Department of Geography
2020-21 Assessment Report

MISSION STATEMENT

Consistent with the mission statement of the University of Montana, the Department of Geography provides curricula at both the undergraduate and graduate levels that are diverse, well-balanced, and representative of the discipline of geography. The department plays a vital role in the university by examining and synthesizing concepts intrinsic to the natural sciences, arts, humanities, and social sciences. The Department of Geography assists students in developing an awareness and understanding of important environmental, cultural, and socio-economic issues of relevance to the State of Montana, the nation, and the international community. This objective is accomplished through instruction at both the undergraduate and graduate levels; through our commitment to research; through our allocation of departmental resources; and through mutually beneficial relationships with communities, scholarly and professional societies, governmental agencies, non-governmental organizations, and the private sector.

DEPARTMENT ALIGNMENT WITH PRIORITIES FOR ACTION

After listing each departmental objective, indicate which of the five Priorities for Action the objective supports. In this section, you may also briefly describe any innovative or noteworthy programs/initiatives that support the Priorities for Action.

1. Graduating majors are expected to have a well-rounded understanding of geography, as well as practical insight into each of the major subdivisions of the discipline.
2. It is our goal that our students be rigorously trained through the completion of course work and assigned projects, through direct field observation and supervised research, community engagement, and through active participation in the intellectual life of the university and the community. *(Place Student Success at the Center of All We Do; Drive Excellence and Innovation in Teaching, Learning, and Research; Partner with Place)*
3. Our program prepares our students to address a broad range of complex environmental, cultural, and socio-economic issues, on multiple scales, through theoretical and empirical enquiry, higher-order thinking, and the application of appropriate forms of geographical analysis (including historical, spatial, qualitative, quantitative, and mixed-method analysis). *(Drive Excellence and Innovation in Teaching, Learning, and Research; Partner with Place)*
4. It is expected that students graduating with a baccalaureate degree will have acquired the knowledge and skills required for advanced academic study, voluntary domestic or overseas service, or employment in areas of technical emphasis. *(Place Student Success at the Center of All We Do; Drive Excellence and Innovation in Teaching, Learning, and Research; Partner with Place)*
5. It is expected that students earning a graduate degree will be amply qualified for professional employment in governmental agencies or the private sector, as well as for continued graduate-level studies in their areas of interest. *(Place Student Success at the Center of All We Do; Drive Excellence and Innovation in Teaching, Learning, and Research; Partner with Place)*
6. Demonstrate interest in the discipline and its sub-areas (i.e., GIS, Planning), engagement in the program, and motivation toward professional or advanced degree opportunities [to be addressed in 2021-22 assessment cycle]. (*Place Student Success at the Center of All We Do; Embody the Principle of "Mission First, People Always"; Proudly Tell the UM Story*)

STUDENT LEARNING GOALS and MEASUREMENT TOOLS

The following Assessment Plan from the 2018 Assessment cycle has been utilized for the current cycle; no modifications were specified at that time and utilized here. As noted in the header row (*), portfolio composition varied among students and sometimes other measurement tools not specified were utilized to evaluate achievement of learning outcomes as deemed appropriate by the faculty.

