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**August 14, 2015**

**Academic Program Review**

[*Geography*]

Academic Programs Reviewed

BS in Geography

MS in Geospatial Science \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**\_\_Francis Koti\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **Department Chair**

**Part I**

**Departmental Assessment**

The University of North Alabama is committed to a process of ongoing and integrated planning and evaluation. To this end, each department engages in a five-year review to ensure that departmental goals, strategies, and projected outcomes support the institution’s mission, strategic plan, and commitment to academic excellence.

Specifically, all five-year reviews should 1) incorporate a systematic review of institutional mission, goals, and outcomes; 2) review results targeted toward continuing improvement in departmental quality; and 3) document changes have occurred as a result of the review.

**1. Assess the department as it relates to students including enrollment and graduation data, and student services:**

**Enrollment:** Data used here was provided by UNA Office of Institutional Research, Planning and Assessment (OIRPA) and is presented in tabular form in the appendix section of this review. During the 2010-2015 reporting period, there was a decline in majors in the department from 169 in 2010 to 115 in 2015, a 31.9% decline. There was also a 21.5% decline in student credit hours, and a 36.1% decline in credit hours per faculty. Interestingly however, the graduation rates for the five year reporting period were higher than the previous reporting period. This decline in majors has not been a cause for major concern for the department for several reasons. First, the decline reflects a general trend in the discipline of geography where majors have been declining nationally. It should also be noted that the unusual surge in majors in the 2009-2013 period - which coincided with the economic recession could have been in part, a result of unemployed individuals returning to college. With the economy picking up, this could also explain the numbers returning to normal as people go back to work. The introduction of the master’s program which now shares the same resources and faculty could also help explain the decline. What is interesting however, is that compared to the previous five year reporting period (2015-2015), the 2010-2015 period recorded: a 46.6% increase in the average number of majors; 72.7% increase in the average number of degrees conferred; 35.1% increase in average student credit hours; and a 0.7% increase full time faculty credit per hour production. Geography faculty have however, responded to this decline in majors by expanding online and hybrid offerings including summer terms. We are also reaching out to potential students through community outreach and also social media activities (see enrollment data in Appendix 1).

**Degree productivity**: Between fall 2010 and spring 2015, a total of 193 majors graduated from our undergraduate program - an average of 38.6 BS degrees conferred per year (previous reporting period – 22.2/year). The graduation total for the undergraduate program represented a 72.7% increase from the previous reporting period (111). Although there was a decline in enrollment during the reporting period, the graduation rates were high because of the surge in numbers between 2010 and 2013. It is expected that in the coming years, the graduation rates will decline slightly or plateau to reflect the declined enrollment in the last three years.

During the 2010-2015 reporting period, a total of 14 graduate students graduated with master’s degrees from our graduate program – an average of 3.5 students per year. This is 2 more than the projected total in the five year period. This reflects the hard work done by faculty in the department (see degree productivity data in appendix 1).

**Student services**: Faculty members in the department of Geography are actively involved in student academic advising. We have a one-on-one academic advising system where students are assigned to one academic advisor to help them with their program completion. During advising sessions, faculty assist students in discovering job opportunities, mentor those who wish to apply to graduate school, or interested in internship opportunities and co-op programs, and/or supporting service learning projects. During the reporting period scores of our students were placed in **internship positions** throughout the North Alabama area including Nashville Tennessee. All Geography faculty members maintain adequate office hours and also maintain an open door policy and students are welcome to visit during office hours and at any other time the faculty member is available. In our department, we challenge our students to discover their passion and utilize their full potential - earning geographic knowledge and skills that set them apart from their peers. Between when students declare the Geography major and when they graduate, we make sure they have plenty of opportunities for: GIS internships in the area, research assistantships, graduate assistantships, research opportunities in funded faculty research projects, conference travel and presentation, coops, field courses in various parts of the US; study abroad to various parts of the World and locally here in the US and many other exciting programs. **The Geography club** provides opportunities for majors and minors to interact with faculty and each other in professional and social situations. It also allows students to take leadership roles as officers in the club and members of campus committees. Depending on their grade point averages, students can join the **International Geography Honor Society of Gamma Theta Upsilon**. Faculty members in the department volunteer to provide leadership in advising students in both organizations. In the reporting period, the Geography club sponsored many activities including tailgating home football games, whitewater rafting, field trips, kayaking, to name but a few.

**2. Assess the department as it relates to faculty and staff activities throughout the previous reporting period including research, service, and faculty/staff development:**

**Teaching:** **Curriculum development**: The Department of Geography prides itself of its dedicated and hardworking faculty. During the 2010-2015 reporting period, the department introduced significant changes into the graduate and undergraduate curriculum. For example, Geography faculty introduced seven new courses into the graduate curriculum namely: Advanced Quantitative Methods; Geographic Thought; Geographic Methods and Design; Seminar in Geospatial Science; Cartographic Design and Visualization; Spatial Modeling and Analysis in Geographic Information Science; and Field Experience in Geography. Likewise, Geography faculty also introduced six new courses into the undergraduate curriculum including: GIS Programing; Geovisualization; Biogeography of the American South with a focus in Alabama; Geopolitics of International Criminal Enterprise (cross-listed with Political Science); Geopolitics of Failed and Failing States (cross-listed with Political Science); War in Afghanistan (cross-listed with Political Science); Interagency Cooperation (cross-listed with Criminal Justice); Geography of Tourism, Recreation, and Sports; and Geography of Australia and the Pacific Islands. During the same time, three existing courses were modified to respond to changes in industry and also trends in the discipline. These include Applied Geospatial Analysis, Image Interpretation and Analysis, and Geopolitics. Additionally, all courses taught at the 400 level were cross-listed with 500-level courses to accommodate demand from our new graduate program. Other notable curriculum developments during the reporting period include introducing a new graduate program, adding a new minor called Geospatial Human Computer Interaction/User Experience (GeoHCI/UX) and revising the existing Geographic Information Systems Certificate to include a senior capstone course. Geography faculty also added four new online and hybrid courses namely Geographic Information Systems (hybrid); Geographic Thought; Geography of Asia; Physical Geography – Landforms; Geographic Information Systems – all online. Faculty also migrated all courses from ANGEL to the new CANVAS learning system.

**Field experience**: Enhancing student learning experience is an ongoing goal in the Department of Geography. Geography faculty strongly believe that field courses are an effective strategy of meeting this goal. During the 2010-2015 reporting period, the Department of Geography offered a total of eleven field courses – involving 188 students and 6 faculty. More specifically, four faculty-led study abroad programs were offered to four different countries - Tanzania, China, Peru and Scotland. Seven faculty-led field courses were offered to different regions of the US including New Yok and Washington D.C; Pacific Northwest; Mountain West; Desert Southwest and Southeastern US. In summary, field courses offerings during the reporting period comprised an average of 2.2 courses per year, 37.6 students per year and 85.7% of the fulltime faculty.

**Faculty Research productivity**: Faculty members in the Department of Geography are actively engaged in research and other creative activities. This is reflected in their publication record, conference presentations, grants, student research and other creative activities. During the reporting period, Geography faculty published a total of **19 peer-reviewed publications** – 3.8 per year. The publications appeared in reputable journals such as: *Physical Geography; Geography Compass; The Southeastern Geographer; Africa Today Journal; International Journal of Business and Social Science; Biological Invasions; Transactions of the American Fisheries Society; River Research and Applications; Applied Geography; Journal of Freshwater Ecology; International Journal of Geospatial and Environmental Research; The International Journal of the Constructed Environment* to name but a few. Geography faculty also made a total of **50 conference research presentations** – representation at least 10 research presentations per year. The research presentations were made both in the United States and overseas – notable ones including: the Association of American Geographers, Southeastern Division of the Association of American Geographers conference, the Kenya Scholars and Studies Association conference, National Council of Geographic Education conference, and the International GIS User Conference organized by Environmental Scientific Research Institute, and Applied Geography conference. Geography faculty also mentored both graduate and undergraduate students to conduct research and present at national and regional conferences. During the reporting period, Geography faculty mentored students to make **34 conference presentatio**ns (6.8 per year) while there were a total of 12 (2.4 per year) MS Theses and one MS project completed in the same period. In terms of **grants**, a total of $1,050,844 was generated in research funds both internally and externally. Notable grant funds were received from National Oceanic and Atmospheric Administration ($499,500; Department of Justice Grant ($290,000); National Park Service - American Battle Field Protection Program - United States Department of the Interior – $31,998 and National Geographic Society.

