

**ASSESSMENT REPORT
(ARCHITECTURAL TECHNOLOGY)**

ASSESSMENT SUMMARY (2005/2006)

A. Program/Discipline 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.

B. Intended Outcomes

1. Demonstrate the ability to create residential construction system drawings:
 - a. Measured by the ability to draw a wood frame wall detail.
 - b. Measured by pre-and-post learning unit written test.
2. Demonstrate the ability to create commercial construction system drawings
 - a. Measured by the ability to draw a steel beam-to-beam connection detail.
 - b. Measured by pre-and-post learning unit test.
3. Demonstrate the ability to organize a set of construction documents
 - a. Measured by pre-and-post learning unit test.
 - b. Measured by capstone construction document project.

C. Benchmarks

I. Demonstrate the ability to create residential construction system drawings

A. Wood Frame Wall Detail

1. Elements
 - a. Completeness of detail
 - b. Correct dimensions of each drawn member
 - c. Correct notation of each drawn member
 - d. Correct material symbols used
2. Level of Achievement
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 elements listed above.

B. Wood Frame Wall Detail pre-and-post learning unit test:

1. Elements

Students are required to identify 10 separate members of a wood frame wall assembly.

2. Level of Achievement

70% of students in first semester architectural drawing classes will strive to reach a developing level or better on the post learning unit test. Developing level is defined as correct identification of 4 to 7 of 10 wood frame wall assembly members.

II. Demonstrate the ability to create commercial construction system drawings

A. Steel Frame Beam-to-Beam Connection Detail

1. Elements

1. completeness of detail
2. correct dimensions of each drawn member
3. correct notation of each drawn member
4. correct material symbols used

2. Level of Achievement

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 all elements above.

B. Pre and post Learning unit exam

1. Students are required to identify 5 elements that make up a steel frame welded assembly.

III. Demonstrate the ability to organize a set of construction documents

A. Construction Document Organization Test

1. Elements

Pre and post construction document learning unit assessment test will consist of ten questions in which students will demonstrate knowledge of:

- Pictorial drawings
- Working drawings
- Orthographic projection
- Customary measurement
- Line type
- Scales

2. Level of Achievement

Students will participate in the pre-and-post construction document organization test during the first semester architectural drafting class. Students will strive to score 80% or above on the post unit test.

B. Capstone Construction Document Project

1. Elements

Students are required to compile an abbreviated set of construction documents showing correct coordination of:

- Floor Plans
- Exterior Elevations
- Building Sections
- Interior Elevations

2. Level of Achievement

80% of students will strive to correctly coordinate two or more supplementary drawings with the floor plan.

D. Assessment Results

1. Historical Context

- Over the past two years' assessment vehicles have been evaluated and written to more closely focus on the stated outcomes for the architecture program. We have gone from vague statements of architectural drawing ability to very precise objectives in a measurable format.
- Previous assessments of learning outcomes have resulted in increased focus on construction documentation in all sections of the architectural drawing courses. The architectural technology curriculum has been updated to incorporate the Construction Specifications Institute Uniform Drawing Format.
- Student learning has been measurable in its improvement as assessment vehicles have been put in place and refined.

2. Current Year Data Results

I. Demonstrate the ability to create residential construction system drawings

A. WOOD FRAME WALL DETAIL

Explanation of how to interpret the data:

This column shows Characteristics Characteristics Characteristics

the detail item that was assessed	reflecting a beginning level of performance. 1 or 2 of 4 elements included	reflecting a movement toward mastery of performance. 3 of 4 elements included	reflecting the highest level of performance
<u>Benchmark</u>	<u>Beginning Level</u>	<u>Developing Level</u>	<u>Mastery</u>
	No. / %	No. / %	No. / %
	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:

<u>Benchmark</u>	<u>Beginning Level</u>	<u>Developing Level</u>	<u>Mastery</u>
	No. / %	No. / %	No. / %
A. Completeness	3 / 5%	14 / 25%	37 / 70%
B. Correctness	0 / 0%	14 / 25%	40 / 75%
C. Notation	14 / 25%	13 / 25%	27 / 50%
D. Symbols	4 / 7%	23 / 43%	27 / 50%

