Unit Missions

GISC_Mission

Mission statement
The Center for Interdisciplinary Geospatial Information Technologies is an independent unit of the College of Arts and Sciences. The mission of the Center is to provide geospatial services, accessible education and training, and institutional knowledge for geospatial information technologies to the widest possible audience, and particularly, the mid-Delta region. Inherent in this mission is its performance in such a way that our program demonstrates *global leadership* for geospatial information technologies organized around three core areas: Education and Training, Business and Community Development, and Institutional Knowledge.

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Gen Ed Learning Outcomes

GIS_202_GE01: Critical and Creative Thinking

Start: 7/1/2014
End: 6/30/2015

Gen Ed learning outcome (competency)
a. Demonstrate an understanding of the scientific method
b. Understand deductive and inductive reasoning and apply these approaches to interpret or present spatial information.
c. Understand information in a spatial context and appropriately display their interpretation in graphical form through the creation of a map
d. Understand the broad range of modalities through which spatial science and technologies may be used to better understand the world about them
e. Use creative processes to design a map using appropriate color selection, symbol selection, thematic domains, scale, and similar concepts.
f. Author an essay which demonstrates the ability to think critically about climate change.

Data Collection
a. Demonstrate an understanding of the scientific method

Tracking results of answers to exam questions which require student to list and describe the steps involved in the scientific method. Specific sample questions asked:

Mid-terms exam question: "List the steps involved in the scientific method."
Mid-term or final exam question (essay): "Given the definition of science and technology below, is GIS a science or a technology. Support your answer with examples."
Final exam (essay): "Propose a scientific experiment and describe how you would use the scientific method to prove or refute your hypothesis."

Partial credit is allowed on the exam and, during the data aggregation process, interpreted by the instructor as "Mastery" (full credit), "Comprehension" (partial credit and demonstration that the student grasps required elements), "Unsatisfactory" (partial credit and a failure to demonstrate competency), and "Fail" (no credit, student fails to answer or demonstrate any competency).

b. Understand deductive and inductive reasoning and apply these approaches to interpret or present spatial information.

This item is tracked through exam questions. Sample questions include:

Mid-term (Fill in the blank): _____ is responsible for deductive school of thought whereas _____ is responsible for inductive.
Final (Short essay): Explain inductive and deductive reasoning. What is the difference between the two?

Students are data are aggregated on this element as Pass/Fail

c. Understand information in a spatial context and appropriately display their interpretation in graphical form through the creation of a map

Students are instructed to create a series of maps related to laboratory exercises in which that are presented with spatial data and must correctly interpret it and display it as a map using GIS software. Students complete 6 such projects worth approximately 50% of their final grade.

Partial credit is allowed on the lab assignments and, during the data aggregation process, interpreted by the instructor as "Mastery" (full credit), "Comprehension" (partial credit and demonstration that the student grasps required elements), "Unsatisfactory" (partial credit and a failure to demonstrate competency), and "Fail" (no credit, student fails to answer or demonstrate any competency).

d. Understand the broad range of modalities through which spatial science and technologies may be used to better understand the world about them

Students must read "Maphead" or "The Mapmakers" and author a term paper describing the impact of spatial technologies on today's society.
Partial credit is allowed on the term paper and, during the data aggregation process, interpreted by the instructor as "Mastery" (full credit), "Comprehension" (partial credit and demonstration that the student grasps required elements), "Unsatisfactory" (partial credit and a failure to demonstrate competency), and "Fail" (no credit, student fails to answer or demonstrate any competency).

e. Use creative processes to design a map using appropriate color selection, symbol selection, thematic domains, scale, and similar concepts.

Students are instructed to create a series of maps related to laboratory exercises in which that are presented with spatial data and must correctly interpret it and display it as a map using GIS software. Students complete 6 such projects worth approximately 50% of their final grade.
Partial credit is allowed on the lab assignments and, during the data aggregation process, interpreted by the instructor as "Mastery" (full credit), "Comprehension" (partial credit and demonstration that the student grasps required elements), "Unsatisfactory" (partial credit and a failure to demonstrate competency), and "Fail" (no credit, student fails to answer or demonstrate any competency).

f. Author an essay which demonstrates the ability to think critically about climate change.

