### Assessment Overview

**Discipline/Program Name:** Architectural Technology  
**Assessment Year:** 2008/2009

<table>
<thead>
<tr>
<th>Student Learning Outcome</th>
<th>Outcome Type</th>
<th>Methodology</th>
<th>n</th>
<th>History</th>
<th>Benchmark</th>
<th>Results</th>
<th>Strength of Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Demonstrate Ability to Create Residential Construction System Drawings</td>
<td>Discipline</td>
<td>Method 1) A common drawing project with applied rubric</td>
<td>71</td>
<td>6</td>
<td>70% of students in first semester architectural drafting class will strive to reach a developing level or better on each element in creating the wood frame wall detail.</td>
<td>88% of students achieved a mastery of the ability to draw a complete wood frame wall detail.</td>
<td>Strong</td>
</tr>
<tr>
<td>2. Demonstrate the ability to create commercial construction system drawings</td>
<td>Discipline</td>
<td>Method 1) A common drawing project with applied rubric</td>
<td>12</td>
<td>6</td>
<td>50% of students will strive to reach a mastery level on each benchmark.</td>
<td>85% of students moved from a beginning to a mastery level in the ability to draw a complete wood frame wall detail.</td>
<td>Strong</td>
</tr>
</tbody>
</table>
3. Demonstrate ability to organize and coordinate construction documentation

| GE: Critical Thinking | A common project with applied rubric | 71 | 2 | 80% of students will strive to correctly coordinate two or more supplementary drawings with the floor plan. | 75% of students were able to correctly organize and coordinate construction documents compared to a benchmark goal of 80%. | Weak |

4. Describe the Learning Outcome That You Have Measured

| GE, Discipline or Other | Pre-Post Test, Judged Competition, Embedded Questions, Rubric Graded Essay | Number of Students Assessed | # of Years This Outcome Has Been Assessed | Measurement Standard | Report the Results of Your Data Analysis | Strong: Exceeds Benchmark | Neutral: Meets Benchmark | Weak: Misses Benchmark |

Program / Discipline Assessment Report

Program/Discipline: Architectural Technology
Responsibility: William Miller

Program/Discipline's Mission Statement:

- **Mission**
  The Architectural Technology Program is a learner-centered program which prepares students for entry level career positions in architectural support fields.

- **Purpose**
  The Architectural Technology Program trains students in drafting and construction related technologies and is committed to incorporating effective learning techniques, diverse instructional resources, and learning outcome assessment on an ongoing basis.
Program/Discipline's Assessment History:
By using the assessment process as an evaluative technique, how has it previously affected your program's curricula and/or teaching strategies?

As a result of previous assessment results, faculty is now focusing on the integration of residential and commercial construction systems across department curriculum. Construction documentation has become an integral part of the course content in all architectural drawing courses with the Construction Specifications Institute Uniform Drawing Format providing the template for each project.

By using the assessment process as an evaluative technique, what changes to student learning have been noted?

Use of digital course content delivery has resulted in positive student achievement. Mastery level has been achieved in many of the benchmark outcomes assessed in the Architectural Technology program.

What unintended consequences, if any, have occurred because of the assessment process?

We have not noted any unintended outcomes due to the assessment process.

Who receives information about your department's assessment and why? (Please note if you plan on altering either of these items for the coming year.)

Assessment information is shared with the chairs of the Architectural Technology and the Construction Supervision Advisory Committees. It is also shared with adjunct faculty members. Assessment information is used to facilitate learning delivery approaches.

