

## UNIT REPORT

**Geography BS - Assessment Plan****Summary**

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# Geography BS

## GOAL 2 (BS): Train students to have a strong foundation in Human Geography

**Goal Description:***Students will be able to fully comprehend and apply concepts from their human/cultural geography courses***Providing Department:** Geography BS**Progress:** Completed**RELATED ITEMS/ELEMENTS** -----**RELATED ITEM LEVEL 1****Proficiency with Advanced Human Geography Concepts (Supports Goal 2b)****Learning Objective Description:**

Students will demonstrate proficiency with advanced concepts pertaining to human geography

**RELATED ITEM LEVEL 2****Advanced Human Geography Concepts****Indicator Description:**

Questions pertaining to advanced concepts of human geography will be embedded in advanced geography courses (GEOG 3310, 3350, 3352, 3359, 4351, 4356, and 4357)

**Criterion Description:**

The average score will be 70% on questions pertaining to advanced human geography

**Findings Description:**

Students enrolled in GEOG 1300 averaged averaged 68% on a series of specific questions embedded in exams that pertained to advanced concepts in human geography. Students enrolled in GEOG 3350 (cultural geography) averaged 72% on a separate series of questions. Students enrolled in GEOG 4360 (cultural field students scored 77% on questions pertaining to this area. The scores for 1300 & 4360 increased slightly from the previous year's assessment, while those from 3350 decreased slightly. No data was available from GEOG 4356 because the course was not taught this past year.

**RELATED ITEM LEVEL 3****Acting on Assessment (BS)****RELATED ITEM LEVEL 3****Acting on Assessment for Introductory Advanced Human Geography, Environmental/Physical Geography & Human-Environmental Interaction****Action Description:**

Results suggest of several dimensions of this assessment suggest that advanced topics that were covered in smaller break-out discussion groups, or were addressed directly in smaller seminar-type environments generated better student outcomes. Comparatively, student learned advanced topics less efficiently when they were strictly exposed to them via a lecture format. Thus, we will

"act" on these results by increasingly incorporating active learning activities and discussions throughout the semester in more courses (when applicable), rather than just utilizing these approaches near the later part of the semester.

When it comes to introductory concepts (human geography, physical/environmental, human-environmental interaction), the most identifiable weaknesses pertain to basic use of statistical data, and a lack of coordination among the different courses. These weaknesses will be addressed in two ways; 1) the offering of a new course that focuses directly on the application of statistical methods specific to geographical subject matter, and 2) the restructuring and re-evaluating of the entire geography curricula (scheduled for 2024-2025).

#### RELATED ITEM LEVEL 1

### **Proficiency with Introductory Human Geography Concepts (Supports Goal 2a)**

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

Students will demonstrate proficiency with basic introductory concepts pertaining to human geography, concepts that serve as the foundation/pre-requisite for upper-level coursework in the sub-field

#### RELATED ITEM LEVEL 2

### **Introductory Human Geography Concepts**

#### **Indicator Description:**

Questions pertaining to introductory human geography concepts will be embedded in exams for introductory geography courses (GEOG 1300, 3350)

#### **Criterion Description:**

The average score will be 70% on questions pertaining to introductory human geography

#### **Findings Description:**

Students enrolled in GEOG 1300 (people, place & environment) on average scored 67% on questions pertaining to introductory human geography. This is slightly higher than the assessment from the previous year. Students enrolled in GEOG 3350 (cultural geography) scored 75% on such questions, which represents a slight increase from the previous year.

#### RELATED ITEM LEVEL 3

### **ACTION to enhance Introductory Human Geography Concepts (supports 2a)**

#### **Action Description:**

Previous efforts to enhance the teaching of introductory Human Geography concepts seemed to work. Results suggest this stems from increased course sequencing (taking courses in an effective order) and incorporation of active learning (subjects that utilized this approach seemed to be more well understood). The geography faculty will be undergoing a complete curriculum evaluation in 2024-25. Results from this assessment will serve as the basis for this evaluation. Active learning activities will also be incorporated in additional courses.