ASSESSMENT PLAN - STUDENT LEARNING GOALS AND MEASUREMENT TOOLS *					
***The following learning outcomes pertain only to our graduated undergraduates. We evaluate products corresponding to the measurement tools as they are available (student portfolio composition can vary based on courses transferred and approved substitutions from outside Geography). Assessment of our graduated graduate students is based on the caliber of the completed theses, professional papers, or comprehensive exams and defense of a significant professional work (i.e., report or portfolio), as well as job placement. Undergraduate Assessment Rubric (see Results below). 1. The student demonstrates mastery of the learning goal (explicit attention to the goal – clear understanding demonstrated) 2. The student satisfies the learning goal (implicit attention to the goal – no evidence of deficient understanding). 3. The student does not satisfy the learning goal (clear demonstration that understanding is deficient). 4. Not Applicable (the learning goal cannot be assessed via the specific work submitted).**	**Student Portfolio (year is when received)**				
	Term Papers (from required systematic courses, upper-division writing courses, and other courses)	**Written Evaluations (when available from internship supervisors, etc.)**	**Lab Exercises from *required* courses**	**Map(s) from a *required* and other GIS courses**	**Presentation**
1. Understand micro- and macro-scale spatial relationships within and between the systems of the physical and human environments.	GPHY Courses: 311, 314, 317, 323S, 335, 338, 421, 433, and others as applicable	As Applicable	GPHY Courses: *112, 284, 385*;	GPHY Courses: *284*, 481, 482, 485, 488	Any/All upper division GPHY Courses
2. Understand the application of theoretical concepts relevant to the discipline of geography and its systematic branches	GPHY Courses: 311, 314, 317, 323S, 335, 338, 421, 433 and others as applicable	NA	NA	NA	Any/All upper division GPHY Courses
3. Be able to engage in basic analysis and research procedures involving the use of spatial or other forms of data.	GPHY Courses: 311, 314, 317, 323S, 335, 338, 421, 433 and others as applicable	As Applicable	GPHY Courses: *284, 385*	GPHY Courses: *284*, 481, 482, 485, 488	Any/All upper division GPHY Courses
4. Have the ability to acquire and use spatial and other data within the context of field, laboratory, teaching, and internship experiences.	GPHY Courses: 311, 314, 317, 323S, 335, 338, 421, and others as applicable	As Applicable	GPHY Courses: *112, 284, 385*	GPHY Courses: *284*, 481, 482, 485, 488	Any/All upper division GPHY Courses
5. Have the computer, computational, and communication skills required of new professionals.	GPHY Courses: 311, 314, 317, 323S, 335, 338, 421, and others as applicable	As Applicable	GPHY Courses: *112, 284, 385*	GPHY Courses: *284*, 481, 482, 485, 488	Any/All upper division GPHY Courses

RESULTS AND MODIFICATIONS	
General Program Assessment Results Following Plan Specified Above	In December 2020 archived Portfolios containing the types of items specified in the Assessment Plan detailed above were assessed by the faculty using the learning outcomes and rubric shown above. The Student Learning Outcomes and Measurement Tools were also mapped to specific courses for this Assessment (curriculum map provided in the Appendices). This assessment is intended to aid the faculty in better understanding specific program outcomes demonstrated by our graduating majors, and their professional preparation at the time of degree completion. Undergraduate Portfolios are prepared by undergraduate seniors who are required to complete the Geography Capstone (GPHY 400) which entails the preparation (with Advisor mentoring) of a portfolio, that includes the items specified in the Assessment Plan, for departmental archiving and assessment purposes. This 2020 Assessment (results appended and described in this section) reviewed a total of 20 Portfolios (11 from 2018-19, and 9 from 2019-20). The results of this 2020 assessment of the 20 Capstone portfolios indicate the following: • Our students are demonstrating **at least Satisfactory** performance with respect to the learning outcomes; • **Mastery** is also commonly demonstrated; • For cases where a rating of NA (Not Applicable) was assigned, the learning goal was not able to be assessed via the specific work submitted by a given student (this is not commonly encountered, but nonetheless expected for a small subset of students). Overall, we feel that the results of our assessment, based on review of a larger number of portfolios than in previous cycles, demonstrate that our courses, instructional approaches, learning outcomes, and student performance are in close alignment. Results of our prior (2018) program assessment were communicated to stakeholders as follows: 1) During our 2019 Departmental Program Review process, the written 2018 Program Assessment Report was appended to the Program Review Self Study Report for dissemination to the Dean, Provost, and External Reviewer (students meeting with the External Reviewer Dr. Alec Murphy may have received a verbal summary from him); 2) Summarized results were verbally communicated to students via the Student Representative to the Geography Faculty and in one of our Autumn 2019

	Geography Colloquium (GPHY 500) meetings with undergraduate senior and graduate Geography majors. Results of this 2020 Assessment Report will be communicated in the GPHY 400 Geography Capstone course in Fall 2021.
Geography Department Plans for Future Assessment	
The review of portfolios and the refinement of our curriculum map suggested that some modification of the Assessment Plan would promote better alignment of courses and outcomes for future assessment purposes. Accordingly, a Modified Assessment Plan (with comments to indicate where revisions were made) is shown immediately below. This plan will be utilized for the 2022 assessment cycle.	
APPENDICES (attached)	
1. Geography Assessment Results.	

