Date of Report: 8/17/2015
Name of Person Submitting Report: Jon Comer

A. Program Information:
Assessment Coordinator’s Name: Jon Comer
Assessment Coordinator’s Email Address: jon.comer@okstate.edu
Number of students enrolled in the program 2014-2015: 35
Number of students graduated in 2014-2015: 5 (2 MS, 3 PhD)

B. Program Mission Statement
In the box below, provide the mission statement for the program.
The M.S. and Ph.D. programs in Geography specialize in three broad areas including cultural/historical geography, resource management, and transportation/urban geography. These degree programs are designed for students to master the theoretical knowledge and skills to design, implement, and present original geographic research in oral and written form. Therefore, masters and doctoral students study geographic research methods and analysis, the history and philosophies of geography, and knowledge of current geographic research.

C. University Assessment Funds
Were university assessment funds used by the department/program for assessment activities? ☒ Yes ☐ No
The Department of Geography was awarded $2,400 (plus benefits) for the conduct of assessment towards Outcome 1 (writing ability), specifically the evaluation of student artifacts (papers) collected from graduate courses in Geography during the academic year. The funds were used to compensate two faculty members for their time reading the artifacts collected and scored against Rubric E (see departmental graduate assessment plan).

The impact of this award was two-fold. First, most other information gathered during the year is very quickly and efficiently collected by faculty members during or immediately after the various student defenses (proposals, comprehensive exams, and final thesis/dissertation defenses) and is tabulated as the year progresses. However, evaluation of artifacts from graduate courses must be read and scored individually. Compensating these individuals makes the task somewhat less onerous.

Second, with compensation available, the department is able to entice two faculty members who are not currently on the Graduate/Assessment Committee to engage in artifact review. As a consequence, the number of faculty in the department engaged more directly with assessment is expanded beyond the 3-person Graduate/Assessment Committee.

D. Student Learning Outcomes
The pages that follow list the Student Learning Outcomes associated with the program identified in this assessment form.
D1) **Student Learning Outcome #1:** Graduate students will develop the ability to communicate geographic information effectively orally and in writing at the appropriate masters or doctoral level.

**Identify opportunities for students to learn this outcome during the 2014-2015 academic year:**
A curriculum map for the Graduate Program (see Appendix) indicates that only a few graduate courses do not assess writing. In all other courses writing quality is assessed, and in about half of those courses the instructors indicated they devoted some time to writing instruction. An overwhelming majority of courses taught/assessed writing at an intermediate level, while a few did so at the beginner level and one course at the advanced level. Thus, almost every course provides students an opportunity to develop their writing, and some include oral presentations as well (these were not mapped).

**How many students were included in the assessment of this outcome?**
Five students defended dissertation or thesis proposals during the school year, and all five were assessed. All defenses are likewise evaluated for oral communications, and there were 13 students assessed in this dimension (five proposals, five thesis, and three dissertation defenses). Additionally, 60 student artifacts by Geography graduate students from GEOG graduate courses/seminars were obtained for assessment and evaluated by two departmental readers (paid with Assessment funds during summer 2015 with FY15 funds).

**How were students selected to participate in the assessment of this outcome?**
All students defending a proposal were assessed by their committee members with Rubric E (written proposals) and Rubric J (oral presentation); see departmental assessment plan for these rubrics. Nearly all faculty members successfully return their rubrics to the Assessment Coordinator, with only 2 out of 86 possible assessments not submitted over the past year. Additionally, all instructors of Geography courses with graduate student enrollments and graduate credit (4000*, 5000, or 6000-level) were asked for artifacts from one assignment during the semester; all but one instructor complied, resulting in 60 total artifacts (but representing fewer than 60 students since most students were enrolled in multiple courses during the year). No sampling was used.

**Assessment Methods**

- ☑️ Rating of skills (e.g., rubrics)
- ☑️ Analysis of written artifacts
- ☑️ Review of thesis/dissertation/ creative component
- ☑️ Oral presentation
- ☑️ Course project
- ☑️ Satisfaction Survey
- ☑️ Measuring effectiveness relative to professional standards
- ☑️ Performance or jury
- ☑️ Visual collection (photos, videos, etc.)
- ☑️ Review of student research
- ☑️ Other (please specify):
  
  Click here to specify.