#### RELATED ITEM LEVEL 3

### **Acting on Assessment for Introductory & Advanced Human Geography, Environmental/Physical Geography & Human-Environmental Interaction**

#### **Action Description:**

Results suggest of several dimensions of this assessment suggest that advanced topics that were covered in smaller break-out discussion groups, or were addressed directly in smaller seminar-type environments generated better student outcomes. Comparatively, student learned advanced topics less efficiently when they were strictly exposed to them via a lecture format. Thus, we will "act" on these results by increasingly incorporating active learning activities and discussions throughout the semester in more courses (when applicable), rather than just utilizing these approaches near the later part of the semester.

When it comes to introductory concepts (human geography, physical/environmental, human-environmental interaction), the most identifiable weaknesses pertain to basic use of statistical data, and a lack of coordination among the different courses. These weaknesses will be addressed in two ways; 1) the offering of a new course that focuses directly on the application of statistical methods specific to geographical subject matter, and 2) the restructuring and re-evaluating of the entire geography curricula (scheduled for 2024-2025).

## **Goal 1 (BS). Train students to have a strong foundation in core Geography concepts**

### **Goal Description:**

Geography students will learn basic skills and competencies relevant to a well-rounded geographic education

**Providing Department:** Geography BS

**Progress:** Completed

### RELATED ITEMS/ELEMENTS -----

#### RELATED ITEM LEVEL 1

### **Proficiency with First-Year Foundational Concepts (Supports Goal 1a)**

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

Students will demonstrate proficiency in First-Year Foundational Geographic Concepts

#### RELATED ITEM LEVEL 2

### **Foundational Concepts (Supports Learning Obj. 1a)**

#### **Indicator Description:**

Questions pertaining to the use of introductory concepts were embedded in exams for geography courses (GEOG 1300, 1401, 3301, & 3350)

#### **Criterion Description:**

The average score will be 70% on questions pertaining to introductory geography concepts

#### **Findings Description:**

Students enrolled in GEOG 1300 averaged 64% in on a series of questions embedded in exams that pertained to introductory concepts in geography. Those enrolled in GEOG 1401 averaged 60% on similar questions. Students enrolled in 3350 & 3301 scored 71% and 72%, respectively, on questions pertaining to introductory concepts. The results from all four courses (1300, 1401, 3301 & 3350) were all lower than what were realized from the previous assessment. No data was available from GEOG 4356 since the course was not offered.

#### RELATED ITEM LEVEL 3

### **Action to improve Foundational Concepts (Supports Foundational Concepts Learning Obj. 1a)**

#### **Action Description:**

This indicator would support previous identified weaknesses with student outcomes: notable inabilities to work with maps, graphs & the interpretation of basic statistical data. Results from this assessment suggest that student learning in these areas in more efficient in smaller classes/labs. Accordingly, we will increasingly focus on these subject matter in lab sections (per GEOG 1401), and in breakout focus groups in courses that do not incorporate distinct lab components. Basic map skills will also be incorporated in geotechnical courses (all majors are now required to complete GEOG 2464).

#### RELATED ITEM LEVEL 1

### **Proficiency with Global and Geographical Awareness (Supports Goal 1b)**

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

Students will demonstrate a proficient level of global and geographic awareness

#### RELATED ITEM LEVEL 2

### **The world in spatial terms (Supports Learning Objective 1b)**

#### **Indicator Description:**

Questions pertaining to concepts demonstrating comprehension of the world in spatial terms will be embedded in geography courses (GEOG 1300, 1401 and 3350)

#### **Criterion Description:**

The average score will be 70% on questions embedded in exams and quizzes pertaining to the world in spatial terms

#### **Findings Description:**

Students enrolled in GEOG 1300 scored 57% on questions pertaining to knowing the world in spatial terms, while students enrolled in 1401 scored 59%. Students enrolled in GEOG 3350 performed much better on such questions, scoring 75% on such questions. These scores are lower than what were realized during the last assessment cycle. Students enrolled in GEOG 2355 & 2356 were not assessed due to the timing of the assessment.