**Faculty service activities:** During the reporting period, Geography faculty were actively involved in service activities that enhance the department, the University, the community and the profession of Geography. **Service to University**: During the 2010-2015 reporting period, Geography faculty served in various committees on UNA campus including: Faculty Affairs Committee of the Senate; University Senate; Phi kappa Phi Chapter at UNA; Multicultural Affairs Committee; Office of Diversity and Institutional Equity Advisory Council, University of North Alabama Enrollment Management Plan and many other *ad hoc* committees including search committees for senior University administrators. **Service to community**: During the reporting period, Geography faculty were also actively involved in various service-related activities in the Shoals area. Whether it was Florence City Planning Commission, conducting the Geography Bee competition in city and county schools, Rotary Club, Kiwanis Club, Institute for Learning in Retirement, or making presentations in local K-12 schools, faculty and students were actively involved. **Service to Profession**: Geography faculty members were also active in service to the profession and the discipline of geography. One faculty member was twice invited at the University of Connecticut as a workshop leader in the Geography faculty development Alliance organized by the Association of American Geographers (AAG), another faculty member served in the Executive Planning Board of the National Council for Geographic Education, while another faculty member became the Assistant Editor of *International Journal of Geospatial and Environmental Research* (IJGER). During the reporting period, Geography faculty also served as manuscript reviewers for more than 15 reputable journals including: *International Journal of Geospatial and Environmental Research, Kenya Studies Review, Southeastern Geographer, Applied Geography, Political Geography, International Journal of the Constructed Environment, International Journal of Ecology, Hydrobiologia, Biological Invasions, Fisheries Ecology and Management, Journal of Aquatic Plant Management* and also reviewers of Study Guides for various course texts. During the same reporting period, three Geography faculty served as external MS Thesis committee members in the Department of Geography at University of Alabama, Tuscaloosa. Geography faculty have also been active internationally by giving lectures, teaching short courses, conducting field work, and directing workshops in such places as Tanzania, Kenya, Peru, China, Scotland, South Korea, Australia, Germany, Italy, and Jamaica – to name but a few.

**Faculty development:** The 2010-2015 reporting period has seen the most change in faculty composition in the last two decades. During this period, there was a change in departmental leadership. Dr. Francis Koti became the new Department Chair following the retirement of Dr. William Strong who had been Department Chair for 29 years. Also, Dr. Lisa Keys-Mathews, a long-time serving faculty member accepted an administrative position as the Director of Quality Enhancement Plan (QEP) for the university. Dr. Greg Gaston completed his faculty development leave at the University of Dar es Salaam Tanzania on a Fulbright fellowship. Likewise, Dr. Michael Pretes completed his faculty development leave at the University of Wyoming and also in Australia. Over 50% of Geography fulltime faculty today were not in the department in the previous reporting period. During the 2010-2015 reporting period, the department hired four new faculty – Dr. Sunhui Sim (from Florida State University), Dr. David Brommer (from University of Alabama), Dr. Jonathan Fleming (from Mississippi State University) and Dr. Mighty Mario (from University of Florida). Despite the changes, department faculty were fully engaged in activities to develop themselves as professionals. Activities included the certification by four department members as Geographic Information Systems Professionals (GISP), a certification process based on experience, current activities, and a commitment to continued professional development in Geographic Information Science. Every year, the department sent a representative to the International GIS User conference in San Diego California where GIS professionals engage in professional development activities. Two faculty members have attended departmental leadership workshops organized by the Association of American Geographers (AAG) at the University of Colorado and also University of Connecticut. One faculty member has served as a workshop leader in the Geography Faculty Development Alliance of the AAG held at the University of Connecticut, Storrs. Geography faculty also participated in a variety of workshops designed to enhance professional skills including the Department Workshops sponsored by the AAG in Tampa, Florida and Chicago Illinois. A faculty member travelled to Italy to conduct a reconnaissance tour for a study abroad. Two faculty members were involved in setting up a GIS lab in the Department of Geography at the University of Dar es Salaam in Tanzania. This involved training both faculty and graduate students on the use of GIS for research and also solving problems. During the same reporting period, a new position of Graduate Coordinator was established. A Geography faculty member appointed by the Chair serves in this position and is compensated with a stipend. In the 5-year period, this position changed hands between three different faculty members. Despite changes in faculty composition and also departmental leadership, the 2010-2015 reporting period was a time of tremendous growth as the department made opportunities and resources available for faculty to develop themselves professionally.

**3. Are facilities and resources adequate to address the goals and objectives of each program within the department? Explain why or why not:**

**The Freddie Wood Geographic Resource Center and GIS lab**: During the reporting period, the Department of Geography formally commissioned the Freddie Wood Geographic Research Center. The center was established to support research by Geography faculty and students, offer a variety of professional services to UNA faculty, staff and students, the geospatial industry and the community, and to present a mechanism for developing and sharing geospatial data with a large community of users. The Center has been named for Dr. Freddie Wood, who helped to acquire the first grant to establish a Geographic Information Systems Lab at the University and made a generous personal gift to create an endowment to support the work of the Department of Geography. The Freddie Wood Geographic Research Center supports the educational, research, and service missions of the Department of Geography by providing state of the art computer facilities and software for teaching, learning, research, and presentation, and supporting practical experience in research and service projects through which students, under the direction of faculty, acquire and develop skills of geospatial analysis and presentation. The Center is equipped with twenty five high speed computers dedicated to GIS, remote sensing, and other technical geography applications. Software includes ERDAS Imagine image processing software, ESRI ArcGIS products, including Business Analyst, large format industry-grade plotter, a server – all updated annually through a software allocation within the department. The well-equipped GIS lab has made it possible for faculty to conduct research and also train students with the latest technology in the geospatial industry. The computers in the center are managed for University updates on a daily basis with basic computer issues resolved by Information Technology Services at UNA. All other lab management duties, including software maintenance is handled by a designated faculty member in the Department of Geography. The faculty in charge regularly attends professional development meetings and workshops to stay abreast with the latest changes in industry.

**Graduate lab**: Following the inception of a graduate program in 2010, the department established a graduate student research lab where graduate students engage in various research activities and also complete their assignments while fulfilling their graduate assistant responsibilities. The lab is equipped with five computers and a printer. The computers in the graduate lab are also equipped with the latest GIS and remote sensing software and managed by the University.

**Library resources**: University of North Alabama Collier Library collection meets the needs of students, faculty, and supports the curriculum for all departments. The collection provides sufficient resources for undergraduate and graduate research, as well as supporting the research interests of faculty. The Department of Geography receives an annual allocation and departmental faculty make recommendations for additions to the collection based on their curricular needs. For the 2014-2015 fiscal year for example, the department’s library allocation was $4,245.00. In addition, the department has an assigned library liaison to assist with collection development and departmental library needs. This collaboration helps ensure an ongoing relationship between the Department of Geography and Collier Library.

Among the resources and services offered by Collier Library to support the Department of Geography are: Access to databases covering geography and related topics, including Academic Search Complete, Science Direct, Caribbean Search, and ERIC; Access to over 1,300 periodicals covering geography and related topics, including core journals in the field such as, Annals of the Association of American Geographers, Applied Geography, Physical Geography, Political Geography, Journal of Transport Geography, Transactions of the Institute of British Geographers, and Economic Geography; Access to a collection of maps and atlases; Interlibrary Loan service for materials not available locally (use of this service is free for students and faculty); Library instruction including research consultations, embedded librarians, and classroom instruction; Three types of course reserves: regular, restricted, and one-day

**Biogeography equipment**: The department also houses a band saw, a vacuum sanding table, belt sanders, a dust collection system, measuring stages, field equipment, microscopes, and miscellaneous supplies needed in dendroecology and forest research. Currently there is no faculty member with this specialty within the department and the equipment is not being used.

**Space:** During the five-year reporting period between 2010 and 2015, following the relocation of the Dean of College of Arts and Sciences offices, the Department of Geography acquired much needed space to accommodate the 50% increase in faculty. The department acquired three additional offices which has helped meet space needs. Despite the new space however, the department is still experiencing space problems especially for graduate students and also adjunct faculty. The capacity of our computer lab does not meet our demand and we must cap all technical courses to match the number of computers in the GIS lab.

**Support personnel**: Department of Geography has one administrative assistant, six graduate assistants who help faculty with lab courses, and at least two undergraduate students supported by the Department’s work-study budget. The graduate students are fully funded by the University including both tuition and a stipend.

The resources noted above fully support the goals of the department. It is expected that with additional lab and graduate student space, and resources, we will be able to adequately meet the needs of our students.