Students are presented with map data depicting climate change (sea surface temperature, mean global temperature, rainfall, and similar) and must author an essay in which these data are interpreted.
Partial credit is allowed on this assignments and, during the data aggregation process, interpreted by the instructor as "Mastery" (full credit), "Comprehension" (partial credit and demonstration that the student grasps required elements), "Unsatisfactory" (partial credit and a failure to demonstrate competency), and "Fail" (no credit, student fails to answer or demonstrate any competency).

GIS_202_GE03: Quantitative Skills

Start: 7/1/2014
End: 6/30/2015

Gen Ed learning outcome (competency)

a. Understand and explain basic spatial statistic methods such as spatial auto-correlation, Geary's C, and Moran's I.
b. Be able to differentiate between discrete and continuous data types
c. Understand the process of overlay analysis through the manipulation of raster data types, distance calculations, and the basic analysis (break points, number of classes, mean, median, sum, standard deviation) for the attributes of spatial objects
d. Demonstrate a basic understanding of triangulation and the Pythagorean Theorem to calculate position
e. Understand the theoretical numeric construct of the relationship between map projections and coordinate systems

Data Collection

a. Understand and explain basic spatial statistic methods such as spatial auto-correlation, Geary's C, and Moran's I.

Students are asked to complete an essay demonstrating their understanding of Tobler's First Law of Geography

Partial credit is allowed on the exam and, during the data aggregation process, interpreted by the instructor as "Mastery" (full credit), "Comprehension" (partial credit and demonstration that the student grasps required elements), "Unsatisfactory" (partial credit and a failure to demonstrate competency), and "Fail" (no credit, student fails to answer or demonstrate any competency).

Exam questions related to the interpretation of Moran's I and Geary's C statistics are asked on the mid- and final-exams.

Results are evaluated on a pass/fail basis

b. Be able to differentiate between discrete and continuous data types

Students must differentiate between discrete and continuous data types in at least 2 exam questions.

Questions related to this objective are graded on a pass/fail basis.

c. Understand the process of overlay analysis through the manipulation of raster data types, distance calculations, and the basic analysis (break points, number of classes, mean, median, sum, standard deviation) for the attributes of spatial objects

Students are required to complete a lab practicum whereby they must add multiple data layers to a map and compute basic statistics using the data provided. The results must be displayed in a map.

Partial credit is allowed on the exam and, during the data aggregation process, interpreted by the instructor as "Mastery" (full credit), "Comprehension" (partial credit and demonstration that the student grasps required elements), "Unsatisfactory" (partial credit and a failure to demonstrate competency), and "Fail" (no credit, student fails to answer or demonstrate any competency).

d. Demonstrate a basic understanding of triangulation and the Pythagorean Theorem to calculate position

Students are provided instruction in the US National Grid Coordinate System and then tasked with completing a land navigation course which required them to apply the Pythagorean Theorem to locate their position and/or the position of a known object.

This training evolution is graded as Mastery (5 of 5 points located), Comprehension (3-4 points located), Unsatisfactory (1-2 points located), and Fail (no points located, the student gave up and wandered off the course to enjoy an adult beverage). If somebody actually reads the latter, I'll change the sentence and give them a quick course in USNG...

e. Understand the theoretical numeric construct of the relationship between map projections and coordinate systems

Students must differentiate between cylindrical, conic, and azimuthal map projects and explain their relationship to the use of planar or spherical coordinates by answering appropriate exam questions. Example questions include, but are not limited to:

"List 3 types of conical map projections."
"The Mercator Projection is an example of a _____ map projection."

Students are evaluated on a pass/fail basis.

GIS_202_GE04: Inquiry and Technology

Start: 7/1/2014
End: 6/30/2015
Gen Ed learning outcome (competency)
a. Successfully complete a minimum of 12 computer-based laboratory exercises using geographic information science and technologies
b. Use the Internet to find and assess the quality of spatial information
c. Use word processing and spreadsheet applications to complete assignments

Data Collection
a. Successfully complete a minimum of 12 computer-based laboratory exercises using geographic information science and technologies

Students are graded on this portion of the lab exercises as pass or fail (where they completed and turned in or not).

b. Use the Internet to find and assess the quality of spatial information

Students are tasked with constructing a map during a practicum whereby procedures are provided, but the students must discover and correctly use geospatial data discovered using the Internet.