#### RELATED ITEM LEVEL 3

### **Action to address the World in spatial terms (Supports Learning Objective 1b)**

#### **Action Description:**

Results suggest that students still lack basic knowledge of the world – including geographical locations of significant places & events, as well as the relative connections between different places from a global perspective. One challenge with the assessment is that this cycle only a certain number of courses were incorporated. These courses that were able to be assessed were systematic courses – i.e. courses whose primary purpose was to address specific topics/concepts (culture, environment). Future assessments will also incorporate courses designed to focus specifically on regional perspectives (GEOG 2355 & 2356)

## **Goal 3 (BS). Train Students to Have a Strong Foundation in Environmental/Physical Geography**

### **Goal Description:**

Students will be able to fully comprehend and apply concepts from their environmental/geography courses

**Providing Department:** Geography BS

**Progress:** Completed

#### RELATED ITEMS/ELEMENTS -----

#### RELATED ITEM LEVEL 1

### **Proficiency with Advanced Environmental/Physical Geography Concepts (Supports Goal 3b)**

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

Students will demonstrate proficiency with advanced concepts pertaining to environmental and physical geography

#### RELATED ITEM LEVEL 2

### **Advanced concepts in Environmental/Physical Geography**

#### **Indicator Description:**

Questions pertaining to advanced concepts in Environmental/Physical Geography will be embedded in exams for upper-level courses in the sub-field (GEOG 1300, 1401, 3301 & 3350)

#### **Criterion Description:**

The average score will be 70% on questions pertaining to advanced environmental/physical geography

### **Findings Description:**

Students enrolled in GEOG 1300 scored on average 66% on embedded questions pertaining to advanced environmental/physical geography. Students enrolled in GEOG 1401 scored 64% on such questions. The averages for both courses (1300 & 1401) increased from the previous year. Meanwhile, students enrolled in GEOG 3301 and 3350 scored 74% and 74%, respectively, on separate sets of questions that pertained to the introductory concepts related to environmental/physical geography. The average scores for both 3301 & 3350 both increased slightly from the previous year. It is notable that students in all four courses scores higher on questions pertaining to advanced concepts than was the case with introductory concepts. This most likely relates to the fact that advanced concepts were tested or assessed towards the final stages of the courses.

#### RELATED ITEM LEVEL 3

### **Acting on Assessment for Introductory & Advanced Human Geography, Environmental/Physical Geography & Human-Environmental Interaction**

#### **Action Description:**

Results suggest of several dimensions of this assessment suggest that advanced topics that were covered in smaller break-out discussion groups, or were addressed directly in smaller seminar-type environments generated better student outcomes. Comparatively, student learned advanced topics less efficiently when they were strictly exposed to them via a lecture format. Thus, we will "act" on these results by increasingly incorporating active learning activities and discussions throughout the semester in more courses (when applicable), rather than just utilizing these approaches near the later part of the semester.

When it comes to introductory concepts (human geography, physical/environmental, human-environmental interaction), the most identifiable weaknesses pertain to basic use of statistical data, and a lack of coordination among the different courses. These weaknesses will be addressed in two ways; 1) the offering of a new course that focuses directly on the application of statistical methods specific to geographical subject matter, and 2) the restructuring and re-evaluating of the entire geography curricula (scheduled for 2024-2025).

#### RELATED ITEM LEVEL 1

### **Proficiency with Introductory Concepts in Environmental/Physical Geography (Supports Goal 3a)**

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

Students will demonstrate proficiency with basic introductory concepts pertaining to physical and environmental geography, concepts that serve as the foundation/pre-requisites for upper-level coursework in this sub-field

#### RELATED ITEM LEVEL 2

### **Introductory Concepts in Environmental/Physical Geography**

#### **Indicator Description:**

Questions pertaining to introductory environmental/physical geography concepts will be embedded in exams for introductory geography courses (GEOG 1300, 1401, 3301 & 3350).

#### **Criterion Description:**

The average score will be 70% on questions pertaining to introductory environmental/physical geography

#### **Findings Description:**

Students enrolled in GEOG 1300 scored on average 61% on embedded questions pertaining to introductory environmental/physical geography. Students enrolled in GEOG 1401 scored 58% on such questions. The averages for both courses (1300 & 1401) decreased from the previous year. Meanwhile, students enrolled in GEOG 3301 and 3350 scored 74% and 73%, respectively, on separate sets of questions that pertained to the introductory concepts related to environmental/physical geography. The average scores for both 3301 & 3350 both increased slightly from the previous year.

#### RELATED ITEM LEVEL 3

### **Acting on Assessment for Introductory & Advanced Human Geography, Environmental/Physical Geography & Human-Environmental Interaction**

#### **Action Description:**

Results suggest of several dimensions of this assessment suggest that advanced topics that were covered in smaller break-out discussion groups, or were addressed directly in smaller seminar-type environments generated better student outcomes. Comparatively, student learned advanced topics less efficiently when they were strictly exposed to them via a lecture format. Thus, we will "act" on these results by increasingly incorporating active learning activities and discussions throughout the semester in more courses (when applicable), rather than just utilizing these approaches near the later part of the semester.