**4. Notable achievements by the department (students, faculty, staff):**

New Programs:

**New graduate program**: The Department of Geography introduced a new Masters in Science program in Geospatial Science. With this new program, seven new courses were added to the department graduate curriculum. Over the five-year period, the program enrolled an average of 9.0 fulltime students and 6.4 part time students per year. The program has graduated 14 graduate students in a period of five years which represents 1.8 per year. The placement rate for our graduate program stands at 100% with two students in PhD programs while the rest are engaged in the geospatial industry. A Graduate Coordinator position has been establish to facilitate the running of the graduate program.

**GeoHCI/UX minor**: During the five-year reporting period, the department introduced a new minor in Geospatial Human Computer Interaction/User Experience. GeoHCI/UX is an emerging concept which integrates location-based knowledge, spatial cognition and fundamental aspects of geographic representation into the computer-human interaction domain. This minor in GeoHCI/UX is producing broadly trained geographers with knowledge from other related disciplines that incorporate development, design and use-experience aspects. These include: Art, Computer Information Systems, English, and Psychology. We believe that this interdisciplinary minor will broaden students' perspectives and also enhance their employment chances in the job market. The first two graduates with this minor were hired either while still in our program or within less than two months after graduation.

**Bachelors of Science in GIS** - development: During this same period, the Geography faculty deliberated and resolved to develop a stand-alone major in Geographic Information Science. The Notice of Intent to submit a proposal (NISP) has been submitted to the Alabama Council for Higher Education (ACHE) and a full proposal is being developed and will be submitted accordingly. It is expected that this major will make our students more marketable in the industry.

**In terms of curriculum**, six new courses were added into the undergraduate curriculum while three other existing courses were modified to respond to changes in industry and also trends in the discipline. Notable among these courses in GIS programing, Geovisualization and Quantitative Methods. We believe that these courses will enhance the knowledge and skillset among our students to make them more marketable.

**Study abroad opportunities**: During the reporting period, the department introduced and conducted four faculty-led study abroad programs to four different countries - Tanzania, China, Peru and Scotland. The Tanzania program has been offered three times during the same period. A new study abroad to Jamaica is being developed and is expected to be offered in summer 2017.

**Faculty development**: During the reporting period, faculty members increased from five to eight. The department hired four new faculty with expertise ranging from weather and climate, biogeography, agriculture, and GIS programing. The new hires have helped to enhance the department’s capacity to expand especially GIS offerings. During the same time, a faculty member Dr. Greg Gaston accepted a Fulbright Fellowship where he spent time in the University of Dar es Salaam’s Department of Geography teaching and doing research. Following his activities there, our department helped establish a GIS lab at their University. Two faculty members also completed faculty development leaves where they were engaged in teaching and research activities. Two of the four new hires are international faculty and one is a female. This has enhanced diversity among our faculty and is something we believe expands perspectives and also resources for our students.

**Faculty promotion and tenure**: During the 2010-2015 reporting period, three Geography faculty were promoted to full professor rank while one faculty member was promoted to the rank of Associate Professor. This continues to show the dedication and productivity of Geography faculty.

**Excellence in Teaching**: During the reporting period, geography faculty members were recognized for quality teaching by their peers here at UNA. FOR example, one faculty member was the recipient of the Phi Kappa Phi Eleanor Gaunder Excellence in Teaching Award here at UNA. This is a prestigious honor accorded to one faculty member in the University every year that has exhibited excellence in teaching in various aspects through a competitive process. This brings to four - the number of UNA Geography faculty who have received this award at UNA. Another Geography faculty member won the College of Arts and Sciences Outstanding Teaching Award.

**Scholarship**: Despite heavy teaching loads, in the five-year reporting period, Geography faculty published a total of 19 peer-reviewed publications – 3.8 per year. Similarly, Geography faculty also made a total of 50 conference research presentations – representing at least 10 research presentations per year.

**Student conference presentations**: The department of Geography at UNA sees itself as an applied discipline. Faculty train students to think critically and develop skills to solve complex problems. Part of that involves conducting basic research and presenting at regional and national conferences. During the reporting period, Geography faculty mentored students to make 34 conference presentations (6.8 per year) while there were a total of 12 (2.4 per year) MS Theses and one MS project completed in the same period. This is evidence of sustained student research in our department. To make conference attendance and presentation possible for students, the department dedicated funds for students conference travel. Anecdotally, the presence of the department of Geography dominates the annual conference of the southeastern division of the Association of American Geographers. In the period 2010-2015, UNA Geography students presented papers and posters in more than 10 different conferences in over 10 difference cities including Chicago, IL, Tampa, FL, New York City, NY, Los Angeles, CA, San Diego, CA, Roanoke, VA, Athens, GA, Seattle, WA – to name but a few.

**Research Grants**: During 2010-2015, a total $1,050,844 was generated in research funds both internally and externally. Notable grant funds were received from National Oceanic and Atmospheric Administration ($499,500); Department of Justice Grant ($290,000); National Park Service - American Battle Field Protection Program - United States Department of the Interior – $31,998 and National Geographic Society. These funds increased opportunities for research and creativity for both faculty and students.

**Professional Certification**: Geography faculty members have remained current in the technical aspects of the discipline through professional certifications. One faculty member completed and became certified by the GIS Certification Institute (GISCI) as a Geographic Information Science Professionals (GISP). This brings to four (following retirement of Bill Strong) the number of GISP certified faculty. A GISP is a certified geographic information systems professional who has met the minimum standards for ethical conduct and professional practice as established by the GIS Certification Institute. New faculty have been encouraged to undergo the GISP process which is expected to raise the profile of the department in the geospatial community.

Graduate school admissions: The Geography faculty members mentor students who have interest in graduate education to ensure that they have quality information regarding graduate school opportunities. During the five-year reporting period, a total of 9 students from our undergraduate program and 2 students from our graduate program are enrolled in masters and PhD programs respectively. These students attended graduate school in in Universities such as Virginia Tech, VA, University of Memphis, TN, Southern Mississippi, MS, University of Alabama, AL, Auburn University, AL. University of New Mexico, NM, University of Wyoming, WY and Cardiff University in the UK to name but a few.

**Geosemester program**: During the reporting period, the department of Geography through the activities of the Alabama Geographic Alliance (AGA) implemented the Geosemester program at area high schools. In this program, dual-enrolled high school students complete a “GIS-Enriched World Regional Geography” course (GE 102). Students learn geography concepts by applying digital mapping and other geospatial technology techniques. Working with students at Russellville High School, Geography faculty member Dr. Lisa Keys-Mathews, Dr. Bill Strong (Professor Emeritus), and two Geography graduate students helped students to collect locational information for gas values in the city of Russellville. They gave a final presentation for the Mayor, Gas Board members, reporters, and others. They also toured campus and several of them became interested in attending UNA. The Geospatial Semester course is being expanded to other area high schools.

**Online Presence and social media presence**: To better serve our students and brand our department, the Department of Geography has invested significant time and resources to revamp our online presence through our website (http://www.una.edu/geography/) and various social media platforms including Twitter (@una\_geo), Facebook, Instagram (@unageo) and Linked In. As our students are our number our priority, we have found these methods to be very effective in communicating information and also interacting with them at various levels. To illustrate the effectiveness of social media in engaging our students, friends and Alumni, a recent post about an award to Bill Strong, former Department Chair by NCGE reached over 6000 people, was shared across 36 different pages, received 650 comments and was liked and shared across 12 different pages. As a result, the Department of Geography received the College of Arts and Sciences outstanding online and social media presence in 2014/2015. A graduate student is assigned the responsibility of managing social media outlets for the department with faculty oversight. More information on our website and social media presence can be found here: <https://www.una.edu/geography/>

**Departmental Newsletter:** During the 2010-2015, the Department of Geography established an annual newsletter where we documents major accomplishments for the year and also highlight notable faculty and alumni activities. This newsletter become a major publication for the department and is given to UNAGAA conference attendees, mainly Geography Alumni, for free.

**Conference hosting**: During the reporting period, the department of Geography hosted five conferences of the University of North Alabama Geography Alumni Association (UNAGAA) conference and one conference of the Kenya Scholars and Studies conference. The UNAGAA is an alumni association formed by former graduates of the Geography program at UNA where they return every year during the Home Coming Week to showcase their professional development and also to mentor our students. The UNAGAA has established a scholarship for our students and continues to support the department in various activities. KESSA is an Ohio-based professional organization that advances research on Kenya which was co-founded by Geography faculty member Dr. Francis Koti and three others.

