UAAC & GAAC Proposal for a New Certificate Program

Requesting College(s)/School(s)/Center(s): **College for Public Health and Social Justice**

Requesting Department(s): N.A.

Academic Award:	☒ Certificate
Academic Level:	Graduate ☒ *Includes all Post-Baccalaureate, Post-Master's, Post-Doctoral and Professional certificate programs)*
Title:	**Graduate Certificate in Geospatial Health**
Program Start Term	☒ Fall 2020

SLU Approval Authority	Signature	Date
Department Chair		
College/School/Center Curriculum Committee Chair		
College/School/Center Dean		
Chair, UAAC/GAAC		
Council of Academic Deans and Directors		
Governing Campus Vice President		
Chair, Academic Affairs Committee of the University Board of Trustees	*Not Needed*	*n/a*
Chair, University Board of Trustees	*Not Needed*	*n/a*

☐ HLC Approval Date:

☐ U.S. Department of Education Title IV Eligibility Approval Date:

4.0 STUDENT LEARNING OUTCOMES AND ASSESSMENT PLAN

Note: You are strongly encouraged to work with the University Assessment Coordinator (977-4189 or thatcherk@slu.edu) as you develop this portion of the proposal. The University Assessment Coordinator can help you establish appropriate student learning outcomes, methods for measuring student progress and using the data to inform program improvement, and assist with all facets of academic assessment.

4.1 Student Learning Outcomes Assessment Plan

Complete the table below to provide an overview of your plan to assess student progress toward achievement of desired program-level learning outcomes. Note that the results of evaluations of student performance against each learning outcome identified below will be reviewed as part of all college/school/center-level and University-level program reviews.

Program-Level Student Learning Outcomes *What are the most important (no more than five) specific learning outcomes you intend for all program completers to be able to achieve and demonstrate upon completion of the program?*	**Evaluation Method** *How will students document/demonstrate their performance toward achievement of the learning outcomes? How will you measure student performance toward achievement of the learning outcomes?* *Describe any use of direct measures: capstone experiences/courses, standardized exams, comprehensive exams, dissertations, licensure exams, locally developed exams, portfolio reviews, course-embedded assessments, etc.* *Describe any use of indirect measures: student, alumni or employer surveys (including satisfaction surveys); exit interviews/focus groups with grads; retention/transfer studies; graduation rates; job placement/grad school admission rates; etc.*	**Use of Assessment Data** *How and when will student performance data be analyzed and then used to "close the assessment loop" and inform **program improvement**? How will you document that?*
EXAMPLE: 1. *Demonstrate a thorough understanding of ethical problems being addressed in an individual case or class of cases.*	***EXAMPLE:*** ***Direct Measures:*** 1. *The following courses in the program specifically require formal case analyses designed to elicit direct evidence of student development toward this outcome: BUS 500, BUS 522, BUS 600* 2. *Embedded in the mid-term and final exams in certain required courses (BUS 550, MGMT 503, BUS 650) will be questions designed specifically to provide data enabling faculty and program administrators to evaluate student progress toward this outcome.* ***Indirect Measures*** 1. *End-of-course student surveys will solicit self-evaluations of their development in the context of this outcome.* 2. *Alumni surveys (administered one and five post-graduation) will solicit from graduates self-evaluations of their continued development in the context of this outcome, and will particularly focus on how the program has impacted professional competency.*	***EXAMPLE:*** *Assessment results will be analyzed annually against a standard rubric by the program director and a small team of faculty; recommendations for curriculum, pedagogy and/or assessment revisions will be made to the department faculty on an annual cycle that allows for appropriate implementation.* *Reviews of the impact of any such program changes will also be conducted annually, and the records of those reviews will be maintained by our department assessment coordinator.*