FUTURE PLANS FOR CONTINUED ASSESSMENT

Modified Assessment Plan

The Assessment Plan shown below for implementation in the next assessment cycle (2022) has been modified in response to feedback from faculty participating in this 2020 assessment cycle. Importantly, measurement tools have been updated:

1) Learning Outcome 5 has been modified to eliminate "Computation." We regard "computation" as the performance of more complicated calculations and data manipulations involving complex algorithms which is not generally required in our required courses. Basic data acquisition, manipulation, and analysis involving the use of spatial or other forms of data are required (see Learning Objectives 3 and 4);
2) Learning Outcome 6 has been added to allow assessment of student interest, engagement, and motivation (see below).

Again, the learning outcomes pertain only to our graduated undergraduate majors. Products corresponding to the measurement tools are provided by students in their required GPHY 400 Geography Capstone Portfolio - only those items produced in our own courses or internships are included. Student portfolio composition can thus vary depending on transferred courses and approved substitutions from outside Geography (products from such courses are not included in portfolios).

Assessment of our graduate students is based on the caliber of the completed theses, professional papers, or comprehensive exams and defense of a significant professional work (i.e., report or portfolio), as well as job placement; graduate student assessment is not included here.

ASSESSMENT PLAN - STUDENT LEARNING GOALS AND MEASUREMENT TOOLS *						
Undergraduate Assessment Rubric. ***The following learning outcomes pertain only to our graduated undergraduates. We evaluate products corresponding to the measurement tools as they are available (student portfolio composition can vary based on courses transferred and approved substitutions from outside Geography). Assessment of our graduated graduate students is based on the caliber of the completed theses, professional papers, or comprehensive exams and defense of a significant professional work (i.e., report or portfolio), as well as job placement.** **Undergraduate Assessment Rubric** **1. The student demonstrates mastery of the learning goal (explicit attention to the goal – clear understanding demonstrated)** **2. The student satisfies the learning goal (implicit attention to the goal – no evidence of deficient understanding).** **3. The student does not satisfy the learning goal (clear demonstration that understanding is deficient).** **4. Not Applicable (the learning goal cannot be assessed via the specific work submitted).**	**Student Course Products to be included in Portfolios as Available**					
	One or more Term Papers &/or Reports from *required* upper-division writing courses and other courses	**Written Evaluations from internship supervisors, etc., when available**	**One or more Lab Exercises from *required* courses**	**One or more Map(s) from a *required* and other GIS courses**	**One or more Presentations from upper-division courses**	**Cover Letter, Curriculum Vitae, and Resume**
2. Understand micro- and macro-scale spatial relationships within and between the systems of the physical and human environments.	GPHY Courses: 317, 335, 338, 385, 421, 433, 465, 466, 468, 469, 486, 487, 488, 489, and others as applicable	As Applicable	GPHY Courses: *112, 284, 385*, 486,487, 488; ERTH 303	GPHY Courses: *284*, 481, 482, 485, 488	Any/All upper division GPHY Courses	NA
2. Understand the application of theoretical concepts relevant to the discipline of geography and its systematic branches	GPHY Courses: 317, 335, 338, 385, 421, 433, 465, 466, 468, 469, 481,486, 487, 488, 489, and others as applicable	As Applicable	NA	As Applicable	Any/All upper division GPHY Courses	NA
3. Be able to engage in basic analysis and research procedures involving the use of spatial or other forms of data.	GPHY Courses: 317, 335, 338, 385, 421, 433, 465, 466, 468, 469, 481, 482, 486, 487, 488, 489, and others as applicable	As Applicable	GPHY Courses: *284, 385, 482, 486, 487, 488*	GPHY Courses: *284*, 481, 482, 485, 488	Any/All upper division GPHY Courses	NA
4. Have the ability to acquire and use spatial and other data within the context of field, laboratory, teaching, and internship experiences.	GPHY Courses: 317, 335, 338, 385, 421, 433, 465, 466, 468, 469, 481, 482, 486, 487, 488, 489, and others as applicable	As Applicable	GPHY Courses: *112, 284, 385, 481, 482, 486, 487, 488*	GPHY Courses: *284*, 481, 482, 485, 488	Any/All upper division GPHY Courses	NA
5. Have the computer and communication skills required of new professionals.	GPHY Courses: 317, 335, 338, 385, 421, 433, 465, 466, 468, 469, 481, 482, 486, 487, 488, 489, and others as applicable	As Applicable	GPHY Courses: *284, 385, 481, 482, 486, 487, 488*	GPHY Courses: *284*, 481, 482, 485, 488	Any/All upper division GPHY Courses	GPHY 400
6. Demonstrate interest in the discipline and its sub-areas (i.e., GIS, Planning), engagement in the program, and motivation toward professional or advanced degree opportunities. [to be addressed in 2021-22 assessment cycle]	As Applicable	NA	NA	NA	As Applicable	GPHY 400

APPENDICIES

Appendix 1. 2018 Assessment Rubric and summarized results.