**5. How has the department addressed recommendations from the previous program review?**

In the previous reporting period, the department made recommendations which have been addresses as follows:

* Increase office space for faculty – through a request to the University administration, three new offices were allocated to our department.
* Implement MS program – the MS program in Geospatial Science has been successfully implemented. During this reporting period, 14 students have graduated from the program with a 100% job placement and two students going further to pursue PhD programs.
* Request part time administrative assistant to help with graduate program and graduate advisor with one course reduction – a graduate coordinator request was approved with a one course reduction every semester
* Set up and furnish graduate student space – this was set up and furnished with desks and chairs and also equipped with computers with the latest suite of discipline-specific software.
* Revise exit exam – the departmental exit exam was revised but will need further work to reflect the changing nature of the discipline.
* Develop exit survey for the undergraduate program – an exit survey was developed and is currently being used in the department.
* Refine mission statement – mission statement was revised in 2013. The mission of the department focuses on three important goals: Inspiring curiosity and creativity for life-long learning; encouraging exploration and advancing geographic knowledge; and engaging the community to understand and address contemporary issues in a global context
* Develop a departmental strategic plan – a strategic plan for the department was developed for the 2014-2019 period aligned to the broader strategic plan for the university which focuses on strengthening the university’s foundations of excellence.
* Develop an Environmental geography option in the undergraduate program – this was not implemented. The department instead considered the idea of establishing a stand-alone Geographic Information Systems major. This was done to respond to changing needs in industry and geographic education.
* Request graduate teaching/research assistantships – these requests were made and currently, there are six fully funded and one partially funded graduate assistantships.
* Request larger and more classroom and lab space – this has been partially implemented. Classroom space is being shared with the departments of Psychology and Foreign Languages and also Military Science.
* Develop a strategic plan for the Alabama Geographic Alliance which is housed in the department – this strategic plan was developed and is currently being implemented.

**6. Briefly describe the department’s vision and how it aligns with the University’s strategic plan:**

The University of North Alabama pursues its Mission of engaging in teaching, research, and service in order to provide educational opportunities for students, an environment for discovery and creative accomplishment, and a variety of outreach activities meeting the professional, civic, social, cultural, and economic development needs of our region in the context of a global community. The university’s strategic plan is deeply rooted in **strengthening its foundation of excellence** by: 1) building and maintaining a student-centered university; 2) building an enriched academic experience; 3) enhancing programs that distinguish the university; 4) promoting an inclusive campus environment; and 5) supporting regional development and outreach.

Our vision in the next 5-10 years falls within this broader strategic plan of the University. **We aspire to be a leader in applied geographic education and geospatial experiences in a global environment** with students as our number one priority. To support the broader university vision, the department has established five broad priority areas which include: excellence in research; enhancing student experience; improving our graduate program; increasing outreach; providing a global outlook; and expanding experiential learning for our students. The department has devised strategies and actions through which these larger goals are being implemented.

Over the next five to ten years, the department’s main focus will be **growth and outreach** that enhances student experiences and opportunities. We will pursue the establishment of a stand-alone GIS major. Additional GIS-related courses will be added to the program to strengthen the curriculum. We believe this will strengthen our applied focus and also open opportunities for our students. The department will also identify and expand offerings to untapped markets. In this regard, we will explore additional opportunities for distant learning education to include upper-level courses beyond our current offerings. Increasing online offerings and certificate programs will be a key focus. Growth will not happen without an aggressive marketing strategy. In this regard, we will explore opportunities for establishing a presence at the high school level and also branding itself especially through the internet and also social media. A more formalized relationship with our alumni will also be cultivated through various outreach activities. The department also plans to establish a strong presence in the southeastern division of the Association of American Geographers (SEDAAG) through faculty and student research presentations. We believe this will strengthen our research focus at both the undergraduate and graduate level. To further enhance student experiences, we will expand our study abroad offerings to include the Middle American region. We believe this will offer our students more affordable options for study abroad experiences. A plan to establish a sustainability focus in our graduate program is also a focus of this time period. This departmental vision is aligned to and also deeply rooted in the university’s strategic plan of strengthening its foundation of excellence.

**Part II – A – BS in Geography Undergraduate Program**

**Academic Program Assessment**

Departments should identify expected outcomes for each of their educational programs (graduate and undergraduate). The process below helps to determine whether the program achieves the stated outcomes and provides documented evidence of improvement based on analysis of those results. If a department offers more than one program, each program coordinator should complete this part of the report.

**7. Name of Program:** Geography

**8. Coordinator of Program:** Francis Koti

**9. Mission Statement of Program:** The Department of Geography at the University of North Alabama is student centered where faculty members seek to:

* Inspire curiosity and creativity for life-long learning;
* Encourage exploration and advance geographic knowledge; and
* Engage the community to understand and address contemporary issues in a global context.

**10. Program Overview:**

 **10.1 Brief overview of program**

The Department of Geography at the University of North Alabama is a dynamic and collegial group of eight faculty members, one professor emeritus, and one administrative assistant. The department supports the largest undergraduate program in the State of Alabama with over 100 majors. The program has a long history of innovation and technological excellence. We offer three concentrations for a geography major leading to the Bachelor of Arts/Bachelor of Science degree: General Geography, Geographic Information Science, and Business Geography. The Department also hosts minor programs including: General Geography, Geographic Information Science (GIScience), and GEOHCI/UX (Geospatial Human Computer Interaction and User Experience). Students can also earn a certificate in Geographic Information Systems (GIS). Because we see ourselves as an applied department, we offer a range of courses and degree options tailored not only to inspire curiosity and creativity among our students but also to provide a skill set that sets them apart. Tools that students learn to apply include geographic information systems (GIS), remote sensing, digital image processing, GPS, cartography, fieldwork, and others. We have assembled state of the art geospatial information technologies at the Freddie Wood Geographic Research Center and also developed innovative instructional techniques to make that happen. Our recently created minor in Geospatial Human Computer Interaction/User Experience (GEOHCI/UX) is expected to attract undergraduate students committed to excellence and willing to take the challenge to develop and design products that meet not only industry needs but also appeal to the user’s experience. We have established sufficient industry contacts in the region which expands internship and employment choices for our students and graduates respectively.

The department has the first discipline-specific alumni association at the University. The University of North Alabama Geography Alumni Association (UNAGAA) holds an annual meeting at the University (in the department) where alumni/faculty and students share their work and continue to make and strengthen their professional bonds.

The geography program has expanded from four faculty members in 2001 (with only one holding their terminal degree) to five faculty members in 2005 (with three holding the terminal degree) to eight in 2015 (all of whom hold their terminal degree). The program has well developed expertise in:

* Geographic Information Science (four of the current faculty are certified Geographic Information Science Professionals - GISP)
* Natural Hazards
* Urban and Regional Planning
* Physical Geography
* Economic Geography
* Geographic Education
* Sustainability

We also have a successful master’s program in Geospatial Science which it in its fifth year since inception in 2010.

 **10.2 Student Learning Outcomes of the program *(student learning outcomes should identify the broad skill area students should master as a result of the program by the time they graduate. A matrix indicating which courses address each of the outcomes identified may be included)*.**

Our undergraduate program seeks to achieve the following learning outcomes:

|  |  |
| --- | --- |
| **Leaning outcome statement**  | **Broad skill area student will master by time of graduation**  |
| Spatial Analysis and Reasoning | Students will observe, interpret, analyze, and understand spatial patterns on Earth’s surface. |
| Human systems | Students will analyze and understand the human spatial patterns in the context of cultural, demographic, economic, social, and political processes. |
| Physical systems | Students will analyze and understand the spatial patterns and processes, as well as the interactions of the atmosphere, lithosphere, biosphere, and hydrosphere. |
| Tools and techniques | Students will use maps, aerial imagery, and other tools and techniques including, but not limited to, Geographic Information Systems, cartography, the Internet, field data collection, qualitative and quantitative analysis, or Global Positioning System receivers. |
| Geographic tradition | Students will understand Geography’s historical and philosophical foundations. |

A matrix indicating which courses address each of the outcomes identified above is included in appendix 2.

