

# CNM ANNUAL STUDENT LEARNING ASSESSMENT REPORT

Due to the Student Academic Assessment Committee by October 15



## PART 1: REPORT INFORMATION

Report Year and Contact Information			
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<b>Academic Year</b>	<b>Contact Person</b>	<b>CNM Email</b>	<b>CNM Office Extension</b>

Subject of this Report (Please copy and paste the program identifier from the Program Identifiers spreadsheet without making any changes. Only one program identifier can be included per report.)
AT--GEOG_AAS--Geographic Information Technology Degree

## PART 2: CONTEXT IN WHICH THE ASSESSMENT TOOK PLACE

Program/Area Highlights and Successes (Wherever applicable, include course completion rates, job placement outcomes, and licensing examination pass rates. See the program information dashboard at <a href="https://livecnm.sharepoint.com/Sites/Dashboards/SitePages/Program%20Information%20Dashboard.aspx">https://livecnm.sharepoint.com/Sites/Dashboards/SitePages/Program%20Information%20Dashboard.aspx</a> (access restricted to CNM employees) and other reports at <a href="https://www.cnm.edu/depts/opie">https://www.cnm.edu/depts/opie</a> .)
<p>The GIT Program is a small program that has courses that cross-over with Surveying, UAS and Geography. The UAS courses that started in GIS have been tremendously successful and have now branched off into their own program: UAS. There is still crossover between the two programs, which continues to be encouraged</p> <p>Job Placement outcomes for GIT, that have not been reported to OPIE: Students placed in related jobs and/or transferred to university programs 2018-2019: 10+ (?).</p>

Changes Implemented During the Past Year in Support of Student Learning
<p>-With the addition of the Fundamentals course (GIS 1002) students are getting more foundation for later GIS courses.</p> <p>-With an emphasis on Critical Thinking, Assessments are being changed to Lab Exercises with high levels of CT requirements.</p>

**PART 3: REPORT ON ASSESSMENT OF STUDENT LEARNING**

Assessment Method	Type of Assessment Tool	Population or Course(s) Assessed	Graduate Learning Outcome(s) Assessed	Mastery Level (E.g., "Minimum score of 3 on a rubric scaled 0-4" or "Minimum score of 75%")	Targeted % Achieving Mastery	Outcome
Questions	Direct internal	GIS 1001 2019Spr	1. (5 Questions) Demonstrate understanding of theoretical concepts related to geographic data including spatial references, data models, data file structures and database management.	Minimum Score of 80%	81%	Target met
Lab Exercise	Direct internal	GIS 1001 2019Spr	2. Lab exercise:  Outcome: Data Sources, Metadata, Coordinate Systems, and Projections  Students complete a lab whereby they download various data sets from different sources, and identify the appropriate Coordinate System and Projection by examining the metadata. They then need to use the proper GIS tools, in the correct order to align the data to a unified Coordinate System and Projection.	Minimum Score of 80%	90%	Target met

Final Project	Direct internal	GIS 2001 Fall 2018	4.Lab exercise: Outcome: Overlay Analysis with Modelbuilder Students must identify the problem, describe it, and determine steps to address it. They must determine the appropriate data needed, the geoprocessing tools to apply, and the order of steps for the procedures. This assignment requires building a workflow model and using the modeling tool with the GIS.	Minimum Score of 80%	100%	Target met
Exam Question	Direct internal	GIS 2011 Spring 2019	5. Exam Question Outcome: Students must be able to define and explain the difference between spatial, temporal, spectral, and radiometric resolutions.	Minimum Score of 80%	87%	Target met
	N/A			Minimum Score of 80%	100%	N/A
	N/A				N/A	N/A
	N/A				N/A	N/A
	N/A				N/A	N/A
	N/A				N/A	N/A
	N/A				N/A	N/A

Summary of Assessment Findings
<p>For one of the Program Learning outcomes (#2), and several of the Course Outcomes, two types of assessment were used: Scores from applicable computer laboratory exercises, and scores from exam questions.</p> <p>Scores from Quizzes and Exam questions demonstrated a good understanding of concepts in the assessment areas.</p> <p>Scores from two lab exercises were 90 and 100%.</p> <p>S</p>

