2012-2013 Assessment Report  
Program: Forestry, BS

School of Forestry & Wildlife Sciences  
Forestry, BS

Expected Outcome 1. Identification of Environmental Components  
Students will be able to identify the components of a forest environment, including the trees and other plants, animals, soils, and climate.

Assessment Method 1: Comprehensive Exam

Assessment Method Description

A comprehensive exam covering all course specific student learning outcomes will be created and updated annually to provide base line information for each of the Specific Learning Objectives in both degree program. This exam will consist of multiple choice questions that will be administered at the beginning of the professional program where it is anticipated scores will be low and again at the end of the professional program where it is anticipated the scores will be high. Those questions that don’t have a statistically significant improvement will identify areas of concern to be considered for the development of an action plan. This comprehensive exam will assess the knowledge base of the students. The pre-exam will be administered during the evening of the first week of Summer Practicum. The post-exam will be administered to seniors as part of the requirement for Senior Project. Each course will also contain a similar question in the final for the respective course.

Findings

Exam: A bank of 50 multiple choice questions from those courses in the forestry curriculum that identified this SLO from which 11 questions were chosen at random for each student.  
Senior Pilot Study: 16 graduating seniors in Spring 2011 volunteered to take the comprehensive exam. The average grade was 68.2% correct answers. While lower than a 70% passing grade the students were significantly better (p<0.001) than guessing.  
Sophomore Results: All 31 students at the beginning Forestry Summer
Practicum were required to complete the comprehensive exam. The average grade was 31.3% correct which is significantly better (p<0.001) than guessing and significantly lower (p<.001) than the senior pilot results.

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

**Additional Comments**

Ninety percent of respondents to an alumni and employer survey in spring 2013 indicated that entry level employees should be somewhat or highly proficient in related topics and skills. SAF accreditation criteria from 2012 have 5 competencies to related to this area. Most are addressed in the current curricula and will be strengthened in a future curriculum revision.

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**Expected Outcome 2. Forest Products and Values**

Students will be able to identify the wide range of products from forests and their values to society.

**Assessment Method 1: Comprehensive Exam**

**Assessment Method Description**

A comprehensive exam covering all course specific student learning outcomes will be created and updated annually to provide baseline information for each of the Specific Learning Objectives in both degree program. This exam will consist of multiple choice questions that will be administered at the beginning of the professional program where it is anticipated scores will be low and again at the end of the professional program where it is anticipated the scores will be high. Those questions that don’t have a statistically significant improvement will identify areas of concern to be considered for the development of an action plan. This comprehensive exam will assess the knowledge base of the students. The pre-exam will be administered during the evening of the first week of Summer Practicum. The post-exam will be administered to seniors as part of the requirement for Senior Project. Each course will also contain a similar question in the final for the respective course.
Findings
Exam: A bank of 39 multiple choice questions from those courses in the forestry curriculum that identified this SLO from which 9 questions were chosen at random for each student. Senior Pilot Study: 16 graduating seniors in Spring 2011 volunteered to take the comprehensive exam. The average grade was 51.6% correct answers. While lower than a 70% passing grade the students were significantly better (p<0.001) than guessing.
Sophomore Results: All 31 students at the beginning Forestry Summer Practicum were required to complete the comprehensive exam. The average grade was 29.7% correct which is significantly better (p<0.001) than guessing and significantly lower (p=.017) than the senior pilot results.

How did you use findings for improvement?

Additional Comments
For forest products the majority of respondents to a 2013 employer and alumni survey expected entry level employees to have basic knowledge (32%) or be somewhat proficient (50%). Valuation was not specifically addressed in the survey. The SAF accreditation criteria have competencies that address market and nonmarket valuation. We expect to strengthen nonmarket valuation in a future curriculum revision to address SAF criteria.

Expected Outcome 3. Natural Functions and Processes
Students will be able to describe the environmental functions and processes of a forest according to biological laws and current scientific theories and be able to communicate this knowledge at all levels.

Assessment Method 1: Comprehensive Exam
Assessment Method Description
A comprehensive exam covering all course specific student learning outcomes will be created and updated annually to provide base line information for each of the Specific Learning Objectives in both degree program. This exam will consist of multiple choice questions that will be administered at the beginning of the professional program where it is anticipated scores will be low and again at the end of the professional program where it is anticipated the scores will be high.
Those questions that don’t have a statistically significant improvement will identify areas of concern to be considered for the development of an action plan. This comprehensive exam will assess the knowledge base of the students. The pre-exam will be administered during the evening of the first week of Summer Practicum. The post-exam will be administered to seniors as part of the requirement for Senior Project. Each course will also contain a similar question in the final for the respective course.

**Findings**

Exam: A bank of 78 multiple choice questions from those courses in the forestry curriculum that identified this SLO from which 18 questions were chosen at random for each student. Senior Pilot Study: 16 graduating seniors in Spring 2011 volunteered to take the comprehensive exam. The average grade was 68.7% correct answers. While lower than a 70% passing grade the students were significantly better (p<0.001) than guessing.

Sophomore Results: All 31 students at the beginning Forestry Summer Practicum were required to complete the comprehensive exam. The average grade was 41.4% correct which is significantly better (p<0.001) than guessing and significantly lower (p<.001) than the senior pilot results.