**Describe the how the assessment method was implemented, administered, and/or conducted.**
All students undergoing a defense of some sort are assessed on their writing and oral presentation skills by all committee members (typically three faculty members on an MS committee and four or five on a PhD committee). Rubrics are distributed to the committee members before the defense and are usually collected afterwards, although some faculty members return them later. As to the other component of assessment, all instructors of graduate-level courses are requested to provide all Geography student papers from one of their assignments, usually a term paper or project, for evaluation by paid summer artifact readers. These readers have both assessed artifacts in the past, and were given general instructions on the assessment of the artifacts. Instructors were not aware of any identifying student information, including level (MS or PhD), to avoid bias, although the readers were also contributors of some artifacts so likely recognized their courses and their students via their writing.

**Did your department/program faculty have a goal set for this learning outcome?**

- ☑️ Yes
- ☑️ No
Provide a summary of the results from the assessment of Learning Outcome 1.

With regards to Rubric E (proposals), the five students assessed (one PhD and four MS) scored slightly lower than in recent years (dating back to 2010-11 when this assessment plan was implemented). However, scores were only moderately lower than in past years, with this year’s averages of about 2.7 (on a 4-point scale) not terribly dissimilar to the longer-term average centered around 3.0 and with highs generally in the 3.2 range (in 2011-12). The PhD student’s average score was much lower than the 4 MS students, mainly because of one very low rating (all 1s on the rubric) on the dissertation proposal, and provides too little information from which to detect any trend or structural concern about the PhD program.

With respect to oral presentations (Rubric J), this year’s 13 presentations averaged higher than four of the past five years, averaging 2.5 (out of 4) and typically the four PhD students scored somewhat higher (2.6) than the nine MS students (2.4). Overall, though, averages without regard to student level have been between 2.3 and 2.5 over the past five years so performance has been very consistent. This is also the most robust of our defense evaluations, since every student is assessed (all proposals, creative components, theses, and dissertations) although 13 students is not a large enough number for strong statistical comparisons.

Finally, for the 60 artifacts collected from graduate-level courses and evaluated with Rubric E (same rubric as for all proposals), student papers averaged 2.7 for Content, 3.0 for Organization, and 2.7 for Style and Mechanics. In comparison, for 46 artifacts assessed last year, comparable averages were 3.3, 3.2, and 3.2, while in 2012-13 the respective averages were 2.6, 2.8, and 2.7 for 37 artifacts. Thus, 2012-13 and 2014-15 were very comparable, with 2013-14 spiking higher. The same two reviewers assessed papers in both 2012-13 and 2013-14, and one of them continued on in 2014-15 but was joined by a new rater. Thus, there is some continuity in raters but we must depend on volunteers and the same faculty members are not always available.

As one would expect, PhD students generally perform better than MS students on average, although the difference was very small this year, 2.84 for the 36 PhD student papers evaluated versus 2.82 for the 24 MS papers. In comparison, last year the PhD students averaged 3.43 and the MS students averaged 2.93, so the change was due to an observed drop in PhD student scores. Of note, raters did not know the classification of the student; prior to this year, unfortunately, all artifacts were coded with “MS Student” or “PhD Student” before delivery to the raters, so perhaps that biased PhD scores upwards in the past. The figure at right, which shows the distribution of scores by student classification, reveals that notably more PhD students receive top scores of 4 on rubric categories, but they also received more scores of 2 and 1 (there were no 0s, thankfully!).

What do the results suggest about student achievement of this learning outcome?

Student writing quality remains one of the biggest exasperations of faculty; this is a university- and nation-wide issue but we must tackle it here on the ground in a manner over which we can exert control. The department added a writing sample to its admission materials several years ago, and has always used GRE scores and personal statements as additional evidence of the writing quality of applicants. The department has also added some courses that heavily (5423) if not exclusively (5203) focus on methods and writing, though they are not meant to be remedial. Lastly, the department has spent more time discussing writing than any other skill we expect of our students, in part because we feel it is (in aggregate) the weakest skill and in part because it is the most universal in our profession (academics). These results indicate that there has not been much change over the past five years (and beyond) and that measures taken by the department have not had any consistently measurable effect. Small numbers of students, artifacts, and ratings limit our ability to make strong statistical statements about these results, but even a qualitative review of average scores (a questionable statistical summary at best since they are ordinal 0-4 rankings on rubrics) reveals no long-term trends and also that scores remain stuck in a broad band around 3, which is “Proficient” (as defined on the rubrics) but not “Advanced” (4).

