I= Introduced
R= Reinforced
M= Mastered

# Program Learning Outcomes

Program Name: Geology

Date: 12-18-2020

| Program Learning Outcomes<br>Knowledge, skill, or behavior students can demonstrate upon program completion | | Courses Mapped to Outcomes | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | GES 100 | GES 111 | GES 125 | GES 203 | GES 243 | GES 244 | GES 251 | GES 252 | GES 295 (Climate Change) | GES 320 | GES 341 | GES 351 | GES 430 | GES 450 | GES 453 |
| **1** | Observe, record, and interpret geological features in the field. | I | | I | R | R | | R | R | | | M | R | | | R |
| **2** | Understand the theoretical underpinnings and methods of data analysis, including quantitative analysis, that uniquely undergird specific subdisciplines within the geosciences | I | | I | I/R | M | M | M | M | M | M | | M | M | M | M |
| **3** | Read, understand, and write geological literature. | I | I | I | I | R | M | | | M | | R | M | M | | M |
| **4** | Describe, classify, and interpret common geological materials and structures. | I | I | I | R | M | M | R | M | | R | R/M | M | | | M |
| **5** | Understanding plate tectonics as the unifying theory in geology. | I | I/R | | M | | | | | | | | | | | |
| **6** | Appreciate how "deep time" informs an understanding of the origins of geological features and resources, and use geological features to reconstruct natural history. | I | | I | R/M | | | | | R | | | M | | | |
| **7** | Understand the scientific process, posit scientific hypotheses, devise ways to test them by collecting scientific data, and analyze data in a meaningful way. | I | I | I | R | | M | | | | R | | M | | | |

# Program Learning Outcomes: Assessment Tools

Program Name: Geology

Date: 12-18-2020

| Program Learning Outcomes<br>Knowledge, skill, or behavior students can demonstrate upon program completion | | Measurement Tool | Timeline/Frequency of Assessment | Target | Review |
|---|---|---|---|---|---|
| **1** | Observe, record, and interpret geological features in the field. | GES 341 field books, journals, or reports | Every 3 years, beginning 2022-2023 | 80% of reports acceptable as professional field notes | Department Assessment Retreat, scheduled in May |
| **2** | Understand the theoretical underpinnings and methods of data analysis, including quantitative analysis, that uniquely undergird specific subdisciplines within the geosciences | Evaluative assessments in individual Mastery courses. Exam questions or assignments deemed as testing mastery are collected for review. | Every 3 years, beginning 2022-2023 | 80% of artifacts demonstrate mastery of target skill for the assignment | Department Assessment Retreat, scheduled in May |
| **3** | Read, understand, and write geological literature. | "Appropriate use of literature" included as a component of the grade for at least one assignment in each Mastery course. This component is recorded separately and reviewed across a subset of mastery courses during Department Assessment Retreat. | Every 3 years, beginning 2022-2023 | 80% of artifacts demonstrate mastery of target skill for the assignment | Department Assessment Retreat, scheduled in May |
| **4** | Describe, classify, and interpret common geological materials and structures. | Evaluative assessments in individual Mastery labs. GES 243, GES 252, and GES 453 retain a sample assignment for review. | Every 3 years, beginning 2022-2023 | 80% of artifacts demonstrate mastery of target skill for the assignment | Department Assessment Retreat, scheduled in May |
| **5** | Understanding plate tectonics as the unifying theory in geology. | Summary exam question in GES 203, retained and reviewed. | Every 3 years, beginning 2022-2023 | 80% of questions reviewed demonstrate understanding | Department Assessment Retreat, scheduled in May |

| | | | | | |
|---|---|---|---|---|---|
| **6** | Appreciate how "deep time" informs an understanding of the origins of geological features and resources, and use geological features to reconstruct natural history. | Summary exam question in GES 203, retained and reviewed. | Every 3 years, beginning 2022-2023 | 80% of questions reviewed demonstrate understanding | Department Assessment Retreat, scheduled in May |
| **7** | Understand the scientific process, posit scientific hypotheses, devise ways to test them by collecting scientific data, and analyze data in a meaningful way. | Mastery courses retain a sample assignment | Every 3 years, beginning 2022-2023 | 80% of assignments evaluated demonstrate understanding | Department Assessment Retreat, scheduled in May |