1. Students will develop a final project that will highlight their new GIS-skill set: including of identifying and locating data, compiling the data into a geodatabase, performing analysis, producing GIS output, and modeling lattice and spatial point data.	Direct Measures: 1. Through homework assignments, students will develop an understanding of the concepts and GIS practice including mapping, and organization, management, and visualization of geospatial data. (GIS 4010/5010) 2. Students will develop a project with the objective of collating and analyzing geospatial data (GIS 4010/5010/ 5020) and will be assessed on: depiction of the data, clarity of map, types of data used, geodatabase management logic. (GIS 4010/5010 SOC 4670/5670). Indirect Measures: 1. Student exit surveys conducted towards the end of program solicit students' self-evaluations of their development of this learning outcome. 2. Periodic alumni surveys (every 3-5 years post-graduation) will solicit from graduates' self-evaluations of their continued development of this learning outcome, particularly in relationship to how it has impacted their professional competency.	Assessments results by competency are compiled and reviewed by the program on an annual basis. Assessment revisions will be made on an annual basis by department faculty as appropriate based on results by competency. The MPH Steering Committee and Departments review the exit survey results from the previous year every Fall.
2. Students will demonstrate that they can design, implement, and present a health-focused GIS-based research project.	**Direct Measures:** 1. Through a Comparative Analysis Paper: students will about alternative approaches to structuring healthcare and how health care systems and location impact health outcomes (PUBH 5050/HMP 5000). Students will be assessed on their understanding of how health care systems influence health, where health behaviors are influenced by health care systems and how location impacts those factors. 2. Analytic Paper: Student will clearly identify a health issue, describe the geospatial background factors that influence the health outcome, map the regions where the challenges exist, conduct meaningful analysis of location and health issue (PUBH 5600). **Indirect Measures:** 1. Student exit surveys conducted towards the end of program solicit students' self-evaluations of their development of this learning outcome. 2. Periodic alumni surveys (every 3-5 years post-graduation) will solicit from graduates self-evaluations of their continued development of this learning outcome, particularly in relationship to how it has impacted their professional competency.	Assessments results by competency are compiled and reviewed by the program on an annual basis. Assessment revisions will be made on an annual basis by department faculty as appropriate based on results by competency. The MPH Steering Committee and Departments review the exit survey results from the previous year every Fall.
3. Students will critically analyze research findings and health and social policies to better understand how to improve problem solving, and decision making about health and community resources.	**Direct Measures:** 1. Students will write a comparative analysis paper, analyzing health systems of other countries and critically evaluating these systems (PUBH 5050/HMP 5000/PUBH5600). They will be assessed on their clarity of argument, description of research that was done, and critical evaluation of the task. 2. The health system redesign project involves students demonstrating their understanding of the US healthcare system, its challenges, and proposed reforms. The goal of the project is to design an improved healthcare system for the United States (PUBH 5050/HMP 5000). 3. Students will discuss the suitability of an open-source or proprietary approach to various project scenarios (GIS 5020). 4. Students will describe predictors of health conditions and outcomes using a social epidemiological approach (EPI 5420). They will be assessed through a paper that analyzes skills in measurement of health behavior and social factors, description of how these relationships are associated. 5. Students will combine lessons from HMP5000, PUBH 5050 and the GIS courses to excel their explanation of relationships of health systems, location, and how they relate to impact health outcomes. (PUBH5600) **Indirect Measures:** 1. Student exit surveys conducted towards the end of program solicit	Assessments results by competency are compiled and reviewed by the program on an annual basis. Assessment revisions will be made on an annual basis by department faculty as appropriate based on results by competency. The MPH Steering Committee and Departments review the exit survey results from the previous year every Fall.

	students' self-evaluations of their development of this learning outcome. 2. Periodic alumni surveys (every 3-5 years post-graduation) will solicit from graduates self-evaluations of their continued development of this learning outcome, particularly in relationship to how it has impacted their professional competency.	

4.2 Curriculum Mapping Courses should contribute to student achievement of the program learning outcomes detailed above. Sequencing should be intentional and complementary, allowing for the development of curricular content at multiple levels and the application and demonstration of student understanding and skills at multiple levels. Accordingly, complete the two curriculum maps below, indicating the course(s) in which each learning outcome is intentionally addressed and at particular levels of intellectual complexity and rigor, using the level indicators* provided below. ***Depending on the nature of the proposed program, the levels may seem more or less appropriate. Without veering from the spirit of the exercise, you may adapt the levels as deemed appropriate.***

Level I	Level II	Level III
▪ *Knowledge & Comprehension:* Recall data or information; understand the meaning, translation, interpolations, and interpretation of instructions and problems; state a problem in one's own words.	▪ *Application:* Use a concept in new situations; unprompted use of an abstraction. Application of knowledge in novel situations. ▪ *Analysis:* Separates material or concepts into component parts so organizational structure may be understood. Distinguishes facts from inferences.	▪ *Synthesis:* Builds a structure or pattern from diverse elements. Put parts together to form a whole, with emphasis on creating a new meaning or structure. ▪ *Evaluation:* Make judgments about the value of ideas or materials.

Note: *When you first complete the curriculum maps, you may see that certain outcomes are not addressed in any developmentally-appropriate sequence, or that a particular outcome might not be addressed substantially enough; you might even see that you have included a course(s) in your curriculum that doesn't substantially contribute to the development of* any *outcome. You should use the map to alter your program design, course syllabi and course sequencing to best facilitate and support student achievement of the outcomes. The result of that exercise should be a final curriculum map presented below when you submit your proposal to UAAC.*

Courses Offered by Home Department of Proposed Major or Minor:

Major or Minor Student Learning Outcomes	HMP 5000	PUBH 5600
Example: Outcome #1	***1***	***1***
1. Students will develop a final project that will highlight their new GIS-skill set: including of identifying and locating data, compiling the data into a geodatabase, performing analysis, producing GIS output, and modeling lattice and spatial point data.		
2. Students will demonstrate that they can design, implement, and present a health-focused GIS-based research project.	*1*	*2, 3*
3.Students will critically analyze research findings and health and social policies to better understand how to improve problem solving, and decision making about health and community resources.	*1*	*2,3*

The following schedule provides an annual timeline for assessing the program's student learning outcomes. The assessment schedule will be reviewed annually and modified to address emerging evidence needs for assessment of a particular SLO.

Program Courses Offered by Other Departments:

Major or MInor Student Learning Outcomes	GIS 4010/5010	HDS 5330	SOC 4670/5670	GIS 5020
Example: Outcome #1	***1***	***2***	***1***	
1. Students will develop a final project that will highlight their new GIS-skill set: including of identifying and locating data, compiling the data into a geodatabase, performing analysis, producing GIS output, and modeling lattice and spatial point data.	*1, 2*	*2*	*2,*	*2*
2. Students will demonstrate that they can design, implement, and present a health-focused GIS-based research project.	*1*	*2*	*3*	*2*
3.Students will critically analyze research findings and health and social policies to better understand how to improve problem solving, and decision making about health and community resources.	*1*	*1*	*3*	*2*

* Adapted from Bloom's Taxonomy (1965)