Timeline for the Assessment

- [X] Each Semester
- [ ] Yearly
- [ ] Every other year
- [ ] Other (please specify):
D2) Student Learning Outcome #2: Graduate students will develop apposite knowledge in geographic literature and research at the appropriate masters or doctoral level.

Identify opportunities for students to learn this outcome during the 2014-2015 academic year:
In GEOG 5403, the instructor provides students rubrics for the grading/assessment of each assignment, so that students know expectations. The rubrics correspond with the appropriate learning outcomes for the graduate program. In GEOG 5413, learning outcomes are provided in the syllabus. They are discussed at the start of the semester, and reviewed in conjunction with specific assignments throughout the semester. Students are also given grading rubrics for the different assignments and projects.

How many students were included in the assessment of this outcome?
GEOG 5403 – 8 students total (4 MS and 4 PhD)
GEOG 5413 – 9 students total, (6 MS and 3 PhD)

How were students selected to participate in the assessment of this outcome?
All Geography graduate students enrolled in the two courses were assessed.

Assessment Methods
☐ Survey
☒ Rating of skills (e.g., rubrics)
☐ Analysis of written artifacts
☐ Comprehensive, certification, or professional exam(s)
☐ Oral presentation
☐ Course project
☐ Satisfaction Survey
☐ Benchmarking
☐ Measuring effectiveness relative to professional standards
☐ Review of thesis/dissertation/ creative component
☐ Capstone project
☐ Internship
☐ Interviews
☐ Performance or jury
☐ Visual collection (photos, videos, etc.)
☐ Review of student research
☐ Other (please specify):
Click here to specify.

Describe the how the assessment method was implemented, administered, and/or conducted.
Instructors of the respective courses assess their students on rubrics specific to the course, designed by them (5403 – Rubric B, 5413 – Rubric C; see departmental Graduate Assessment Plan). Instructors are provided with a copy of the rubric and instructions early in the semester, and are left to complete it at their leisure (either as the semester progresses or at the end) but are urged to separate student grades from achievements of specific benchmarks as indicated on the rubric.

Did your department/program faculty have a goal set for this learning outcome?  ☐ Yes  ☒ No

Provide a summary of the results from the assessment of Learning Outcome 2.
For GEOG 5403 (Current Geographic Research) scores have been quite consistent for the past five years (same instructor all five years). This year’s average scores for eight students (four MS, four PhD) were either 2.50 or 2.63 for the four rubric standards. In 2013-14, for an identical mix of students, averages ranged from 2.38 to 2.63, and in 2012-13 four MS and one PhD student averaged 2.20, 2.40, or 2.80 on the rubric standards. The previous two years were also quite similar in range of scores.

For GEOG 5413 (History and Philosophy of Geography) average scores were down from last year but very similar to the preceding three years, so the 2013-14 class represented a notable deviation from averages typically a little bit below 3.0 (same instructor all five years). This year, the five rubric standards’ average scores ranged from 2.33 to 2.89, whereas in 2013-14 the range was 2.67 to 3.33, with the same broad patterns of Standards 2 and 4 scoring a bit lower than Standards 1 and 3.

What do the results suggest about student achievement of this learning outcome?
5403: Students took care in relating research articles read for class to broader human and physical geographic themes as well as trending ideas in theoretical perspectives in geography and the social sciences. While the overall averages for each learning outcome resemble previous years, several students, including both M.S. and Ph.D. students showed impressive acuity in these relational learning outcomes. The instructor kept with the change made mid-semester in 2014 concerning how the class discussed research articles. Students sent questions and/or comments to the instructor the morning class met on the articles to be discussed that day. All students engaged in critical discussion more so than in the old format, and they seemed to appreciate the format. Students
improved in their ability over the course of the semester to construct research proposals and literature reviews, in terms of organization and writing ability on par with previous years.

5413: This year’s cohort of students developed a strong sense of camaraderie and support for one another despite their very dichotomous views on aspects of political and moral philosophy and human development. Most students were timely and diligent on their assignments and either met with or corresponded with the instructor about specific ways of improving their work. As is common in the first semester of a graduate program, a minority of students (both MS and PhD) struggled with time management, reading comprehension, and critical thought. Writing assignments as well as in class discussions and oral presentations (on which the students give each other “blind” feedback) showed that PhD students were generally more attentive to weaknesses or problems with arguments or limitations of methods; however, some MS students performed admirably in this dimension (a component of Standard 5 on the rubric). This year the instructor developed and used a rubric for the writing assignments. Anecdotal evidence suggests that it helped clarify for the students the nature of the instructor’s expectations and the basis of the student’s grade. In contrast to last year, these students had absolutely no problem completing the midterm exam during the time allotted (and no changes to the exam format were made).