OUTCOMES/CRITERIA	Mastery	Satisfactory	Not Satisfactory	Not Applicable*
1. Understand micro- and macro-scale spatial relationships within and between the systems of the physical and human environments.	6	13	0	1
2. Understand the application of theoretical concepts relevant to the discipline of geography and its systematic branches.	6	14	0	0
3. Be able to engage in basic analysis and research procedures involving the use of spatial or other forms of data.	6	10	0	4
4. Have the ability to acquire and use spatial and other data within the context of field, laboratory, teaching, and internship experiences.	7	11	0	2
5. Have the computer, computational, and communication skills required of new professionals.	3	17	0	0

*Student portfolio composition did not permit assessment of the learning outcome.

Learning Outcome 1: Understand micro- and macro-scale spatial relationships within and be
Learning Outcome 2: Understand the application of theoretical concepts relevant to the disc
Learning Outcome 3: Be able to engage in basic analysis and research procedures involving th
Learning Outcome 4: Have the ability to acquire and use spatial and other data within the co
Learning Outcome 5: Have the computer and communication skills required of new professic
Learning Outcome 6: Demonstrate interest in the discipline and its sub-areas (i.e., GIS, Plann
NOTE: This curriculm map is intended to specify how Geography's suite of courses articulate

Required Course (Name and Number)	Outcome 1:
	Understand micro-
GPHY 111-Intro Physical Geog	I
GPHY 112-Intro Phys Geog Lab	I
GPHY 121-Human Geog	I
GPHY 141-Geog World Regions	I
GPHY 241-Montana	D
GPHY 284-Intro GIS	D
ERTH 303-Weather & Climate	D
GPHY 317-Geomorphology	D
GPHY 323-Econ Geog Rural Areas	D
GPHY 335-Water Policy	D
GPHY 338-Mountains & Society	D
GPHY 385-Field Techniques	D
GPHY 400-Geography Capstone	M
GPHY 421-Sustainable Cities	M
GPHY 433-Community Resilience	M
GPHY 444-High Asia	M
GPHY 465-Planning Principles	M
GPHY 466-Envir Planning	M
GPHY 468-Comm & Regional Analysis w 469	
GPHY 474-Remote Sensing Freshwater Ecol	M
GPHY 481-Adv Cartographic Design	M
GPHY 482-Spatial Analysis & GIS	M
GPHY 485-Internet GIS	M
GPHY 486-Transport Planning & GIS w 489	
GPHY 487-Remote Sensing/Raster GIS	M
GPHY 488-GIS Applications	M
Gphy 499-Senior Thesis	M

KEY:
I = Introduced
D = Developed/reinforced, with opportunities to practice
M = Mastery
A = Assessment evidence from D and M courses collected in submitted portfolio - students might submit some of these or other items in their portfolios.

UM Curriculum Mapping Template
Geography BS Degree

tween the systems of the physical and human environments.
ipline of geography and its systematic branches
ıe use of spatial or other forms of data.
ntext of field, laboratory, teaching, and internship experiences.
ɔnals.
ing), engagement in the program, and motivation toward professional or advanced degree opportunities.
with Learning Outcomes. Student products will be drawn from courses as shown in the Assessment Plan.

Outcome 2:	Outcome 3:	Outcome 4:	Outcome 5:	Outcome 6:
Understand the	Be able to engage in	Have the ability to	Have the computer,	Demonstrate in
I	I	I	I	I
I	I	I	I	I
I	I	I	I	I
I	I	I	I	I
I	I			I
D	D	D	D	D
D	D	D	D	D
D	D			D
D	D		D	D
D	D	D	D	D
D	D	D	D	D
D	D	D	D	D
M			M	M
M	M		M	M
M	M		M	M
M	M		M	M
	M		M	M
	M		M	M
M	M	M	M	M
	M	M	M	
M	M	M	M	M
M	M	M	M	M
	M	M	M	
M	M	M	M	M
M	M	M	M	M
M	M	M	M	M
M	M	M	M