Expected Outcome 1. Geology Skills and Knowledge
Students completing the M.S. program in Geology, either via the thesis or non-thesis option, will acquire skills that allow them to enter the workplace at a professional level or to pursue the Ph.D. degree in Geology. They will also build upon their undergraduate training in both the broad discipline of geology and also in their area of specialization.

Assessment Method 1: Oral Examination

Assessment Method Description
Degree candidates for the M.S. degree in Geology will be given a comprehensive oral examination at the end of their last semester. The examination includes the following subsections: (1) knowledge and understanding of previous studies; (2) research methodology; (3) discussion, including understanding of the significance of their work; (4) verbal expression; (5) written expression; and (6) knowledge of discipline. This examination is given in conjunction with the individual student’s thesis defense; thus, the exam is administered throughout the year. Each student is rated by each committee member as Good (G), Satisfactory (S), or Unsatisfactory (U) in each of the categories above.

Findings
All five students passed the examination with no major problems. See table 1, below. All students did well in the areas of technical knowledge and understanding of previous studies (no. 1); research methodology (no. 2); and knowledge of discipline (no. 6). In general, students showed improvement over last year in the areas of recognizing the contribution of their research (no. 3) and with critical thinking. A few students had problems with verbal (4) and written (5) expression. Written expression, in particular, needs improvement.
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<tr>
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<th>Student 1</th>
<th>Student 2</th>
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</table>

**How did you use findings for improvement?**

Individual thesis supervisors have addressed the issues of special concern during their progress meetings with graduate students. In addition to the increased emphasis on oral and written communication by individual faculty, international students are to receive additional attention, both inside the Department through Geocommunication (GEOL 7100), which is now taught every year, and through University services.

**Additional Comments**

None

**Assessment Method 2: Student Perceptions of Knowledge**

**Assessment Method Description**

Graduating students will be asked to respond to the following statement, "I feel that I have mastered the skills and knowledge expected of a Master of Science graduate in the geological sciences."

**Findings**

All five of the graduating students agreed or strongly agreed with the statement above.
How did you use findings for improvement?
This basic question was followed by a discussion with the students so that we could assess their perceptions of the specific strengths and weaknesses of the program or of their mastery of subject areas. We are currently continuing the compilation of a data-base of these responses so that they can be considered in discussions of possible curriculum changes and new faculty hires.

Additional Comments
None

Expected Outcome 2. Communication skills

Graduates of the M.S. program in Geology will be able to communicate research results in written and oral form in a professional manner.

Assessment Method 1: Professional Presentations

Assessment Method Description

Students in the M.S. degree program in Geology will be encouraged to deliver a presentation at a professional meeting. The expectation is that seventy-five (75) percent of the students who complete the M.S. degree program in Geology will have delivered a presentation (poster or talk) at a sectional or national professional meeting. The relevant professional society oftentimes give awards to the leading student talks and posters.

Findings

Of the five graduating Masters students in AY 2012-2013, all five (100%) delivered one or more presentations (posters) at professional meetings. Three of these students presented 3-4 posters during their tenure at Auburn University.

How did you use findings for improvement?
Our M.S. candidates continue to be very active in this area. However, the students should be encouraged to give oral presentations as opposed to posters when appropriate. This would give the students more exposure and experience. In addition, an attempt will be made to get copies of the evaluation sheets or other forms of evaluation used by judges at professional meetings where our students give
presentations.

**Additional Comments**

A team of our graduate students also participate in a nationwide competition known as "Imperial Barrel." In this contest, geology students are given copies of the kind of real-world data used by professional geologists in the oil and gas business. After analyzing the dataset, which is derived from well data, the students give an oral presentation in Houston, Texas, in which they describe the geologic setting underground and justify where wells should be drilled. This exercise, in addition to adding to their geologic knowledge, provides valuable training in oral communication.

**Assessment Method 2: Manuscript Preparation**

**Assessment Method Description**

Degree candidates for the M.S. degree in Geology will be encouraged to publish the results of their research in accepted professional journals. The goal is that fifty (50) percent of the degree candidates will participate in the preparation of one or more journal articles either during their tenure as students in the Geology M.S. program or within one-two years after graduation.

**Findings**

Three of the students (60%) were able work on manuscripts to be submitted for publication during their tenure as graduate students at Auburn University, and three more recent graduates (out of six) have submitted manuscripts to journals to be reviewed.

**How did you use findings for improvement?**

We are using the good examples of recent graduates to inspire current students to participate in manuscript preparation. In one case, a student published 4 papers based on the thesis he wrote while a student in our department. Additionally, more of our students are selecting the two-manuscript format for their theses.

**Additional Comments**

None
Expected Outcome 3. Professional Employment/Ph.D. Program

Graduates of the M.S. program in Geology will be well prepared for professional employment and/or for admission into a Ph.D. program in the geological sciences.

Assessment Method 1: Placement of Graduates

Assessment Method Description

The Department will monitor the employment status of M.S. graduates after they leave the University. This will be done by direct communication with graduates and employers, and will also be carried out using social media on the Web.

Findings

Of the five students who received their M.S. degrees in Geology in AY 2012-2013, four elected to pursue professional employment in geology without further education. All four of these (100%) were successful, finding positions in the petroleum industry and in mining. The remaining student elected to enter the Ph.D. program in Auburn’s Civil Engineering department.

How did you use findings for improvement?

We are continuing to follow the progress of these students and all of our alumni. Recently we set up a Departmental group on LinkedIn, and this is helping us to keep track of our alumni.

Additional Comments

None