When it comes to introductory concepts (human geography, physical/environmental, human-environmental interaction), the most identifiable weaknesses pertain to basic use of statistical data, and a lack of coordination among the different courses. These weaknesses will be addressed in two ways; 1) the offering of a new course that focuses directly on the application of statistical methods specific to geographical subject matter, and 2) the restructuring and re-evaluating of the entire geography curricula (scheduled for 2024-2025).

## **Goal 4 (BS): Train Students to have a strong foundation in systems thinking**

### **Goal Description:**

Students will be able to link physical systems and human/cultural systems, as well as possess sufficient knowledge of human-environment interaction

**Providing Department:** Geography BS

**Progress:** Completed

#### RELATED ITEMS/ELEMENTS -----

#### RELATED ITEM LEVEL 1

### **Proficiency with Advanced Concepts in Human-Environment Relationships (Goal 4b)**

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

Students will demonstrate proficiency with advanced concepts pertaining to human-environment relationships

#### RELATED ITEM LEVEL 2

### **Advanced Concepts of Human-Environment Interaction**

#### **Indicator Description:**

Questions pertaining to advanced concepts of human-environment interaction will be embedded in exams for relevant upper-level geography courses

#### **Criterion Description:**

The average score will be 70% on questions pertaining to advanced concepts of advanced human-environment interaction

#### **Findings Description:**

Students enrolled in GEOG 3301 (Environmental Geography) scored on average 71% on a series of embedded questions pertaining to advanced concepts of human-environmental interaction. Students enrolled in GEOG 3350 (Cultural Geography) scored on average 67% a separate series of embedded questions pertaining to such advanced concepts. These results from both courses were notably lower than were realized in this area during the previous assessment cycle. Students enrolled in GEOG 4360 (Cultural Field Studies) were assessed for knowledge of these concepts, but were assessed via a much smaller set of questions. These students (in 4360) scored 76% on such questions. This was the first time students from this course were assessed for this particular area.

#### RELATED ITEM LEVEL 3

#### **Acting on Assessment (BS)**

#### RELATED ITEM LEVEL 3

#### **Acting on Assessment for Introductory Advanced Human Geography, Environmental/Physical Geography & Human-Environmental Interaction**

##### **Action Description:**

Results suggest of several dimensions of this assessment suggest that advanced topics that were covered in smaller break-out discussion groups, or were addressed directly in smaller seminar-type environments generated better student outcomes. Comparatively, student learned advanced topics less efficiently when they were strictly exposed to them via a lecture format. Thus, we will "act" on these results by increasingly incorporating active learning activities and discussions throughout the semester in more courses (when applicable), rather than just utilizing these approaches near the later part of the semester.

When it comes to introductory concepts (human geography, physical/environmental, human-environmental interaction), the most identifiable weaknesses pertain to basic use of statistical data, and a lack of coordination among the different courses. These weaknesses will be addressed in two ways; 1) the offering of a new course that focuses directly on the application of statistical methods specific to geographical subject matter, and 2) the restructuring and re-evaluating of the entire geography curricula (scheduled for 2024-2025).

#### RELATED ITEM LEVEL 1

#### **Proficiency with Introductory Concepts in Human-Environment Relationships (Goal 4a)**

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

Students will demonstrate proficiency with introductory concepts pertaining to the relationships between human and environmental systems, concepts that will serve as the foundation and pre-requisites for advanced course-work in the sub-field

#### RELATED ITEM LEVEL 2

#### **Introductory Concepts of Human-Environment Interaction**

##### **Indicator Description:**

Questions pertaining to introductory concepts of human-environment interaction will be embedded in exams for introductory geography courses (GEOG 1300, 2341, 2355, and 2356)

##### **Criterion Description:**

The average score will be 70% on questions pertaining to introductory concepts of human-environment interaction

##### **Findings Description:**

Students enrolled in GEOG 1300 scored on average 67% on embedded questions pertaining to introductory concepts of human environmental interaction. Students enrolled in GEOG 1401 scored on average 66% on such questions. The results for these introductory courses were slightly higher than those realized from the previous assessment cycle.