**Timeline for the Assessment**

- [ ] Each Semester
- [x] Yearly
- [ ] Every other year
- [ ] Other (please specify):
D3) **Student Learning Outcome #3:** Graduate students will develop skills in tools for geographic data collection and methods of analysis at the masters or doctoral level.

**Identify opportunities for students to learn this outcome during the 2014-2015 academic year:**
Instructors of both GEOG 5303 and 6313 devote considerable time and effort to designing exercises and projects that challenge the students to employ data collection and analysis methods with real-world data (instructor-provided as well as obtained by the students). Extensive grading and feedback is employed to communicate to students where they are not fully grasping the methods.

**How many students were included in the assessment of this outcome?**
GEOG 5303 – 8 students total (4 MS and 4 PhD)
GEOG 6313 – 0 students (not taught in 2014-15)

**How were students selected to participate in the assessment of this outcome?**
All Geography graduate students enrolled in the courses were assessed.

**Assessment Methods**
- [☐] Survey
- [☐] Rating of skills (e.g., rubrics)
- [☐] Analysis of written artifacts
- [☐] Comprehensive, certification, or professional exam(s)
- [☐] Oral presentation
- [☒] Course project
- [☐] Satisfaction Survey
- [☐] Benchmarking
- [☐] Measuring effectiveness relative to professional standards
- [☐] Review of thesis/dissertation/ creative component
- [☐] Capstone project
- [☐] Internship
- [☐] Interviews
- [☐] Performance or jury
- [☐] Visual collection (photos, videos, etc.)
- [☐] Review of student research
- [☐] Other (please specify):

**Describe the how the assessment method was implemented, administered, and/or conducted.**
Instructors of the respective courses assess their students on rubrics specific to the course, designed by them (5303 – Rubric A, 6313 – Rubric D; see departmental Graduate Assessment Plan). Instructors are provided with a copy of the rubric and instructions early in the semester, and are left to complete it at their leisure (either as the semester progresses or at the end) but are urged to separate student grades from achievements of specific benchmarks as indicated on the rubric.

**Did your department/program faculty have a goal set for this learning outcome?**
[☐] Yes  [☒] No

**Provide a summary of the results from the assessment of Learning Outcome 3.**
For GEOG 5303 (Geographical Analysis I) scores in 2014-15 were quite similar to 2013-14 – Standards 1 (2.63), 2 (2.50), and 4 (2.63) had the same average scores both years, while Standard 3 increased from 2.38 to 2.63. The real reversal was that in 2013-14 the PhD students averaged 0.25 to 0.75 higher than the MS students, whereas this year the MS students averaged 0.25 to 0.50 higher. However, these are modest differences and one notably higher or lower achieving MS or PhD student (out of four in each cohort) can cause these differences. As with the courses reviewed previously in Learning Outcome 2, over the past five years there has been no observable trend in scores and the same instructor has taught the course every time.

**What do the results suggest about student achievement of this learning outcome?**
5303: Although the rubric scores have not appreciably risen over time, the instructor does feel there has been improvements in the course due to his greater emphasis on both instruction (and instructions) in areas that were challenging for students. Fewer students are “failing” the course (C or below) and having abysmal assignment scores early in the semester, and this has partly resulted from a restructuring and resequencing of assignments to better ensure that students understand expectations and have grasped the important core concepts (such as data handling/preparation and adequate interpretations of statistical results). More detailed instruction documents (appendices to the syllabus) have been distributed as well to provide a template for doing adequate work.

**Timeline for the Assessment**
- [☐] Each Semester
- [☒] Yearly
- [☐] Every other year
- [☐] Other (please specify): GEOG 5303 is taught every spring, while GEOG 6313 is taught every other fall.
D4) Student Learning Outcome #4: Advanced graduate students will be able to develop geographic creative components, theses, or dissertations that marshal evidence, analyze data, and synthesize meaningful conclusions.

Identify opportunities for students to learn this outcome during the 2014-2015 academic year:
All courses in the program should, at some level, teach students these skills. Furthermore, the classic model of graduate education in which a student works closely with his or her advisor to develop a research proposal and then a final product (thesis or dissertation) remains the only logical and obvious way to impart these skills.

How many students were included in the assessment of this outcome?
Five MS students (theses) and three PhD students (dissertations) were assessed; there were no creative components defended.