 **10.3 Program productivity to include five-year trends for number of majors, degrees conferred, and other data that demonstrate program growth:**

**Number of undergraduate majors:** During the 2010-2015 reporting period, the undergraduate program recorded a decline in undergraduate majors as shown below:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Year** | **2010-11** | **2011-12** | **2012-13** | **2013-14** | **2014-15** | **Average** |
| # of majors | 169 | 158 | 153 | 132 | 115 | 145.40 |

During the reporting period, there was a decline in majors in the department from 169 in 2010 to 115 in 2015, a 31.9% decline. There was also a 21.5% decline in student credit hours, and a 36.1% decline in credit hours per faculty. Interesting however, the graduation rates for the five year reporting period were higher than the previous reporting period. As noted earlier in #1, the decline reflects a general trend in the discipline of geography where majors have been declining nationally. It should also be noted that the unusual surge in majors in the 2009-2013 period - which coincided with the economic recession could have been due in part, to a large pool of unemployed individuals returning to college. With the economy picking up, this could also explain the numbers returning to normal as people go back to work. The introduction of the master’s program which now shares the same resources and faculty could also help explain the decline (see detailed enrollment data in appendix 1)

**Number of degrees conferred**: Between fall 2010 and spring 2015, a total of 193 majors graduated from our undergraduate program - an average of 38.6 BS degrees conferred per year (previous reporting period – 22.2/year) as shown below.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Year** | **2010-11** | **2011-12** | **2012-13** | **2013-14** | **2014-15** | **Average** |
| # of BS degrees conferred  | 39 | 43 | 41 | 38 | 32 | 38.60 |

The graduation total shown in the table above for the undergraduate program represented a 72.7% increase from the previous reporting period (111). Even though there was a decline in enrollment during the reporting period, the graduation rates were high because of the surge in numbers between 2010 and 2013. It is expected that in the coming years, the graduation rates will decline slightly or plateau to reflect the declined enrollment in the last three years. (see degree productivity data in appendix 1).

 **10.4 Evaluate the adequacy of library resources available to support your program:**

The Department of Geography receives an annual allocation and departmental faculty make recommendations for additions to the collection based on their curricular needs. For the 2014-2015 fiscal year for example, the department’s library allocation was $4,245.00. In addition, the department has an assigned library liaison to assist with collection development and departmental library needs. This collaboration helps ensure an ongoing relationship between the Department of Geography and Collier Library. Among the resources and services offered by Collier Library to support the Department of Geography are: Access to databases covering geography and related topics, including Academic Search Complete, Science Direct, Caribbean Search, and ERIC; Access to over 1,300 periodicals covering geography and related topics, including core journals in the field such as, Annals of the Association of American Geographers, Applied Geography, Physical Geography, Political Geography, Journal of Transport Geography, Transactions of the Institute of British Geographers, and Economic Geography; Access to a collection of maps and atlases; Interlibrary Loan service for materials not available locally (use of this service is free for students and faculty); Library instruction including research consultations, embedded librarians, and classroom instruction; Three types of course reserves: regular, restricted, and one-day.

 **10.5 If you deem existing library resources to be inadequate for your program, identify resources that would improve the level of adequacy:**

At this time, the library resources are sufficient to support learning activities in the undergraduate program. The University Library has designated a staff member to work with our department to explore areas in which they can help our faculty and students especially in research. The library liaison person will be invited to faculty meetings to make presentations and also answer questions that faculty may have.

**11. Program Evaluation Including Appropriate Documentation**

 **11.1 Means of assessing each Student Learning Outcome:**

The Department of Geography undergraduate program seeks to accomplish five learning outcomes namely:

* Spatial Analysis and Reasoning
* Human systems
* Physical systems
* Tools and techniques
* Geographic tradition

We have devised various means of assessing learning outcomes including pre and posttest analysis, Quality enhancement plan, and our exit survey exam which is taken by all students. Each learning outcome spelled above is directly assed using a 80-item comprehensive exit exam taken at the end of the four year program. The exit exam (see appendix 3) comprises seven sections which contain standard questions in the subject area as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| **Section** | **Subject area** | **# of questions in test** | **Comments** |
| 1 | History and philosophy of geography | 10 | Revise questions |
| 2 | Economic geography  | 9 | Replace with human  |
| 3 | World regional geography | 13 | Revise questions |
| 4 | Physical geography  | 21 | Revise questions |
| 5 | Maps and map interpretation | 7 | Replace with GIS |
| 6 | Cartography  | 10 | Revise questions |
| 7 | Map reading | 10 | Replace with GIS |

As mentioned in#5, we feel that it is time to revise this exit exam to reflect recent changes in our department curriculum. For example, we are now requiring GIS for all our majors. This should be included in the exit exam. Also, Economic Geography should be removed as it is no longer required for all Geography majors. Instead, questions from Human Geography should be added.

 **11.2 Summary of the results of the assessment/s for each Student Learning Outcome:**

The following is a summary of the results of the assessment of our learning outcomes based on the comprehensive exit exam.

|  |
| --- |
| **Department of Geography** |
| **Five Year Learning Outcome Assessment Using Exit Exam Analysis** |
|  | **Overall Percentage Correct** |
| **Learning Outcome** | **2010-11** | **2011-12** | **2012-13** | **2013-14** | **2014-15** |
| Learning Outcome 1: Spatial Analysis and Reasoning | 62.62% | 58.65% | 63.51% | 66.26% | 64.43% |
| Learning Outcome 2:  Human Systems | 71.79% | 65.48% | 75.00% | 69.74% | 70.61% |
| Learning Outcome 3: Physical Systems | 60.68% | 60.48% | 54.67% | 63.76% | 61.21% |
| Learning Outcome 4: Human-Environment Interaction | 62.05% | 60.48% | 62.33% | 60.51% | 62.12% |
| Learning Outcome 5: Tools and Techniques | 66.00% | 61.90% | 65.93% | 67.62% | 64.09% |
| Learning Outcome 6: Geographic Traditions | 50.12% | 47.40% | 51.52% | 54.08% | 53.44% |
| **Average Percent** | **62.21%** | **59.07%** | **62.16%** | **63.66%** | **62.60%** |

As the table shows, the performance in our exit exam has been very poor. Despite the fact that the test is administered without any preparation, students consistently performed below average in all five years during the testing period. After a further examination of the questions, I have noted that some subject areas being tested such as economic geography are not even required for all students. I also noticed that two major areas of focus in our department namely geographic Information Systems and Human Geography have not been integrated into the exit exam. Within the next four months (it is August 2015), Geography will revise the complete exam to match our current offerings and focus areas.

The faculty identified six learning outcomes focused on what students enrolled in our core courses should know and be able to do after completion. Each faculty member was asked to determine and justify departmental learning outcomes relative to geography courses (See Appendix). Preliminary steps have been taken to develop appropriate assessments and work will continue in the coming years.

Another method the department uses to asses sues for evaluation is pre and post tests. These are administered in our lower level courses including GE102; GE111; GE112; and GE260. This standard pre and post-test evaluation system was implemented to measure student’s knowledge of subject matter before and after taking the course. The 20-item multiple choice pre-tests, which cover all the fundamental concepts of the courses are administered unannounced and graded using the scantron item analysis method during the first week of class. The same test is administered again (unannounced) and graded just before the finals week. The results of the pre and post tests for each class are computed to calculate percentage improvement. The percentage improvement for each class is recorded. During the 2010-2015 reporting period, the results of the pre and post tests recorded a significant improvement in each of the four classes as follows:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Course** | GE102 | GE111 | GE112 | GE260 |
| **% Improvement** | 20.4 | 22.6 | 19.3 | 18.6 |

While we find this method an innovative and immediate way to measure learning outcomes, the faculty is also using it to identify areas that require more attention in the respective courses.

 **11.3 Program improvements made as a result of these assessments:**

Within the next four months (it is August 2015), Geography faculty will revise the complete exam to match our current offerings and focus areas.

 **11.4 Appropriate documentation to support the assessment of Student Learning Outcomes as well as the improvements made as a result of these assessments:**

A table containing a five-year learning outcome assessment using the exit exam test is included in appendix 4.