Students enrolled in advanced geography courses (GEOG 3301, 3350 & 4360) were also assessed for this area. Students enrolled in GEOG 3301 (Environmental Geography) scored on average 71% on a series of embedded questions pertaining to advanced concepts of human-environmental interaction. Students enrolled in GEOG 3350 (Cultural Geography) scored on average 67% a separate series of embedded questions pertaining to such advanced concepts. Unlike the case with the introductory courses, these results from these two advanced courses were notably lower than were realized in this area during the previous assessment cycle. Students enrolled in GEOG 4360 (Cultural Field Studies) were assessed for knowledge of these concepts, but were assessed via a much smaller set of questions. These students (in 4360) scored 76% on such questions. This was the first time students from this course were assessed for this particular area.

#### RELATED ITEM LEVEL 3

#### **Acting on Assessment (BS)**

#### RELATED ITEM LEVEL 3

#### **Acting on Assessment for Introductory Advanced Human Geography, Environmental/Physical Geography & Human-Environmental Interaction**

#### **Action Description:**

Results suggest of several dimensions of this assessment suggest that advanced topics that were covered in smaller break-out discussion groups, or were addressed directly in smaller seminar-type environments generated better student outcomes. Comparatively, student learned advanced topics less efficiently when they were strictly exposed to them via a lecture format. Thus, we will "act" on these results by increasingly incorporating active learning activities and discussions throughout the semester in more courses (when applicable), rather than just utilizing these approaches near the later part of the semester.

When it comes to introductory concepts (human geography, physical/environmental, human-environmental interaction), the most identifiable weaknesses pertain to basic use of statistical data, and a lack of coordination among the different courses. These weaknesses will be addressed in two ways; 1) the offering of a new course that focuses directly on the application of statistical methods specific to geographical subject matter, and 2) the restructuring and re-evaluating of the entire geography curricula (scheduled for 2024-2025).

### **Goal 5 (BS): Maintain an effective geographical curricula and strong interconnections and linkages across the curricula**

#### **Goal Description:**

The Geography coordinator and an Assessment Committee will continually gage the degree to which all assessment goals are being met

**Providing Department:** Geography BS

**Progress:** Completed

#### RELATED ITEMS/ELEMENTS -----

#### RELATED ITEM LEVEL 1

#### **Assessment Committee Coordination (Supports Goal 5b)**

#### **Performance Objective Description:**

The Geography coordinator will convene meetings with an Assessment Committee comprised of representatives of the various subfields (Human Geography, Environmental/Physical Geography, and Geo-techniques) to discuss curricula outcomes and potential need for changes

#### RELATED ITEM LEVEL 2

#### **Geography Curriculum Committee Meetings**

#### **KPI Description:**

This will include a list of relevant meetings and changes and issues that arise from meetings between the Geography coordinator and the Geography Curriculum Committee

**Results Description:**

The assessment committee was comprised of three faculty members, each of whom represented three subject areas (human geography, environmental geography, and geospatial technology). Unfortunately, one of the committee members resigned unexpectedly and on short-notice. This particular committee member possessed expertise in the area of geospatial technology (GIS/Remote Sensing). This same individual was also a member of the geography curriculum committee. Accordingly, very little progress was made towards enhancing & improving the assessment of this subject area. However, progress was made in terms of the development of a plan of action of how to better assess the other two subject areas (human and physical/environmental geography). Moreover, our meetings also assisted in the development of ideas of how to address identifiable weaknesses recognized via the assessment of these areas (for example, the need to offer a new course that focuses on the application of statistics/quantitative methods specific to the geosciences; geography & environmental science).

RELATED ITEM LEVEL 3

**Acting on Assessment: Goal 5 (Coordination of Curricula)**

**Action Description:**

Results from this assessment suggest a need to incorporate the geography faculty more collectively in the assessment endeavor. A particular need was identified to include faculty possessing expertise in the area of geospatial technology, an area that has become increasingly relevant to students but until now has not been assessed as well as the other aspects of the program. Accordingly, in the future all faculty will be more involved with assessment efforts.

RELATED ITEM LEVEL 2

**Student Satisfaction Survey (supports Performance Objectives 5a and 5b)**

**KPI Description:**

Students will be given a survey their last semester prior to graduation to give feedback on any program issues and on their experiences negotiating the geography programs, including scheduling, course offerings, course content, and overall satisfaction.