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

**Additional Comments**

Revisions to SAF accreditation standards in 2012 resulted in 5 competencies in this area that will be included in course revisions to objectives and evaluation criteria and course additions in a future curriculum revision.
Expected Outcome 4. Statistical Data Collection
Students will be able to design and conduct statistically valid samples to collect data needed to make sound land management decisions.

Assessment Method 1: Comprehensive Exam

Assessment Method Description
A comprehensive exam covering all course specific student learning outcomes will be created and updated annually to provide base line information for each of the Specific Learning Objectives in both degree program. This exam will consist of multiple choice questions that will be administered at the beginning of the professional program where it is anticipated scores will be low and again at the end of the professional program where it is anticipated the scores will be high. Those questions that don’t have a statistically significant improvement will identify areas of concern to be considered for the development of an action plan. This comprehensive exam will assess the knowledge base of the students. The pre-exam will be administered during the evening of the first week of Summer Practicum. The post-exam will be administered to seniors as part of the requirement for Senior Project. Each course will also contain a similar question in the final for the respective course.

Findings
Exam: A bank of 26 multiple choice questions from those courses in the forestry curriculum that identified this SLO from which 6 questions were chosen at random for each student.
Senior Pilot Study: 16 graduating seniors in Spring 2011 volunteered to take the comprehensive exam. The average grade was 57.3% correct answers. While lower than a 70% passing grade the students were significantly better (p<0.001) than guessing. Sophomore Results: All 31 students at the beginning Forestry Summer Practicum were required to complete the comprehensive exam. The average grade was 46.8% correct which is significantly better (p<0.001) than guessing and significantly lower (p=0.029) than the senior pilot results.

How did you use findings for improvement?
Additional Comments

Ninety percent of respondents to and alumni and employer survey in Spring 2013 indicated that entry level employees should be somewhat or highly proficient in these subjects.

Expected Outcome 5. Management Plans
Students will be able to design forest management plans that combine multiple land owner objectives with Best Management Practices both regionally and globally and be able to communicate these plans to the landowner.

Assessment Method 1: Comprehensive Exam

Assessment Method Description
A comprehensive exam covering all course specific student learning outcomes will be created and updated annually to provide base line information for each of the Specific Learning Objectives in both degree program. This exam will consist of multiple choice questions that will be administered at the beginning of the professional program where it is anticipated scores will be low and again at the end of the professional program where it is anticipated the scores will be high. Those questions that don’t have a statistically significant improvement will identify areas of concern to be considered for the development of an action plan. This comprehensive exam will assess the knowledge base of the students. The pre-exam will be administered during the evening of the first week of Summer Practicum. The post-exam will be administered to seniors as part of the requirement for Senior Project. Each course will also contain a similar question in the final for the respective course.

Findings
Exam: A bank of 36 multiple choice questions from those courses in the forestry curriculum that identified this SLO from which 8 questions were chosen at random for each student.
Senior Pilot Study: 16 graduating seniors in Spring 2011 volunteered to take the comprehensive exam. The average grade was 71.4% correct answers. While just above a 70% passing grade the students were significantly better (p<0.001) than guessing.
Sophomore Results: All 31 students at the beginning Forestry Summer Practicum were required to complete the comprehensive exam. The
average grade was 47.2% correct which is significantly better (p<0.001) than guessing and significantly lower (p<.001) than the senior pilot results.

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

**Additional Comments**
Eighty percent of employers and alumni that responded to survey in Spring of 2013 indicated that entry level employees should be somewhat or highly proficient in skills related to this subject area. SAF Accreditation criteria from 2012 have 3 related competencies that will be addressed in course revisions in a future curriculum revision.

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**Expected Outcome 6. International Perspective**
Students will be able to extrapolate their knowledge of regional forest ecosystems and Best Management Practices to other environments and societies around the world.

**Assessment Method 1: Comprehensive Exam**

**Assessment Method Description**
A comprehensive exam covering all course specific student learning outcomes will be created and updated annually to provide base line information for each of the Specific Learning Objectives in both degree program. This exam will consist of multiple choice questions that will be administered at the beginning of the professional program where it is anticipated scores will be low and again at the end of the professional program where it is anticipated the scores will be high. Those questions that don’t have a statistically significant improvement will identify areas of concern to be considered for the development of an action plan. This comprehensive exam will assess the knowledge base of the students. The pre-exam will be administered during the evening of the first week of Summer Practicum. The post-exam will be administered to seniors as part of the requirement for Senior Project. Each course will also contain a similar question in the final for the respective course.

**Findings**
Exam: A bank of 9 multiple choice questions from those courses in the forestry curriculum that identified this SLO from which 3 questions
were chosen at random for each student.

Senior Pilot Study: 16 graduating seniors in Spring 2011 volunteered to take the comprehensive exam. The average grade was 54.2% correct answers. While lower than a 70% passing grade the students were significantly better (p<0.001) than guessing.

Sophomore Results: All 31 students at the beginning Forestry Summer Practicum were required to complete the comprehensive exam. The average grade was 45.2% correct which is significantly better (p<0.001) than guessing and not significantly lower (p=.153) than the senior pilot results. This would indicate that this SLO was not being significantly improved by their education. Although the results are weak since there were only 3 questions asked of each student.

How did you use findings for improvement?
With a future curriculum revision we expect that course options available in a plan of study will increase the number of courses taken which include significant global perspectives.

Additional Comments