**12. Planning**

 **12.1 Outline program goals over the next five years including, but not limited to, accreditation/re-accreditation, enrollment or expansion, and curriculum:**

Over the next five years, the Department of Geography undergraduate program goals will include the following:

* Provide our students with the appropriate knowledge and skills needed for successful careers in the field of geography
* Promote faculty research and scholarship in order to enhance the education and increase the opportunities for our students
* Provide exciting curricular and extracurricular activities for our students
* Increase Geography presence in the community
* Create opportunities and offerings that engage students and faculty globally
* Increase opportunities for active learning
* Promote a sustainability focus for our graduate program

The following short term goals will be pursued simultaneously:

* Establish a stand-alone GIS major. Additional GIS-related courses will be added to the program to strengthen the curriculum. We believe this will strengthen our applied focus and also open opportunities for our students.
* Identify and expand offerings to untapped markets. In this regard, we will explore additional opportunities for distant learning education to include upper-level courses beyond our current offerings.
* Increase online offerings and certificate programs will be a key focus.
* Intensify our marketing strategy to include outreach to local high schools
* Promote the department through our departmental website and also social media.
* Cultivate a more formalized relationship with our alumni through various outreach activities. Establish a strong presence in the southeastern division of the Association of American Geographers (SEDAAG) through faculty and student research presentations. We believe this will strengthen our research focus at both the undergraduate and graduate level.
* Expand our study abroad offerings to include the Middle American region. We believe this will offer our students more affordable options for study abroad experiences.
* Establish a sustainability focus in our graduate program is also a focus of this time period.
* Revise the undergraduate exit exam to reflect our current offerings and focus areas
* Expand opportunities for experiential learning for our students

 **12.2 Outline faculty development goals for the next five years including new faculty, research, and professional development:**

Over the next five years, faculty development goals in the department of geography will include:

* Promote faculty research and scholarship
* Offer additional training opportunities and resources for faculty
* Mentor early career faculty through the tenure and promotion process
* Explore research and teaching opportunities that engage faculty globally
* Support faculty research and development travel
* Propose a course release for faculty directing MS Thesis
* Encourage research collaboration
* Support faculty grant-writing activities
* Seek external and internal funding to support teaching and research

**13. Program Recommendations**

 **13.1 Recommendations for changes which are within the control of the program:**

* Propose and implement a stand-alone GIS major
* Enhance student research and communication skills by adding more rigor to the senior capstone courses. This can be done through a well-structured standard capstone syllabus that faculty can modify to suit their own expectations.
* Increase both undergraduate and graduate student research presentation at regional and national conferences
* Revise the undergraduate exit exam to reflect our current offerings and focus areas
* Revise Geography catalog course descriptions to make content area easily understandable to non-geographers. We believe this will be an effective marketing strategy especially among undeclared majors.
* Explore untapped markets especially through 1) testing distance learning for upper-level courses and 2) Exploring additional short term certificate programs both at the graduate and undergraduate levels
* Implement hybrid courses for existing classes
* Alternate current study abroad offerings with trips to less-expensive regions such as the Middle American region

 **13.2 Recommendations for changes that require action at the Dean, Provost, or higher, which are congruent to and support the institution’s mission and strategic plan:**

* Propose and implement a stand-alone GIS major
* Request funding for conference travel for both graduate and undergraduate students
* Propose a course release for faculty directing MS Thesis
* Request additional space especially: 1) Lockable graduate office space; 2) classroom and lab space; 3) adjunct faculty space; 4) map room.

**Part II – B – MS in Geospatial Science Graduate Program**

**Academic Program Assessment**

Departments should identify expected outcomes for each of their educational programs (graduate and undergraduate). The process below helps to determine whether the program achieves the stated outcomes and provides documented evidence of improvement based on analysis of those results. If a department offers more than one program, each program coordinator should complete this part of the report.

**7. Name of Program:** Masters in Geospatial Science

**8. Coordinator of Program**: Dr. David Brommer

**9. Mission Statement of Program:**

The Master of Science in Geospatial Science is an innovative approach to applying spatial knowledge and technology to solve contemporary problems. The program focuses on the multidisciplinary application of geography, the spatial paradigm and methods of geospatial technologies to prepare students to:

* Solve complex environmental, urban, economic and business problems
* Conduct independent research
* Develop skills in critical thinking and writing
* Enter professions requiring knowledge of geospatial methods, analysis, and techniques.

**10. Program Overview:**

 **10.1 Brief overview of program**

The Masters in Geospatial Science program in the Department of Geography at the University of North Alabama was established in fall 2010 semester following approval by the Alabama Commission of Higher Education (ACHE). In its four years of existence, the program enrolls an average of 9.0 students per semester (15.4 including part-time students). The program admits students from all regions of the United States and around the World. For example, during the 2010-2015 reporting period, the program enrolled students from four different countries including: the United States, Kenya, Bangladesh, and South Korea. In its four years of existence, the program has graduated a total of 14 students – 3.5 students per year. This falls within the degree productivity projections made in its proposal five years ago.

The program focus is geospatial science through an expanded framework that embraces critical thinking, spatial analysis and geographic problem solving using modern geospatial technologies and methods. The Master of Science in geospatial science has three broad objectives:

* Provide advanced coursework and independent research opportunities in the theory and application of geospatial science to a broad range of current issues in environmental, urban, economic, business, and social fields.
* Develop advanced critical and spatial thinking abilities and combine these with a problem-solving proficiency through the application of geospatial methods and technology in the areas of Geographic Information Systems (GIS), remote sensing, aerial photograph interpretation, computer cartography, Global Positioning Systems (GPS), spatial statistics, urban and regional planning, and policy analysis.
* Prepare students for private industry, government, and education careers in geospatial science, identified by the US Department of Labor as one of the three major growth industries for the twenty-first century

 **10.2 Student Learning Outcomes of the program *(student learning outcomes should identify the broad skill area students should master as a result of the program by the time they graduate. A matrix indicating which courses address each of the outcomes identified may be included)*.**

Upon completion of the Master of Science in geospatial science, graduates will be able to:

* Ask scientific questions using a geospatial paradigm.
* Design and conduct research using geospatial methods and technologies.
* Employ enhanced analytical, critical, and spatial thinking, knowledge, and acumen to solve contemporary problems.
* Graduate with advanced knowledge of geospatial science and thorough competence in the application of geospatial technologies.

A matrix indicating which courses address each of the outcomes identified above is shown below:

**Five Year Graduate Learning Outcome Assessment**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Course | Course Description | Ask scientific questions using a geospatial paradigm | Design and conduct research | solve contemporary problems | Competence in the application of geospatial technologies |
| GE600 | Geographic Thought | X | X |  |  |
| GE609 | Geographic Methods and Design  | X | X |  |  |
| GE695 | MS Thesis | X | X | X | X |
| GE699 | MS Thesis and Research Defense  | X | X | X | X |

These learning outcomes should be expanded to integrate advanced quantitative analysis into the curriculum.

 **10.3 Program productivity to include five-year trends for number of majors, degrees conferred, and other data that demonstrate program growth:**

**Program productivity**

Enrollment: During the 2010-2015 reporting period, the MS in Geospatial Science program enrolled an average of 9.0 students per semester (15.4 including part-time students) as shown below.

|  |
| --- |
| **1. Number of Duplicated Graduate Enrollment (SU, FA & SP Semesters Combined)** |
| **Masters**  | ***2010-11*** | ***2011-12*** | ***2012-13*** | ***2013-14*** | ***2014-15*** | ***Average*** |
| Full-Time | 6 | 10 | 8 | 13 | 8 | 9.00 |
| Part-Time | 6 | 6 | 10 | 5 | 5 | 6.40 |
| **Total** | 12 | 16 | 18 | 18 | 13 | 15.40 |
| *FTE Students* | 8.00 | 12.00 | 11.33 | 14.67 | 9.67 | 11.13 |

This is particularly impressive considering that this was a new program. The enrollment far exceeds the expected annual enrollment averaged at its inception.

Degrees conferred: During the 2010-2015 reporting period, the MS in Geospatial program graduated a total of 14 students – 3.5 students per year as shown below.

|  |
| --- |
| **2. Number of Degrees Conferred** |
| **Level** | ***2010-11*** | ***2011-12*** | ***2012-13*** | ***2013-14*** | ***2014-15*** | ***Average*** |
| Master's |   | 1 | 4 | 4 | 5 | 3.50 |

This graduation rate shown in the table above falls within the degree productivity projections made in its proposal five years ago at the inception of the program.

 **10.4 Evaluate the adequacy of library resources available to support your program:**

The Department of Geography receives an annual allocation and departmental faculty make recommendations for additions to the collection based on their curricular needs. For the 2014-2015 fiscal year for example, the department’s library allocation was $4,245.00. In addition, the department has an assigned library liaison to assist with collection development and departmental library needs. This collaboration helps ensure an ongoing relationship between the Department of Geography and Collier Library. Among the resources and services offered by Collier Library to support the Department of Geography are: Access to databases covering geography and related topics, including Academic Search Complete, Science Direct, Caribbean Search, and ERIC; Access to over 1,300 periodicals covering geography and related topics, including core journals in the field such as, Annals of the Association of American Geographers, Applied Geography, Physical Geography, Political Geography, Journal of Transport Geography, Transactions of the Institute of British Geographers, and Economic Geography; Access to a collection of maps and atlases; Interlibrary Loan service for materials not available locally (use of this service is free for students and faculty); Library instruction including research consultations, embedded librarians, and classroom instruction; Three types of course reserves: regular, restricted, and one-day.