**Results Description:**

A small sample of graduating seniors from the geography program were surveyed. The results suggest a need to better coordinate the courses across the curriculum - students noted that some of the courses operated independently of one another, without any clear linkages or step-wise progression from one course to another. All students survey identified that this was particularly true in regards to the geospatial courses that comprise the program. Students also identified the potential utility of completing a course focused on statistical applications specific to their field of study (geography). One strength recognized by the surveyed students was the perceived benefit of being advised within the department (by geography faculty), as opposed to needing to rely on the SAM Center. For example, students expressed appreciation for the fact that geography faculty were able to recommend elective courses (and internship opportunities) outside the department that aligned well with their academic foci and career goals.

RELATED ITEM LEVEL 3

**Acting on Assessment: Goal 5 (Coordination of Curricula)**

**Action Description:**

Results from this assessment suggest a need to incorporate the geography faculty more collectively in the assessment endeavor. A particular need was identified to include faculty possessing expertise in the area of geospatial technology, an area that has become increasingly

relevant to students but until now has not been assessed as well as the other aspects of the program. Accordingly, in the future all faculty will be more involved with assessment efforts.

#### RELATED ITEM LEVEL 1

### **Coordination and Interconnections Across Geographic Sub-fields (Supports Goal 5a)**

#### **Performance Objective Description:**

The Geography Coordinator, in consultation with assessment committee, will continually gauge the degree to which the various components of the geography curricula are effectively operating

#### RELATED ITEM LEVEL 2

### **Geography Curriculum Committee Meetings**

#### **KPI Description:**

This will include a list of relevant meetings and changes and issues that arise from meetings between the Geography coordinator and the Geography Curriculum Committee

#### **Results Description:**

The assessment committee was comprised of three faculty members, each of whom represented three subject areas (human geography, environmental geography, and geospatial technology). Unfortunately, one of the committee members resigned unexpectedly and on short-notice. This particular committee member possessed expertise in the area of geospatial technology (GIS/Remote Sensing). This same individual was also a member of the geography curriculum committee. Accordingly, very little progress was made towards enhancing & improving the assessment of this subject area. However, progress was made in terms of the development of a plan of action of how to better assess the other two subject areas (human and physical/environmental geography). Moreover, our meetings also assisted in the development of ideas of how to address identifiable weaknesses recognized via the assessment of these areas (for example, the need to offer a new course that focuses on the application of statistics/quantitative methods specific to the geosciences; geography & environmental science).

#### RELATED ITEM LEVEL 3

### **Acting on Assessment: Goal 5 (Coordination of Curricula)**

#### **Action Description:**

Results from this assessment suggest a need to incorporate the geography faculty more collectively in the assessment endeavor. A particular need was identified to include faculty possessing expertise in the area of geospatial technology, an area that has become increasingly relevant to students but until now has not been assessed as well as the other aspects of the program. Accordingly, in the future all faculty will be more involved with assessment efforts.

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A small sample of graduating seniors from the geography program were surveyed. The results suggest a need to better coordinate the courses across the curriculum - students noted that some of the courses operated independently of one another, without any clear linkages or step-wise progression from one course to another. All students survey identified that this was particularly true in regards to the geospatial courses that comprise the program. Students also identified the potential utility of completing a course focused on statistical applications specific to their field of study

(geography). One strength recognized by the surveyed students was the perceived benefit of being advised within the department (by geography faculty), as opposed to needing to rely on the SAM Center. For example, students expressed appreciation for the fact that geography faculty were able to recommend elective courses (and internship opportunities) outside the department that aligned well with their academic foci and career goals.

#### RELATED ITEM LEVEL 3

#### **Acting on Assessment: Goal 5 (Coordination of Curricula)**

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Results from this assessment suggest a need to incorporate the geography faculty more collectively in the assessment endeavor. A particular need was identified to include faculty possessing expertise in the area of geospatial technology, an area that has become increasingly relevant to students but until now has not been assessed as well as the other aspects of the program. Accordingly, in the future all faculty will be more involved with assessment efforts.

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

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

##### **Closing Summary**

Going forward our plan to improve our program, and the assessment of it, will focus on four initiatives. 1) We will formulate and implement the operation of sub-committees that will focus on the assessment of specific foci with the curricula (Environmental/Physical geography, human geography, and geospatial techniques). This will lead to a more inclusive assessment mechanism and should enable us to better organize the natural progression of skills and content subject matter from one class to another. The framework for these sub-committees are already in place.