How were students selected to participate in the assessment of this outcome?
All students defending a creative component, thesis, or dissertation are assessed by their committee members with Rubric F (Creative Components), Rubric G (Theses), or Rubric I (Dissertations); see departmental assessment plan for these rubrics. All faculty members returned their rubrics to the Assessment Coordinator (86 total assessments).

Assessment Methods
☐ Survey
☐ Rating of skills (e.g., rubrics)
☐ Analysis of written artifacts
☐ Comprehensive, certification, or professional exam(s)
☐ Oral presentation
☐ Course project
☐ Satisfaction Survey
☐ Benchmarking
☐ Measuring effectiveness relative to professional standards
☒ Review of thesis/dissertation/ creative component
☐ Capstone project
☐ Internship
☐ Interviews
☐ Performance or jury
☐ Visual collection (photos, videos, etc.)
☐ Review of student research
☐ Other (please specify):
Click here to specify.

Describe the how the assessment method was implemented, administered, and/or conducted.
All students undergoing a final defense are assessed on their research and writing skills by all committee members (typically three faculty members on an MS committee and four or five on a PhD committee). Rubrics are distributed to the committee members at the beginning of the defense and are usually collected afterwards, although some faculty members return them later.

Did your department/program faculty have a goal set for this learning outcome? ☐ Yes ☒ No

Provide a summary of the results from the assessment of Learning Outcome 4.
There were five thesis proposals (Rubric G). Scores across the five categories of the rubric were very much in line with past averages, ranging between 2.8 and 3.2 (again, on a 4-point scale) and extremely similar to last year’s four defenses. In 2011-12 and 2012-13, however (two and four defenses, respectively), averages were a bit higher, in the 3.0 to 3.7 range. One standard that is consistently rated the lowest (four out of the last five years, including 2014-15) is the ability to write a good conclusion (Advanced/4 out of 4 definition: “Conclusion places the results of research into a larger context and thoroughly connects to future research possibilities.”). This year’s average of 2.2 was by far the lowest single standard average score; 2.6 is the next-lowest average for Conclusions in the past and the next lowest average for any rubric category has been 2.75 (this year and in 2010/11), for Data Collection and Analysis. Thus, the component that is most crucial to the student’s successful demonstration of independent research, obtaining data and analyzing it meaningfully, is weaker than other components, as is an adequate summary of the thesis and placing it in context. Literature reviews, on the other hand, consistently receive the highest average scores at 3.20 to 3.75, including this year with a 3.25 average (highest rated category in 2014-15).

This year’s three dissertation defenses averaged from 2.8 to 3.5 on the five standards of Rubric I, overall (again) a little bit lower than last year’s two defenses but very similar to preceding years, and indicating no real trend up or down. The PhD skills rubric is slightly different than the MS, with methods, data, and analysis combined into one rubric category but with Conclusion separate from Overall Project Significance/Originality, and it is in this last category that doctoral students rated the lowest this year, with a 2.9 average score (and just 3.00 for Conclusion). Overall, then, one weakness in all students is the ability to summarize the work, especially the significance, contribution, and originality of the work.
What do the results suggest about student achievement of this learning outcome?
Students typically have a hard time crafting proposals that show a clear plan, grasp of the tasks necessary to complete a dissertation or thesis, and ability to clearly articulate the research questions, hypotheses, and goals. This is often the main critique delivered by committee members at proposal defenses. At the end stage, many theses and dissertation still have a lot of editing (micro and macro) before the committee can sign off on the document; too little self-editing and too few iterations with advisors and/or outside readers takes place before delivery to the committee.

Outside of largely mechanical issues, though, students rarely fail a defense, having undertaken a solid if unexceptional piece of research, and demonstrate adequate proficiency as evinced by scores that average in the low 3 range, for the most part.

Timeline for the Assessment
☑️ Each Semester ☐ Yearly ☐ Every other year
☐ Other (please specify):
D5) **Student Learning Outcome #5:** Advanced PhD students will be able to identify and discuss significant geographic trends within their (three) chosen specialty areas of geography.

**Identify opportunities for students to learn this outcome during the 2014-2015 academic year:**
This is a very individualized area as it relates to students working with their advisors and committee members via courses, directed readings, independent study, etc.

**How many students were included in the assessment of this outcome?**
No students were assessed because there were no comprehensive exams undertaken in 2014-15.

**How were students selected to participate in the assessment of this outcome?**
All doctoral students taking comprehensive exams are assessed.

