Montana State University College of Engineering  
Learning Outcomes Assessment Plan (2012 draft)

Program: **College of Engineering**  
Degree: **Chemical Engineering Program MS (Plan A - Thesis)**

<table>
<thead>
<tr>
<th>Program Learning Outcomes</th>
<th>Performance Indicators (What would you see if the student has learned?)</th>
<th>Measures (What is the measure and where, how, and when is data collected?)</th>
<th>Use of the Information (Who collects and compiles, who reviews)</th>
</tr>
</thead>
</table>
| Demonstrate technical expertise in emphasis area | Students successfully complete courses specified in program of study.  
Students successfully defend their thesis and research work. | Annual % of Plan A grad students with GPA equal or above 3.0 in all courses in Program of Study.  
Annual % of Plan A graduate students that successfully defend their thesis. | Department administrative assistant to collect data and maintain statistics.  
Department head to review bi-annually (even years). |
| Effectively communicate research to a scientific audience | Students successfully communicate their research in writing through their thesis document.  
Students successfully communicate their research work orally at the public MS thesis defense. | Annual % of Plan A graduate students submitting final signed thesis (by end of fifth semester).  
Annual pass rate (% of students passing) of oral defense of MS thesis. | Department administrative assistant to collect data and maintain statistics.  
Department head to review bi-annually (even years). |
| Perform quality original research | Students successfully defend the originality and quality of their research at the (oral) public final defense. | Annual pass rate (% of students passing) of oral defense of MS thesis. | Department administrative assistant to collect data and maintain statistics.  
Department head to review bi-annually (even years). |
Program: **College of Engineering**  
Degree: **Chemical Engineering Program MS (Plan B – non-Thesis)**

<table>
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<tr>
<th>Program Learning Outcomes Students will be able to:</th>
<th>Performance Indicators (What would you see if the student has learned?)</th>
<th>Measures (What is the measure and where, how, and when is data collected?)</th>
<th>Use of the Information (Who collects and compiles, who reviews)</th>
</tr>
</thead>
</table>
| Demonstrate technical expertise in emphasis area    | Students successfully complete courses specified in program of study.     | Annual % of Plan B graduate students with GPA equal or above 3.0 in all courses in Program of Study. | Department administrative assistant to collect data and maintain statistics.  
Department head to review bi-annually (even years). |
| Effectively communicate research to a scientific audience | Students successfully communicate their research in writing and orally through their professional paper. | Annual % of Plan B graduate students successfully passing the professional paper requirement. | Department administrative assistant to collect data and maintain statistics.  
Department head to review bi-annually (even years). |