Part 1: Previous Academic Year Assessment Summary
Previous Academic Year: 2008/2009
<table>
<thead>
<tr>
<th>Outcome Type: Discipline/Program</th>
<th>Outcome Description: Students will draw a wood frame wall detail according to drafting standards established by the Construction Specifications Institute Uniform Drawing Format system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benchmark for success 1) Please specify what percentage of the sample size is expected to meet or exceed your benchmark. 2) What is the rationale for choosing this measure?</td>
<td>1)70% of students in first semester architectural drafting class will strive to reach a developing level or better on each element in creating the wood frame wall detail. Developing level is defined as the correct drawing of a wood frame detail that includes 3 of the 4 required elements. 2) Rationale: This benchmark represents an architectural drawing skill that encompasses several basic prerequisite skills</td>
</tr>
<tr>
<td>Description of assessment process: 1) What assessment methods were used to measure this outcome (i.e. pre/post test, portfolio review, etc.)? 2) How do these methods show students are learning? 3) What frequency is this outcome being measured (i.e.: each semester, yearly, every other year, etc.) and why? 4) How many students made up the sample size?</td>
<td>Method 1) A common drawing project with applied rubric Method 2) Pre/post test 2) Students are actively engaged in creating requisite construction system drawings and identifying the components of those drawings. Improvement is noted because the two measurement methods are administered at different points in the class. 3) This outcome is measured each semester due to relatively small sample size collected each semester. 4)Method 1: 71 students Method 2: 71 students</td>
</tr>
<tr>
<td>Results What were the results of the assessment process? (List results for each method, if more than one were used.)</td>
<td>Method 1: <em>WOOD FRAME WALL DETAIL</em> Explanation of how to interpret the data:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Beginning Level</th>
<th>Developing Level</th>
<th>Mastery</th>
</tr>
</thead>
<tbody>
<tr>
<td>This column shows the detail item that was assessed</td>
<td>Characteristics reflecting a beginning level of performance. 1 or 2 of 4 elements included</td>
<td>Characteristics reflecting a movement toward mastery of performance. 3 of 4 elements included</td>
<td>Characteristics reflecting the highest level of performance</td>
</tr>
</tbody>
</table>

No. shows the actual number of students performing at this level. % shows the percentage of all students participating in the assessment that this number represents.
### Results After Completing the Residential Wall Framing Learning Unit:

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Beginning Level</th>
<th>Developing Level</th>
<th>Mastery</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. / %</td>
<td>No. / %</td>
<td>No. / %</td>
</tr>
<tr>
<td>A. Completeness</td>
<td>5 / 12%</td>
<td>25 / 35%</td>
<td>38 / 53%</td>
</tr>
<tr>
<td>B. Correctness</td>
<td>4 / 6%</td>
<td>32 / 45%</td>
<td>35 / 49%</td>
</tr>
<tr>
<td>C. Notation</td>
<td>10 / 14%</td>
<td>21 / 30%</td>
<td>40 / 56%</td>
</tr>
<tr>
<td>D. Symbols</td>
<td>9 / 13%</td>
<td>17 / 24%</td>
<td>45 / 63%</td>
</tr>
</tbody>
</table>

**Method 2: POST RESIDENTIAL CONSTRUCTION LEARNING UNIT EXAM**

Explanation of how to interpret the data:

- **Beginning Level**: Characteristics reflecting a beginning level of performance. 1 to 3 of 10 elements identified.
- **Developing Level**: Characteristics reflecting a movement toward mastery of performance. 4 to 7 elements identified.
- **Mastery**: Characteristics reflecting the highest level of performance. 8 to 10 elements identified.

No. shows the actual number of students performing at this level.

% shows the percentage of all students participating in the assessment that this number represents.

### Results After Completing the Residential Wall Framing Learning Unit:

<table>
<thead>
<tr>
<th></th>
<th>No. / %</th>
<th>No. / %</th>
<th>No. / %</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Identify 10 wood assembly elements</td>
<td>15 / 21%</td>
<td>11 / 15%</td>
<td>445 / 64%</td>
</tr>
</tbody>
</table>

### What did the department learn?

1) Group performance in creating residential construction system drawings shows 88% of
1) How did group performance compare to the benchmark?  
2) How does the data compare to the previous year, if applicable?  
3) If multiple measures were used, how do they compare to each other?  

| 1) The department feels that student performance on this outcome is strong.  
2) We will continue to refine our course content delivery and assessment methods to increase student mastery of residential construction system drawings. Residential construction systems will be emphasized in course content across the department curriculum.  |
|---|---|
| students achieving a mastery of the ability to draw a complete wood frame wall detail. Our benchmark goal was 70%.  
2) This is substantially higher than the previous year results.  
3) The written test results tended to be lower. We believe this may be a result of architecture students’ response to visual information.  |