 **10.5 If you deem existing library resources to be inadequate for your program, identify resources that would improve the level of adequacy:**

At this time, the library resources are sufficient to support learning activities in the graduate program with one exception. Purchasing access to ISI’s Web of Science would increase access to geographic journals and resources that are common for geographic and geospatial research. Furthermore, the University Library has designated a staff member to work with our department to explore areas in which they can help our faculty and students especially in research. The library liaison person will be invited to faculty meetings to make presentations and also answer questions that faculty may have.

**11. Program Evaluation Including Appropriate Documentation**

 **11.1 Means of assessing each Student Learning Outcome:**

Four student learning outcomes were identified and assessed. These include:

* Ask scientific questions using a geospatial paradigm.
* Design and conduct research using geospatial methods and technologies.
* Employ enhanced analytical, critical, and spatial thinking, knowledge, and acumen to solve contemporary problems.
* Graduate with advanced knowledge of geospatial science and thorough competence in the application of geospatial technologies.

During the five-year reporting period, the following methods were used to assess student learning outcomes:

|  |  |  |
| --- | --- | --- |
|  |  | **Student Learning Outcomes** |
| **Method of assessment** | Method description | Ask scientific questions using a geospatial paradigm | Design and conduct research | solve problems | Competence in application of geospatial technologies |
| Critical paper review | 10 weekly scientific paper reviews | X |  |  |  |
| MS Thesis Project/ Proposal Development | Research questions, Research design | X | X |  |  |
| MS Thesis Proposal Presentation | Public presentation | X | X | X | X |
| Conference presentation | Presentation at regional/national conference | X | X | X | X |
| MS Thesis /Project research | Data collection, analysis and reporting | X | X | X | X |
| MS Thesis defense/project presentation | Public presentation | X | X | X | X |

To add more learning outcomes specific to our focus areas – especially writing competence.

 **11.2 Summary of the results of the assessment/s for each Student Learning Outcome:**

Summary of results is shown below based on student proficiency in the learning outcome.

|  |  |
| --- | --- |
| **Learning outcome** | **Proficiency based on methods identified in #11.1** |
| Ask scientific questions using a geospatial paradigm | There was over 95% proficiency in critical paper review; 100% of the graduates generated research questions, conducted research and made a presentation |
| Design and conduct research | 100% of the graduates designed and conducted research and mad a public presentation; 64.3% of graduates presented research/completed project at a conference; 75.4% of graduates publicly presented MS proposal;  |
| solve contemporary problems | 100% of graduates identified problems, designed and carried out study to solve problem; 64.3% of graduates presented research/completed project at a conference; 100% of graduates conducted, completed and publicly defended MS thesis/project  |
| Competence in application of geospatial technologies | !00% of graduates developed MS thesis/project development; 75.4% of graduates publicly presented MS proposal; 100% of graduates conducted, completed and publicly defended MS thesis/project |

 **11.3 Program improvements made as a result of these assessments:**

**As a result of these assessments, several program improvements have been made or proposed in our graduate program:**

* Formal public presentation of MS project/thesis proposal is now required for all students
* Advanced Quantitative methods will be added as a requirement for the MS program to add rigor to the program
* By the time they graduates, a regional or national conference presentation will be encouraged for all graduate students

 **11.4 Appropriate documentation to support the assessment of Student Learning Outcomes as well as the improvements made as a result of these assessments:**

Each method of assessment for the learning outcome uses a different rubric for evaluating student proficiency in different areas. For example, the 10-week critical review uses a rubric to evaluate student ability to strategically evaluate geographic approaches evident in peer reviewed discipline-specific publications. (A sample can be found in Appendix 4). A Thesis proposal presentation is also evaluated through a public presentation after which an admission to candidacy form is signed. A final MS Thesis defense form is also completed and signed by the committee at the Thesis defense (See Appendix 5).

**12. Planning**

 **12.1 Outline program goals over the next five years including, but not limited to, accreditation/re-accreditation, enrollment or expansion, and curriculum:**

**Over the next five years, the Department of Geography will employ various strategies to improve our graduate program. The goals for the next five years will include:**

* Promote graduate recruitment in four-year colleges within the State and also in adjacent States
* Increase financial/research support available for graduate students
* Implement advanced quantitative methods as an area of focus in the MS program
* Enhance our student population to include students of various races, ethnicities, gender and countries of origin
* Implement a sustainability focus in our graduate program
* Develop a graduate student handbook
* Revise student learning outcomes to reflect current focus areas
* Revise the graduate curriculum to reflect needs of industry and trends in discipline
* Explore addition of certificate programs
* Explore distant learning opportunities for the graduate program
* Increase graduate course offerings

 **12.2 Outline faculty development goals for the next five years including new faculty, research, and professional development:**

* Promote faculty research and scholarship
* Offer additional training opportunities and resources for faculty
* Mentor early career faculty through the tenure and promotion process
* Explore research and teaching opportunities that engage faculty globally
* Support faculty research and development travel
* Propose a course release for faculty directing MS Thesis
* Encourage research collaboration
* Support faculty grant-writing activities
* Actively pursue external and internal funding to support teaching and research

**13. Program Recommendations**

 **13.1 Recommendations for changes which are within the control of the program:**

* Revise learning outcomes to reflect current focus areas
* Add more rigor to program by integrating quantitative analysis into the core requirements
* Promote the program and recruit more aggressively especially in four-year colleges in the State of Alabama and adjoining States. This will make the recruiting process more competitive and draw high quality students.
* Revise the graduate curriculum to reflect needs of industry and trends in discipline
* Increase offerings for the graduate program
* Implement a sustainability focus in our graduate program
* Explore addition of certificate programs
* Explore distant learning opportunities for the graduate program

 **13.2 Recommendations for changes that require action at the Dean, Provost, or higher, which are congruent to and support the institution’s mission and strategic plan:**

* Establish lockable graduate space – especially for funded students with graduate assistant responsibilities
* Increase graduate funding for conference travel
* Propose a course release for faculty directing MS Thesis