**Assessment Methods**
- [ ] Survey
- [x] Rating of skills (e.g., rubrics)
- [ ] Analysis of written artifacts
- [x] Comprehensive, certification, or professional exam(s)
- [ ] Oral presentation
- [ ] Course project
- [ ] Satisfaction Survey
- [ ] Benchmarking
- [ ] Measuring effectiveness relative to professional standards
- [ ] Review of thesis/dissertation/ creative component
- [ ] Capstone project
- [ ] Internship
- [ ] Interviews
- [ ] Performance or jury
- [ ] Visual collection (photos, videos, etc.)
- [ ] Review of student research
- [ ] Other (please specify):
  
  Click here to specify.

**Describe the how the assessment method was implemented, administered, and/or conducted.**
Faculty members sitting on the doctoral student’s research committee (minimally four, sometimes five) evaluate the student’s performance with Rubric H. Rubrics are distributed to the committee members at the beginning of the defense and are usually collected afterwards, although some faculty members return them later.

**Did your department/program faculty have a goal set for this learning outcome?**
- [ ] Yes
- [x] No

**Provide a summary of the results from the assessment of Learning Outcome 5.**
No scores to summarize this year.

**What do the results suggest about student achievement of this learning outcome?**
Nothing to discuss this year.

**Timeline for the Assessment**
- [x] Each Semester
- [ ] Yearly
- [ ] Every other year
- [ ] Other (please specify):
E. Summary of Assessment Results
Describe the overall results of the program assessment and program faculty members’ interpretation of the assessment results.
Overall, results indicate that student performance is fairly consistent and that while we would always strive to see students achieving higher scores and performance, the average scores (and performance of most students) is at an acceptable level. Ultimately, a graduate student’s curriculum follows a very specialized path beyond the few core courses, and they undertake a lot of independent work, so effecting curricular changes that can target weak areas (like writing) is especially challenging at the graduate level. Overall, faculty seem satisfied with the general results but will continue to focus on teaching writing skills through examples and extensive feedback on written work.

F. Dissemination of Results
Describe the individual(s) or committee (e.g., a curriculum committee) responsible for reviewing and interpreting assessment data.
The Graduate Coordinator serves a dual role as Graduate Outcomes Assessment Coordinator and disseminates and gathers the rubrics from defenses and for the core courses (Rubrics A-D), and sends out repeated calls for artifact submission for Learning Outcome 1. He then collects, inputs, and preliminarily evaluates the data and computes summary statistics.

Describe the process for sharing and discussing assessment results with program faculty.
The Assessment Coordinator writes and circulates (via e-mail) a draft report for review and comment by all faculty in the department. This is done in July in advance of an all-day planning conference held by the department the week before the fall semester begins, and discussion about the results, what they mean, and what to do with them subsequently occurs and is incorporated into a final draft of this report. This final draft is sent around a second time for final review before submission.

G. Program Improvements Based on Assessment
Based on the findings of this assessment, what changes are being considered or planned for the program?
At this point in time, no concrete ideas for making and changes to the program have emerged.

Based on the findings of this assessment, what (if any) changes are planned for the assessment process?
No changes are planned for 2015-16 in the process, though if FY16 funds are not awarded (or are significantly reduced) the course artifact assessment in Learning Outcome 1 will have to be scaled back.

Describe the process for implementing these changes/planned program improvements.
Not applicable.

H. Assessment Tools
Ten rubrics are used for assessment and are not repeated here for space considerations; the rubrics can be found in the department’s Graduate Assessment Plan on file with the Office of University Assessment and Testing. A curriculum map was developed in 2013 and is given on the next page to demonstrate where major skills are taught and assessed.
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**Instruction Codes (T/A)**

T = Taught
A = Assessed

**Level Codes (L)**

B = Beginner
I = Intermediate
A = Advanced

**Departmental Learning Outcomes:**

1. Graduate students will develop the ability to communicate geographic information effectively orally and in writing at the appropriate masters or doctoral level.
2. Graduate students will develop apposite knowledge in geographic literature and research at the appropriate masters or doctoral level.
3. Graduate students will develop skills in tools for geographic data collection and methods of analysis at the masters or doctorate level.
4. Advanced graduate students will be able to develop geographic creative components, theses, or dissertations that marshal evidence, analyze data, and synthesize meaningful conclusions.
5. Advanced PhD students will be able to identify and discuss significant geographic trends within their (three) chosen specialty areas of geography.