the informal feedback that we have received from students and summer field camp directors.

Our primary action for the next cycle is to establish a new coherent assessment process.

Last year's meta-assessment was not helpful. One evaluator was obviously evaluating another program because the statements and recommendations had nothing to do with the Geology degree.

#### **Update of Progress to the Previous Cycle's PCI:**

Geology Program faculty finally met Fall 2023 to discuss development of a new coherent plan of assessment. We discussed various learning outcomes that we wanted to improve. We decided to keep this initial revamp relatively simple once we realized how much infrastructure will be necessary to accomplish the desired assessment. Infrastructure includes either re-crafting old assignments or creating new assignments, as well as developing necessary rubrics for the assignments that will provide measurable assessment of learning outcomes. The new assessment plan was entered into Anthology Planning as a work in progress by the December 1, 2023 deadline. Thus we attempted to fulfill "our primary action" stated in the Closing Summary of the previous cycle.

# New Plan for Continuous Improvement

## Closing Summary:

The primary plan is get the new plan for assessment operational. Spring 2024 was a time to adjust assignments and discuss rubrics. There is still much to be done. Assignments and rubrics for Fall 2024 courses will be developed Summer 2024. It is recommended that faculty prepare Spring 2025 assignments and rubrics Summer 2024 as well rather than waiting until Fall 2024 to do so.