

Program Assessment Plan  
 American University  
 Academic Program: CAS: Chemistry - MS

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**Unit's Primary Department:** Chemistry

**Learning Outcome: Concept Application**

Apply advanced concepts in Chemistry and Biology (laws and theories dictating chemical behavior, interconnection between fields of chemistry, etc.) to the real problems in this field.

**Outcome Year:** 2010-2011

**Start Date:** 11/03/2010

**Outcome Status:** Active Learning Outcome

Assessment Plan			
Assessment Measure	Target	Schedule/Cycle	Active
Performance on written comprehensive exams. Assessed by all faculty on a thesis committee every four years (2011-Yr. 3) <b>Measure Type:</b> Quiz/ Exam	75%	Administered yearly (2011-Yr. 3)	Yes
Survey of alumni as they finish M.S. and shortly thereafter. Maximum 3 months lag to job/ school acceptance; acknowledgment of instrumentation in use at new location. <b>Measure Type:</b> Alumni Feedback	No target identified.	Data tabulated yearly in departmental database and assessed every 4 years (2011-Yr.3) using a 2-year rolling average in departmental meeting.	Yes

**Learning Outcome: Experiments**

Execute experiments designed to verify or produce de novo scientific information.

**Outcome Year:** 2010-2011

**Start Date:** 11/03/2010

**Outcome Status:** Active Learning Outcome

Assessment Plan			
Assessment Measure	Target	Schedule/Cycle	Active
Evaluation of thesis. Assessed by all faculty on a thesis committee. Well documented experimental procedures, proper interpretation of data, high enough quality for publication or conference participation. <b>Measure Type:</b> Final Paper/ Final Project	No target identified.	Assessed every four years (2012-Yr. 4).	Yes
Performance on CHEM-602 assignments and student feedback on course content. Presentation suitable for thesis proposal defense. Student feedback indicate course was useful to them. Assessed by CHEM-602 faculty (Dr. Girard and Dr. Fox). <b>Measure Type:</b> Written Assignment	No target identified.	Performance and student comments compiled yearly and assessed every two years (2009-Yr.1).	Yes

**Related Courses**

- CHEM-602 - Research Method Design

**Learning Outcome: Quantitative Literacy**

Exhibit quantitative and computational literacy.

**Outcome Year:** 2010-2011

**Start Date:** 11/03/2010

**Outcome Status:** Active Learning Outcome

Assessment Plan			
Assessment Measure	Target	Schedule/Cycle	Active
Evaluation of thesis. Assessed by all faculty on a thesis committee. Well documented experimental procedures, proper interpretation of data, high enough quality for publication or conference participation. <b>Measure Type:</b> Final Paper/ Final Project	No target identified.	Assessed every four years (2012- Yr. 4).	Yes

**Learning Outcome: Scientific Literature**

Locate, read, and interpret the body of scientific literature pertaining to a topic.

**Outcome Year:** 2010-2011

**Start Date:** 11/03/2010

**Outcome Status:** Active Learning Outcome

Assessment Plan			
Assessment Measure	Target	Schedule/Cycle	Active
Performance on written comprehensive exams. Assessed by all faculty on a thesis committee every four years (2011-Yr. 3) <b>Measure Type:</b> Quiz/ Exam	75%	Administered yearly (2011-Yr. 3)	Yes
Evaluation of thesis. Assessed by all faculty on a thesis committee. Well documented experimental procedures, proper interpretation of data, high enough quality for publication or conference participation. <b>Measure Type:</b> Final Paper/ Final Project	No target identified.	Assessed every four years (2012- Yr. 4).	Yes
Performance on CHEM-602 assignments and student feedback on course content. Presentation suitable for thesis proposal defense. Student feedback indicate course was useful to them. Assessed by CHEM-602 faculty (Dr. Girard and Dr. Fox). <b>Measure Type:</b> Written Assignment	No target identified.	Performance and student comments compiled yearly and assessed every two years (2009- Yr.1).	Yes

**Related Courses**

- CHEM-602 - Research Method Design

**Learning Outcome: Present Research**

Present research findings in an effective manner, both orally and in writing.

**Outcome Year:** 2010-2011

**Start Date:** 11/03/2010

**Outcome Status:** Active Learning Outcome

Assessment Plan
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Assessment Plan			
Assessment Measure	Target	Schedule/Cycle	Active
Evaluation of thesis. Assessed by all faculty on a thesis committee. Well documented experimental procedures, proper interpretation of data, high enough quality for publication or conference participation. <b>Measure Type:</b> Final Paper/ Final Project	No target identified.	Assessed every four years (2012- Yr. 4).	Yes
Performance on CHEM-602 assignments and student feedback on course content. Presentation suitable for thesis proposal defense. Student feedback indicate course was useful to them. Assessed by CHEM-602 faculty (Dr. Girard and Dr. Fox). <b>Measure Type:</b> Written Assignment	No target identified.	Performance and student comments compiled yearly and assessed every two years (2009- Yr.1).	Yes
External conference participation. <b>Measure Type:</b> Presentation	100% of graduating students attend at least one conference.	Data tabulated yearly in departmental database and assessed every 2 years (2010- Yr.2) in departmental meeting.	Yes
Publication in a refereed journal. <b>Measure Type:</b> Final Paper/ Final Project	25% of graduating students publish at least one article.	Data tabulated yearly in departmental database and assessed every 4 years (2010-Yr. 2) by faculty involved on thesis committees.	Yes

### Related Courses

- CHEM-602 - Research Method Design

### Learning Outcome: Instrumentation

Work with high level instrumentation.

**Outcome Year:** 2010-2011

**Start Date:** 11/03/2010

**Outcome Status:** Active Learning Outcome

Assessment Plan			
Assessment Measure	Target	Schedule/Cycle	Active
Evaluation of thesis. Assessed by all faculty on a thesis committee. Well documented experimental procedures, proper interpretation of data, high enough quality for publication or conference participation. <b>Measure Type:</b> Final Paper/ Final Project	No target identified.	Assessed every four years (2012- Yr. 4).	Yes
Survey of alumni as they finish M.S. and shortly thereafter. Maximum 3 months lag to job/ school acceptance; acknowledgment of instrumentation in use at new location. <b>Measure Type:</b> Survey	No target identified.	Data tabulated yearly in departmental database and assessed every 4 years (2011- Yr.3) using a 2-year rolling average in departmental meeting.	Yes