The assessment of student learning at Butler University is designed to improve teaching and learning in academic departments and programs. The institution requires that academic departments and programs set student learning outcomes for majors, assess these goals, and use assessment findings to improve its programs. An annual review of student learning outcomes is also expected of every department and program, based on internally devised and conducted metrics as well as disciplinary or interdisciplinary expectations. This strategy ensures that academic assessment resides at the unit level, that faculty play a key role in shaping student learning outcomes and assessment methods, and that the learning inherent to assessing these outcomes enables faculty to improve the curriculum and instruction. Academic departments need not assess all student learning outcomes every year. It is suggested that they assess one-third of the student learning outcomes annually, so that all student learning outcomes are assessed in a three year period.

**Department:** Department of Mathematics and Actuarial Science  
**Program:** Actuarial Science  
**Authors:** John Gaisser, Bill Johnston, Becky Wahl (Chair, Departmental Assessment Committee), Chris Wilson

**Table of Departmental/Program SLOs:** Start by listing the mission statement of your department/program. List the SLOs for your department/program. Directly below summarize any changes you made to this table from the previous year. Appendix A includes definitions for terms used in this table.

**Mission Statement:** *To provide undergraduate education and instruction in all major fields of mathematics and actuarial science. It is our goal to imbue the students with a strong foundation in mathematics that may serve as a solid stepping stone for advanced study or successful careers in fields commonly associated with mathematics. The Department is committed to providing the highest quality of teaching and to promoting the highest ideals of student learning.*

<table>
<thead>
<tr>
<th>Student Learning Outcome (SLO)</th>
<th>For each SLO, list two methodologies and the criteria for successful performance (such as a measurement, rubric or scale that indicates a baseline for competency).</th>
<th>Assessment Schedule</th>
</tr>
</thead>
</table>
| 1. Demonstrate a working knowledge of the basic concepts and theory of actuarial science as defined by the five preliminary exams given by the Society of Actuaries: Probability (P), Financial Mathematics (FM), | **Methodology 1**  
Society of Actuaries examinations.  
1. 90% of our majors pass Exam P by the time he/she graduates.  
2. 70% of our majors pass Exam FM by the time he/she graduates.  
3. At least one major every two years passes Exam | **Methodology 2**  
Survey questions (administered via IDEA forms in MA363, 395, 399, 398, 372)  
At least 80% of students respond 4 or 5 on the course-specific question addressing SLO 1. *(see attachment)* | **Report submitted**  
Fall 2014 for 2013-2014 academic year.  
(Next report: F2017 for 2016-2017 academic year) |
| Actuarial Models  
(MLC), Financial Economics (MFE), and 
Construction and Evaluation of Actuarial 
Models (C). | MLC or Exam MFE by the 
time he/she graduates. |
|---|---|
| 2. Solve insurance and 
financial problems 
related to risk 
assessment and perform 
related calculations by 
applying standard 
actuarial methods. | Internship forms. 
Two-thirds of our interns 
should be rated 3 or better 
by their supervisor on a 0 
(terrible) to 4 (excellent) 
scale on question 8 of the 
internship form. 
Survey questions 
for juniors/ 
seniors 
(administered on 
IDEA form in 
MA372 and 
MA398) 
At least 80% of students 
respond with 4 or 5 on the 
survey question addressing 
SLO 2.  
(see attachment) 
Report 
submitted 
Fall 2010 
for 2009/2010 
academic year.  
(Next report: 
F2013 for 
2012/2013 
academic year) |
| 3. Communicate 
quantitative analyses 
clearly to various 
audiences, both in 
writing and orally. | Performance 
appraisals/ 
internship forms 
At least two-thirds of our 
students should receive 
“yes” answers to questions 6 
and 7 of the internship form 
regarding their 
communication skills. 
(see attachment) | Behavioral 
Observations 
1. All interns should present to 
student actuarial club work 
done during internships, 
answering all questions that 
might arise. 
2. All upper class majors 
should attend at least three 
actuarial speaker events per 
year. 
3. All upper class majors 
should attend the annual 
student meeting of the 
Indianapolis Actuarial Club. 
Report 
submitted 
Fall 2012 for 
2011/2012 
academic year.  
(Next report: 
F2015 for 
2014/2015 
academic year) |