UNIV 301 Introduction to Analytical Chemistry
Experiential Learning Sample Program Ver. 2

Student Assessment Methods

Student assessment methods used in this course are listed below.

<table>
<thead>
<tr>
<th>Student Assessment Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
</tbody>
</table>

Course Outcomes

By the end of the course, students are expected to learn the following outcomes.

<table>
<thead>
<tr>
<th>Course Outcome</th>
<th>Student Assessment Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Describe the basic principles and procedures to perform quantitative chemical analysis</td>
<td>Final exam Quiz or midterm</td>
</tr>
<tr>
<td>2  Conduct mathematical calculations in order to ascertain the correct values in quantitative analysis</td>
<td>Lab reports Final exam Quiz or midterm</td>
</tr>
<tr>
<td>3  Conduct laboratory experiments of quantitative and instrument analysis with accuracy</td>
<td>Lab reports</td>
</tr>
<tr>
<td>4  Write accurate lab reports that are logical and concisely written, and demonstrate strong skills in analytical chemistry</td>
<td>Lab reports</td>
</tr>
<tr>
<td>5  Work as a team to complete lab work</td>
<td></td>
</tr>
</tbody>
</table>
Outcome Maps

This chart shows the alignment of course outcomes to program-level learning outcomes. Program-level learning outcomes and the mapping scale are listed below the chart.

<table>
<thead>
<tr>
<th>Course Outcomes</th>
<th>Program-level Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Community-engaged Learning</td>
<td>1. Describe the basic principles and procedures to perform quan...</td>
</tr>
<tr>
<td>2. Co-curricular Experiential Learning</td>
<td>2. Conduct mathematical calculations in order to ascertain the ...</td>
</tr>
<tr>
<td>3. Curriculum-integrated Experiential Learning</td>
<td>3. Conduct laboratory experiments of quantitative and instrumen...</td>
</tr>
<tr>
<td>4. Research-integrated Experiential Learning</td>
<td>4. Write accurate lab reports that are logical and concisely wr...</td>
</tr>
<tr>
<td>5. Work-integrated Learning</td>
<td>5. Work as a team to complete lab work</td>
</tr>
</tbody>
</table>

Program-level Learning Outcomes

1. Community-engaged Learning: Community-based research, community-engaged learning projects/ placements, co-curricular community engaged learning activities, co-curricular entrepreneurship activities
2. Co-curricular Experiential Learning: Competitions/ accelerators/ incubators, paraprofessional placement/ on campus employment, personal or professional development programs, supported volunteer experiences
3. Curriculum-integrated Experiential Learning: Creative performance/ exhibits, consulting projects, entrepreneurship courses, field schools, international/ cross-cultural learning experiences, labs/ experimentation, studio/ simulation
4. Research-integrated Experiential Learning: Course-based research, faculty-led research, individual research/ studentships, research assistantships
5. Work-integrated Learning: Cooperative education, internships, professional/ clinical practice

Mapping Scale

The following are the mapping scales used to indicate the degree to which a program-level learning outcome is addressed by a particular course outcome.

- Apply Concepts/Theories (A)
- Develop Technical Skills (T)
- Develop Core Skills (C)
- Employability (E)

Additional Questions about the Course

If this course includes community-engaged learning, please specify which type(s):

- Community-based research (Not Selected)
- Community-engaged learning projects/ placements (Not Selected)
- Co-curricular community engaged learning activities (Not Selected)
- Co-curricular entrepreneurship activities (Not Selected)
If this course includes co-curricular experiential learning, please specify which type(s):
* Competitions/ accelerators/ incubators (Not Selected)
* Paraprofessional placement/ on campus employment (Not Selected)
* Personal or professional development programs (Not Selected)
* Supported volunteer experiences (Not Selected)

If this course includes curriculum-integrated experiential learning, please specify which type(s):
* Creative performance/ exhibits (Not Selected)
* Consulting projects (Not Selected)
* Entrepreneurship courses (Not Selected)
* Field schools (Not Selected)
* International/ cross-cultural learning experiences (Not Selected)
* Labs/ experimentation (Selected)
* Studio/ simulation (Not Selected)

If this course includes research-integrated experiential learning, please specify which type(s):
* Course-based research (Not Selected)
* Faculty-led research (Not Selected)
* Individual research/ studentships (Not Selected)
* Research assistantships (Not Selected)

If this course includes community-engaged learning, please specify which type(s):
* Cooperative education (Not Selected)
* Internships (Not Selected)
* Professional/ clinical practice (Not Selected)