This assignment is graded based on Mastery (students find and apply appropriate data), Comprehension (student find but do not correctly apply appropriate data), Unsatisfactory (neither find nor apply), and Fail (do not attempt).

c. Use word processing and spreadsheet applications to complete assignments

Students must learn and use appropriate technology to compile data and author essays. Further, students must learn and use GIS software to complete assignments.

This portion of their assessment is graded as Mastery (students demonstrate the ability to use all software functions for which instruction is provided), Comprehension (students successfully demonstrate the ability to use at least 70% of the software functions for which instruction is provided), Unsatisfactory (students cannot successfully demonstrate the ability to use at least 70% of the software functions for which instruction is provided), and Fail (failure to attempt).

Section IV.h

Committees Reporting To Unit

Each unit includes in the annual plan and report a list of the committees whose work impacts that unit or any other aspect of the university; along with the list will be a notation documenting the repository location of the committee files and records. Committee actions affecting the unit's goals may be noted in other applicable sections of the annual reports. Not required to be included in the unit's annual plan and report, but required to be maintained in the repository location, will be a committee file that includes, for each committee: Mission and by-laws, Membership, Process, Minutes.

DELTA STATE UNIVERSITY

Institutional Research & Planning
Kent Wyatt Hall 161
(662) 846-4052

To: Mr. Talbot Brooks, Director; Interdisciplinary Center for Geospatial Information Technology

From: Office Institutional Research & Planning

Date: July 24, 2015

Subject: Academic Year Report Info. for the Interdisciplinary Center for Geospatial Information Technology

The following information contains Summer 2014, Fall 2014, and Spring 2015 credit hours produced, enrollment, and graduates for academic year 2014/15. If you need additional information, or have any questions regarding this information, please contact IRP at x4052.

CREDIT HOUR PRODUCTION						
	Summer 2014		Fall 2014		Spring 2015	
	UG	GR	UG	GR	UG	GR
GIS	0	120	105	69	123	66
REM	0	21	0	33	39	30
TOTAL	0	141	105	102	162	96

ENROLLMENT BY MAJOR						
	Summer 2014		Fall 2014		Spring 2015	
	UG	GR	UG	GR	UG	GR
Geospatial Information Technology	0	16	0	12	0	12

2014/15 Graduates*	
Geospatial Information Technology	
MAS	12

**Note that one additional degree is pending until the grade for an internship is received.*

Credit Hour Production							
	Summer		Fall		Spring		
	UG	GR	UG	GR	UG	GR	Total
GIS							
AY 2015	0	120	105	69	123	66	483
AY 2014	0	54	120	117	0	54	345
AY 2013	9	84	99	78	97	39	406
AY 2012	24	7	134	132	99	96	492
AY 2011	43	30	312	31	221	28	665
REM							
AY 2015	0	21	0	33	39	30	123
AY 2014	0	9	0	60	0	57	126
AY 2013	9	9	0	0	45	36	99
AY 2012	3	0	6	0	0	30	39
AY 2011	6	3	33	12	18	0	72
AY Totals							
AY 2015	0	141	105	102	162	96	606
AY 2014	0	63	120	177	0	111	471
AY 2013	18	93	99	78	142	75	505
AY 2012	27	7	140	132	99	126	531
AY 2011	49	33	345	43	239	28	737

Graduates		
GIT	MAS	Total
AY 2015	12	12
AY 2014	8	8
AY 2013	10	10
AY 2012	0	0
AY 2011	0	0

Enrollment by Major						
	Summer		Fall		Spring	
	UG	GR	UG	GR	UG	GR
Geospatial Information Technology						
AY 2015	0	16	0	12	0	12
AY 2014	0	7	0	24	0	17
AY 2013	0	11	0	15	0	7
AY 2012	0	0	0	14	0	27
AY 2011	0	0	0	0	0	0
AY Totals						
AY 2015	0	16	0	12	0	12
AY 2014	0	7	0	24	0	17
AY 2013	0	11	0	15	0	7
AY 2012	0	0	0	14	0	27
AY 2011	0	0	0	0	0	0