**Student performance summary**  
1) Based on the findings, how does the department rate student performance in regards to this outcome (strong, weak, or neutral)?  
2) How does this assessment affect plans for this coming year in terms of curricula, teaching strategies, and assessment methods?
<table>
<thead>
<tr>
<th>Outcome #: 2</th>
<th>Outcome Title: Demonstrate the ability to create commercial construction system drawings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome Type</strong> (choose by bolding): Discipline/Program</td>
<td><strong>Outcome Description:</strong> Students will draw a steel frame beam-to-beam connection detail</td>
</tr>
<tr>
<td><strong>Benchmark for success</strong></td>
<td>1) Students will participate in this assessment during the third semester commercial drafting class. 50% of students will strive to reach a mastery level on each benchmark. Mastery level is defined as the correct inclusion of the following elements:</td>
</tr>
</tbody>
</table>
| | a. completeness of detail  
b. correct dimensions of each drawn member  
c. correct notation of each drawn member  
d. correct material symbols used |
| 2) Rationale: This benchmark represents an architectural drawing skill that encompasses several basic prerequisite skills. |
| **Description of assessment process:** | Method 1) A common drawing project with applied rubric  
Method 2) Pre/post test  
2) Students are actively engaged in creating requisite construction system drawings and identifying the components of those drawings. Improvement is noted because the two measurement methods are administered at different points in the class.  
3) This outcome is measured each semester in order to gain a larger sample size for comparison.  
4) Method 1: 12 students  
Method 2: 12 students |
| **Results** | **A. STEEL FRAME BEAM-TO-BEAM CONNECTION DETAIL**  
Explanation of how to interpret the data:  
This column shows the detail item that was assessed  
Characteristics reflecting a beginning level of performance.  
1 or 2 of 4 elements included  
Characteristics reflecting a movement toward mastery of performance.  
3 of 4 elements included  
Characteristics reflecting the highest level of performance |

**Benchmark: Beginning Level Developing Level Mastery**
Results After Completing the Steel Framing Learning Unit:

**Benchmark: Beginning Level Developing Level Mastery**

<table>
<thead>
<tr>
<th></th>
<th>No. / %</th>
<th>No. / %</th>
<th>No. / %</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Completeness</td>
<td>1 / 8%</td>
<td>4 / 33%</td>
<td>7 / 59%</td>
</tr>
<tr>
<td>B. Correctness</td>
<td>3 / 25%</td>
<td>3 / 25%</td>
<td>6 / 50%</td>
</tr>
<tr>
<td>C. Notation</td>
<td>2 / 17%</td>
<td>1 / 8%</td>
<td>9 / 75%</td>
</tr>
<tr>
<td>D. Symbols</td>
<td>1 / 8%</td>
<td>3 / 25%</td>
<td>8 / 67%</td>
</tr>
</tbody>
</table>

A. *Post Commercial Construction System Learning Unit Exam*

Explanation of how to interpret the data:

- Characteristics reflecting a beginning level of performance. 1 to 2 of 5 elements identified
- Characteristics reflecting a movement toward mastery of performance. 3 to 4 elements identified
- Characteristics reflecting the highest level of Performance. 5 elements identified

**Benchmark: Beginning Level Developing Level Mastery**

<table>
<thead>
<tr>
<th></th>
<th>No. / %</th>
<th>No. / %</th>
<th>No. / %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. shows the actual number of students performing at this level.</td>
<td>% shows the percentage of all students participating in the assessment that this number represents.</td>
<td></td>
</tr>
</tbody>
</table>
## Benchmark: Beginning Level Developing Level Mastery

<table>
<thead>
<tr>
<th></th>
<th>No. / %</th>
<th>No. / %</th>
<th>No. / %</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Identify 5 welded steel assembly elements</td>
<td>3/25%</td>
<td>2/17%</td>
<td>7/58%</td>
</tr>
</tbody>
</table>

### What did the department learn?

1) How did group performance compare to the benchmark?
2) How does the data compare to the previous year, if applicable?
3) If multiple measures were used, how do they compare to each other?

1) 85% of students moved from a beginning to a mastery level in the ability to draw a complete steel frame connection detail. Our benchmark goal was 50%.
2) This is up from the previous year results.
3) The written test results tended to be lower. We believe this may be a result of architecture students’ preference for visual learning over written information.