2) Incorporate more geospatial technique courses (Intro to GIS, Applied GIS, Computer Cartography, remote sensing, etc.) into our assessment program. Anecdotally, one of the criticisms of our geospatial program from graduating students has been a lack of coherency from one course to another (at times course content is overlapped, in other ways there is no natural progression of expectations from one course to another - the courses do not build upon one another as well as they should). Future assessments will endeavor to collectively determine what skills should be emphasized in each course, therefore allowing for a more coherent curriculum. This will allow us to better assess how effective these courses are at actually teaching students these skills.

3) Continue teaching important statistical skills, as well as skills with the use and interpretation of maps/charts/tables, in smaller, more intimate environments – labs, break-out sections in lectures, etc. Our efforts at doing this very thing have proven successful at enhancing student learning. Accordingly, we will build on these efforts going forward.

4) Continue to include supplementary material (videos, short videos, etc.) in on-line labs, as well as encourage students enrolled in online sections to take advantage of opportunities to virtually communicate with lab TAs and faculty. We will also continue to experiment with better ways to teach critical skills in the online environment.

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

We implemented portions of our previous improvement plan, but faced challenges due to personnel changes. One faculty member fully resigned, another resigned for an administrative role mid-cycle, and a third served as faculty senate president with significant administrative duties. All three taught geospatial applications courses, severely limiting our ability to increase assessment in that area. Additionally, the faculty member responsible for coordinating the entire assessment plan underwent major surgery during a critical period.

Regarding our four identified initiatives:

1. Subcommittees: Some met to address previous weaknesses and will continue meeting, incorporating more courses into assessment efforts.
2. Incorporating geospatial technique courses (Intro to GIS, Applied GIS, Cartography, Remote Sensing, etc.): We could not fully meet goals due to the personnel issues mentioned. Many courses relied on adjuncts. A new committee has convened to determine emphasized skills for each course to improve future assessment.
3. Teaching statistical skills and map/chart/table interpretation in smaller settings: Our efforts again successfully enhanced learning, though a proposed statistics course specific to geosciences has not yet been created (planned for 2024-25).
4. Supplementary materials in online labs: We continued using videos/materials which proved beneficial. We will expand use of supplements in online and face-to-face courses, building on successes and modifying less effective approaches.

## **New Plan for Continuous Improvement Item**

### **Closing Summary:**

The results of this past assessment seems to suggest that the key to increased student success (or least the key to mitigating challenges that are broad in nature and somewhat out of our control) continues to lie in three areas: 1) teaching certain key concepts (particularly foundational concepts) in smaller, more intimate settings, preferably in face-to-face settings, or via the provision of supplementary material pertaining to such concepts when delivered online; 2) offering courses (or units within pre-existing courses) that more directly focus on critical concepts (especially the basic interpretation of statistical data and maps) and 3) continuing to integrate our courses into a cohesively linked curricula.

Obviously, there will continue to be a demand to have larger class-sizes, as well as online courses. We plan on coping with this reality by determining key concepts that require critical focus, then trying to incorporate them within lab sections (which by nature are smaller in size). A few faculty have been incorporating active learning techniques (dividing large lecture classes into groups to go over certain key concepts - thus, providing intimate environments, and fostering student-involved learning). We plan to encourage all faculty to use these techniques to a larger degree. Short videos focused on key concepts will be used in some online sections, really the only option in that form of learning environment.

We have yet to fully incorporate some of geotechnique courses into our assessment plan (at least not as fully as other courses). We will be increasingly incorporating these courses into our assessment program. Some of these courses will also play an increased role in offering students experience with basic mapping principles (an identified weakness). Efforts to do this very thing this last year was hampered by the sudden resignation of a critical faculty member teaching in this area. Her position was replaced this past year and a new faculty hire will enable us to re-initiate this agenda. The results from this assessment, and previous assessments, will also be used to inform decision-making when it comes to course offerings developed by the new faculty member scheduled to join the department in Fall 2024.

We will be reforming sub-committees to focus on assessment areas (human geography, environment/physical geography, and geotechnology). These will make efforts to ensure that

more courses, and more subject matter, are incorporated into our assessment efforts. This should allow us to get a better picture of how well we are doing in terms of meeting our curriculum goals.

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