**APPENDIX 1: 2010-2015 Five-Year Department Evaluation Data**

|  |
| --- |
| **University of North Alabama** |
| **Office of Institutional Research, Planning and Assessment**  |
|  |
| **2010-2015 Five-Year Department Evaluation Data – Prepared by OIRPA** |
| **Department of Geography**  |
| **1. Number of Duplicated Majors (SU, FA & SP Semesters Combined)** |
| **Bachelor** | ***2010-11*** | ***2011-12*** | ***2012-13*** | ***2013-14*** | ***2014-15*** | ***Average*** |
| Full-Time | 155 | 121 | 129 | 106 | 91 | 120.40 |
| Part-Time | 14 | 37 | 24 | 26 | 24 | 25.00 |
| **Total** | 169 | 158 | 153 | 132 | 115 | 145.40 |
| *FTE Students* | 159.67 | 133.33 | 137.00 | 114.67 | 99.00 | 128.73 |
|   |   |   |   |   |   |   |
| **Master** |   |   |   |   |   |   |
| Full-Time | 6 | 10 | 8 | 13 | 8 | 9.00 |
| Part-Time | 6 | 6 | 10 | 5 | 5 | 6.40 |
| **Total** | 12 | 16 | 18 | 18 | 13 | 15.40 |
| *FTE Students* | 8.00 | 12.00 | 11.33 | 14.67 | 9.67 | 11.13 |
| **2. Number of Degrees Conferred** |
| **Level** | ***2010-11*** | ***2011-12*** | ***2012-13*** | ***2013-14*** | ***2014-15*** | ***Average*** |
| Bachelor's | 39 | 43 | 41 | 38 | 32 | 38.60 |
| Master's |   | 1 | 4 | 4 | 5 | 3.50 |
| **Total** | 39 | 44 | 45 | 42 | 37 | 41.40 |
| **3. Majors/Degrees Conferred Ratio** |
|   | ***2010-11*** | ***2011-12*** | ***2012-13*** | ***2013-14*** | ***2014-15*** | ***Average*** |
| Bachelor's Ratio | 4.33 | 3.67 | 3.73 | 3.47 | 3.59 | 3.76 |
| Master's Ratio |   | 16.00 | 4.50 | 4.50 | 2.60 | 6.90 |
| **4. Student Credit Hours (SU, FA & SP Semesters Combined)** |
| **Level** | ***2010-11*** | ***2011-12*** | ***2012-13*** | ***2013-14*** | ***2014-15*** | ***Average*** |
| Undergraduate | 6,234 | 5,834 | 5,675 | 5,292 | 4,806 | 5,568.20 |
| Graduate | 135 | 345 | 345 | 281 | 192 | 259.60 |
| **Total** | 6,369 | 6,179 | 6,020 | 5,573 | 4,998 | 5,827.80 |
| **5. Average Class Size (Classes of 6 or more students)** |
| **Level** | ***2010-11*** | ***2011-12*** | ***2012-13*** | ***2013-14*** | ***2014-15*** | ***Average*** |
| Undergraduate | 35.4 | 29.3 | 24.1 | 23.6 | 20.1 | 26.50 |
| Graduate | 8.7 | 8.8 | 8.8 | 9 |   | 8.83 |
| **6. Number of Faculty (Fall Semester)** |
| **Faculty** | ***2010-11*** | ***2011-12*** | ***2012-13*** | ***2013-14*** | ***2014-15*** | ***Average*** |
| Full-Time | 7 | 6 | 8 | 7 | 8 | 7.20 |
| Part-Time | 1 | 2 | 2 | 4 | 3 | 2.40 |
| **Total** | 8 | 8 | 10 | 11 | 11 | 9.60 |
| *FTE Faculty* | 7.33 | 6.67 | 8.67 | 8.33 | 9.00 | 8.00 |
| **7. FTE Student/FTE Faculty Ratio (as per U.S. News definition)** |
|   | ***2010-11*** | ***2011-12*** | ***2012-13*** | ***2013-14*** | ***2014-15*** | ***Average*** |
| Ratio | 22.86 | 21.80 | 17.12 | 15.52 | 12.07 | 17.87 |
| **8. Credit Hours/FTE Faculty Ratio** |
|   | ***2010-11*** | ***2011-12*** | ***2012-13*** | ***2013-14*** | ***2014-15*** | ***Average*** |
| CH/Faculty | 868.50 | 926.85 | 694.62 | 668.76 | 555.33 | 742.81 |
| **9. Department Expenditures (Actual Personnel and Non-Personnel)** |
|   | ***2010-11*** | ***2011-12*** | ***2012-13*** | ***2013-14*** | ***2014-15*** | ***Average*** |
| Budget | $685,149 | $710,493 | $849,278 | $894,806 |   | $784,931.59 |
| **10. Cost Per Credit Hour (Total Department Expenditures/Total Credit Hours)** |
|   | ***2010-11*** | ***2011-12*** | ***2012-13*** | ***2013-14*** | ***2014-15*** | ***Average*** |
| Cost | $107.58 | $114.99 | $141.08 | $160.56 | $0.00 | $104.84 |

**APPENDIX 2: Learning Outcomes**

**GENERAL REQUIREMENTS**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Course number | CourseTitle  | Spatial Analysis & Reasoning  | Physical Systems  | Nature and Environment | Human Systems  | Tools and Techniques | Geographic Traditions  |
| GE 102 | World Regional Geography | X | X | X | X | X | X |
| GE 111 | Physical Geography I | X | X | X | X | X | X |
| GE 112 | PhysicalGeography II | X | X |  |  |  |  |
| GE 225 | Maps and Map Interpretation | X |  |  |  | X | X |
| GE 260 | Human Geography | X |  |  | X |  | X |
| GE 300W | History and Philosophy of Geography | X |  |  |  |  | X |
| GE 325 | Cartography | X |  |  |  | X | X |
| GE384 | Geographic Information Systems | X | X | X | X | X |  |
| GE 300/400 | Region Elective | X | X | X | X |  | X |

**REQUIREMENTS OPTION 1: GENERAL GEOGRAPHY**

21 HOURS OF UPPER DIVISION GEOGRAPHY COURSES; 6 HOURS MAY BE FROM A RELATED DISCIPLINE AS RECOMMENDED BY ADVISOR

**REQUIREMENTS OPTION 2: GEOGRAPHIC INFORMATION SCIENCE**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Course Number | Coursetitle | Spatial Analysis & Reasoning  | Physical Systems  | Nature and Environment | Human Systems  | Tools and Techniques | Geographic Traditions  |
| GE 224 | Field Methods in Geography | X |  |  |  | X |  |
| GE 323 | Use and Interpretation of Aerial Photographs | X |  |  |  | X |  |
| GE 428 | Remote Sensing | X |  |  |  | X |  |
| GE 484 | Applied Geospatial Analysis | X |  |  |  | X |  |
| GE 300/400 | Two GE Electives  |  |  |  |  |  |  |
| One Programming Class |  |  |  |  |  | X |  |
| One Database Management Class |  |  |  |  |  | X |  |

NINE HOURS ADDITIONAL COURSE WORK EITHER GEOGRAPHY RELATED OR COURSEWORK RECOMMENDED BY STUDENT’S ADVISOR

**REQUIREMENTS OPTION 3: BUSINESS GEOGRAPHY**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Course Number | CourseDescription | Spatial Analysis & Reasoning  | Physical Systems  | Nature and Environment | Human Systems  | Tools and Techniques | Geographic Traditions  |
| GE 321 | Economic Geography | X |  | X | X |  | X |
| GE 322 | Business Geography | X |  |  | X | X | X |
| GE 390 | Urban Geography | X | X | X | X | X | X |

Additional Courses: GIS Application course as recommended by the advisor. 15 Hours from the College of Business as recommended by the advisor.

**APPENDIX 3: Five Year Undergraduate Learning Outcome Assessment**

|  |
| --- |
| **Department of Geography** |
| **Five Year Learning Outcome Assessment Using Exit Exam Analysis** |
|  | **Overall Percentage Correct** |
| **Learning Outcome** | **2010-11** | **2011-12** | **2012-13** | **2013-14** | **2014-15** |
| Learning Outcome 1: Spatial Analysis and Reasoning | 62.62% | 58.65% | 63.51% | 66.26% | 64.43% |
| Learning Outcome 2:  Human Systems | 71.79% | 65.48% | 75.00% | 69.74% | 70.61% |
| Learning Outcome 3: Physical Systems | 60.68% | 60.48% | 54.67% | 63.76% | 61.21% |
| Learning Outcome 4: Human-Environment Interaction | 62.05% | 60.48% | 62.33% | 60.51% | 62.12% |
| Learning Outcome 5: Tools and Techniques | 66.00% | 61.90% | 65.93% | 67.62% | 64.09% |
| Learning Outcome 6: Geographic Traditions | 50.12% | 47.40% | 51.52% | 54.08% | 53.44% |
| **Average Percent** | **62.21%** | **59.07%** | **62.16%** | **63.66%** | **62.60%** |

**Appendix 4: GE600 – Weekly Critical Paper Review Rubric**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

University of North Alabama

Department of Geography

**GE600 – Geographic Thought**

CRITICAL PAPER REVIEW # \_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Aspect under review** | **Description**  | **Possible points**  | **Points made** | **Instructor Comments** |
| Summary of Article | What did the author(s) set out to achieve? How did they do it? What are their findings and conclusion? | 5 |  |  |
| Explanation and Evaluation of Tradition | Why is this work, say, regional geography?/spatial science? Etc etc. Epistemology; Methodology; Idea of place, space, distance, process, pattern, etc. | 5 |  |  |
| Internal Critique | What would people who use this approach find at fault with this work? If spatial science for instance, critique the work from a spatial science perspective | 3 |  |  |
| External Critique | Critique the article from the point of view of another approach. If it is a regional geography paper, critique it as though you were a spatial scientist. | 3 |  |  |
| Your own research idea using this approach or tradition | Develop your own research idea that you can do using the same approach as the author of the article. | 3 |  |  |
| Overall quality of review | Understanding of approach | 1 |  |  |
|  | **Total points made/20** |  | **x/20** |  |

**General instructor comments:**

**Appendix 5: MS Thesis Defense Committee Form**

University of North Alabama

Department of Geography

Thesis Final Defense Form

TO THE DEAN OF THE COLLEGE OF ARTS AND SCIENCES:

On this day\_\_\_\_\_\_\_\_\_\_\_\_we, the undersigned, report that as a committee we have examined

STUDENT NAME:

UNA L#:

Upon the work completed in the subjects assigned, namely:

MAJOR: Geography and find that the students attainments \_\_\_\_ are such \_\_\_\_ are not such that the student be recommended for the

DEGREE: Master of Science in Geospatial Science

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

I dissent from the foregoing report:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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ACCEPTED

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Francis T. Koti, PhD Date

Chair, Department of Geography

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Carmen L. Burkhalter, PhD

Dean, College of Arts and Sciences

Date