### Student performance summary

1) Based on the findings, how does the department rate student performance in regards to this outcome (strong, weak, or neutral)?
2) How does this assessment affect plans for this coming year in terms of curricula, teaching strategies, and assessment methods?

1) The department feels that student performance on this outcome is remains strong with a majority of students reaching mastery level.
2) We will continue to refine our course content delivery and assessment methods to increase student mastery of commercial construction system drawings. Commercial construction systems will be emphasized in course content across the department curriculum.
<table>
<thead>
<tr>
<th>Outcome #: 3</th>
<th><strong>Outcome Title:</strong> Demonstrate ability to organize and coordinate construction documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome Type:</strong> General Ed: Critical Thinking</td>
<td><strong>Outcome Description:</strong> Students will assemble and correctly organize and reference a set of construction documents.</td>
</tr>
</tbody>
</table>

**Benchmark for success**
1) Please specify what percentage of the sample size is expected to meet or exceed your benchmark.
2) What is the rationale for choosing this measure?

1) 80% of students will strive to correctly coordinate two or more supplementary drawings with the floor plan.
2) Rationale: This benchmark represents an architectural technology skill that encompasses several basic skills as well as the critical thinking skills of problem solving, concept identification, and clear data analysis.

**Description of assessment process:**
1) What assessment methods were used to measure this outcome (i.e. pre/post test, portfolio review, etc.)?
2) How do these methods show students are learning?
3) What frequency is this outcome being measured (i.e.: each semester, yearly, every other year, etc.) and why?
4) How many students made up the sample size?

1) Students are required to compile a set of construction documents showing correct organization and coordination of:
   - Floor Plans
   - Exterior Elevations
   - Building Sections
   - Interior Elevations
2) Students are actively engaged in creating requisite construction documentation and identifying and referencing the components of those drawings. Improvement is noted because measurement methods are administered at different points in the class.
3) This outcome is measured each semester to gain a representative sample for assessment.
4) 71 students

**Results**
What were the results of the assessment process? (List results for each method, if more than one were used.)

No. shows the actual number of students performing at this level.
% shows the percentage of all students participating in the assessment that this number represents.

<table>
<thead>
<tr>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>25%</td>
</tr>
<tr>
<td>25</td>
<td>35%</td>
</tr>
<tr>
<td>28</td>
<td>40%</td>
</tr>
</tbody>
</table>

**What did the department learn?**
1) How did group performance compare to the benchmark?
2) How does the data compare to the previous year, if applicable?
3) If multiple measures were used, how do they compare to each other?

1)75% of students were able to correctly organize and coordinate construction documents compared to a benchmark goal of 80%.
2) Results of this assessment declined by 18% from the previous year in percentages and number of students possibly owing to the larger number of students participating.
<table>
<thead>
<tr>
<th><strong>Student performance summary</strong></th>
<th>1) Based on the findings, how does the department rate student performance in regards to this outcome (strong, weak, or neutral)? 2) How does this assessment affect plans for this coming year in terms of curricula, teaching strategies, and assessment methods?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1) Student performance on this outcome is weak. 2) We will continue to refine our course content delivery and assessment methods. 3) Greater emphasis will be placed on the critical thinking aspect of construction documentation.</td>
</tr>
</tbody>
</table>
Part 2: Current Academic Year Assessment Plan

Current Academic Year 2009-2010

Intended Learning Outcomes (only include if they differ from those noted in Part 1)

Learner outcomes will be same as previous year.

Assessment Method(s) (only include if they differ from those noted in Part 1)

Assessment methods will be same as previous year.

Benchmarks (only include if they differ from those noted in Part 1)

Benchmarks will be same as previous year.

Have you submitted a separate budget worksheet? (Choose by bolding; for information about this worksheet, please refer to the specific budgeting e-mail sent by the committee chairperson.)

No

Please submit this report (including both last year's summary and this year's plan) in a Word document to the Program Assessment committee chairperson (Cheyne Bamford: cheyne.bamford@arapahoe.edu). If you have any questions about the process, please contact the chairperson.