Interpretation of Assessment Findings
<p>Overall, students demonstrated understanding of concepts and demonstrated abilities to complete GIS tasks.</p> <p>There was a thinness of data in previous cycles, and therefore more an additional assessment was added to GIS 1001. However, for the first time in quite awhile, GIS 1001 did not make both semesters, therefore a thin dataset remains. It is hoped that changes to the Curriculum regarding timing of courses for students may help address this.</p>

Action Plan in Support of Student Learning (Describe changes to be made that are based at least in part on the assessment interpretation. If the assessment did not yield useful information, describe changes to be made in the assessment methodology and/or criteria.)
<p>Change in assessment types: Due to the removal of GIS 2007, a new assessment was added that was not reported in the last SAAC. A multipart exam question was added from GIS 2011 (outcome#5.) . This will remain for the next assessment period.</p>

*Please select all of the following that characterize the types of changes described in the above action plan:*

- Assessment criteria revision
- Budgetary reallocation
- Curricular Revision
- Assessment methodology revision
- Change in teaching approach
- Faculty training/development
- Assignment revision
- Course content revision
- Process revision

Recommendations, Proposals, and/or Funding Requests	Budget Needed
<p>It is recommended that a higher level course be added back into the GIST program to replace GIS 2007. Too many necessary concepts were lost and could not be incorporated into other courses. Also, GIS 1001 needs to be returned to Term 1 as part of the enlistment for the program (it was changed to Term 2 a cycle or two ago.)</p>	

**PART 4: REMAINING YEARS IN CURRENT ASSESSMENT CYCLE PLAN** (including any revisions) – **OR -- UPCOMING ASSESSMENT CYCLE PLAN** (if this was the final year)

<b>Years of Full Cycle</b>	<b>Next Year's Assessment Focus</b> (Describe how the next planned assessment is expected to provide information that can be used toward improving student learning.)
2017-2020	This next cycle focuses on Lab Exercises requiring Critical Thinking.

<b>Graduate Learning Outcomes to Be Assessed</b>	<b>Years in which Assessment Is Planned</b>	<b>Population/Courses to Be Assessed</b>	<b>Planned Assessment Approach</b>
1. Demonstrate understanding of theoretical concepts related to geographic data including spatial references, data models, data file structures and database management. (Questions)	2017-2018; 2018-2019; 2019-2020	GIS 1001	Quiz Questions (5 Total)
2. Lab exercise:  Data Sources, Metadata, Coordinate Systems, and Projections  Students complete a lab whereby they download various data sets from different sources, and identify the appropriate Coordinate System and Projection by examining the metadata. They then need to use the proper GIS tools, in the correct order to align the data to a unified Coordinate System and Projection.	2017-2018; 2018-2019; 2019-2020	GIS 1001	Lab Exercise completion. (Final results can only be obtained if all steps are performed correctly.)
3. Lab exercise:  Distance Analysis Using Raster data, Advanced  Students complete a lab whereby they download data, identify and use appropriate geoprocessing tools and workflows. Students calculate weighted distance, create cost surfaces, perform least-cost path analyses.	2017-2018; 2018-2019; 2019-2020	GIS 2007, 2092	Lab Exercise completion. (Final results can only be obtained if all steps are performed correctly.)
4. Lab exercise:  Overlay Analysis with Modelbuilder  Students must identify the problem, describe it, and determine steps to address it. They must determine	2017-2018; 2018-2019; 2019-2020	GIS 2001	Lab Exercise completion. (Final results can only be obtained if all steps are performed correctly.)

the appropriate data needed, the geoprocessing tools to apply, and the order of steps for the procedures. This assignment requires building a workflow model and using the modeling tool with the GIS.			
5. Exam Question: Students must be able to define and explain the difference between spatial, temporal, spectral, and radiometric resolutions.	2018-2019; 2019-2020	GIS 2011	Exam question- short answer/short essay