B. POST RESIDENTIAL CONSTRUCTION LEARNING UNIT EXAM

Explanation of how to interpret the data:

	Characteristics reflecting a beginning level of performance. 1 to 3 of 10 elements identified	Characteristics reflecting a movement toward mastery of performance. 4 to 7 elements identified	Characteristics reflecting the highest level of performance. 8 to 10 elements identified
<u>Benchmark</u>	<u>Beginning Level</u>	<u>Developing Level</u>	<u>Mastery</u>
	No. / %	No. / %	No. / %
	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:

Benchmark	Beginning Level	Developing Level	Mastery
	No. / %	No. / %	No. / %

A. Identify 10 wood assembly elements	4 / 10%	14 / 25%	36 / 65%
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3. Demonstrate the ability to create commercial construction system drawings

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
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Benchmark	Beginning Level	Developing Level	Mastery
	No. / %	No. / %	No. / %

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 Steel Framing Learning Unit:

Benchmark	Beginning Level	Developing Level	Mastery
	No. / %	No. / %	No. / %

A. Completeness	2 / 13%	3 / 20%	10 / 67%
B. Correctness	1 / 6%	4 / 27%	10 / 67%
C. Notation	2 / 13%	4 / 27%	9 / 60%
D. Symbols	1 / 6%	3 / 20%	11 / 74%

B. Post Commercial Construction System Learning Unit Exam

Explanation of how to interpret the data:

Characteristics reflecting a beginning level of performance.	Characteristics reflecting a movement toward mastery of	Characteristics reflecting the highest level of
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Benchmark	Beginning Level	Developing Level	Mastery
	1 to 2 of 5 elements identified	performance. 3 to 4 elements identified	Performance. 5 elements identified
	No. / %	No. / %	No. / %
	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:

Benchmark	Beginning Level	Developing Level	Mastery
	No. / %	No. / %	No. / %
A. Identify 5 welded steel assembly elements	3 / 20%	7 / 47%	5 / 33%

III. Demonstrate the ability to organize a set of Construction Documents.

A. CONSTRUCTION DOCUMENT ORGANIZATION TEST

Score represents the number of correct answers out of ten.
 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.

Benchmark	Score	No./%
	80% - 100%	24 / 47%
	60% - 79%	14 / 27%
	40% - 59%	10 / 20%
	Below 40%	3 / 6%

B. Capstone Construction Document Project

Score represents the number of drawings which have been coordinated with the floor plan

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.

Benchmark	
Score	No./%
1 drawing coordinated	6/12%
2 drawings coordinated	20/39%
3 drawings coordinated	25/49%

3. Analysis

- **Demonstrate the ability to create residential construction system drawings as measured by the ability to draw a wood frame wall detail.**

The Residential Wall Framing Learning Unit continues to be successful with 70% of students moving from a beginning to a mastery of the ability to draw a complete wood frame wall detail. We will continue to refine our course content delivery and assessment methods to increase student mastery of residential construction system drawings.

- **Demonstrate the ability to create commercial construction system drawings as measured by the ability to draw a steel beam-to-beam connection detail.**

67% of the students achieved mastery of the ability to draw a complete steel beam-to-beam connection detail. This number represents a lower percentage of students achieving mastery when compared to the previous year; however the actual number of students achieving mastery has risen. This is due to the increased enrollment with greater numbers of students participating in the assessment. We view this as a positive development.

- **Demonstrate the ability to organize a set of construction documents as measured by pre-and-post learning unit tests.**

Results of this assessment have incrementally improved over previous years in percentages or number of students. We will continue refining the content delivery modes and assess this objective again.

E. Use of Results

- Construction Specifications institute Uniform Drawing Format Modules have been successfully incorporated into our commercial drawing course. We will continue to emphasize these modules as we begin a new round of assessments.
- We will concentrate on incorporating a digital approach to delivery during the next cycle especially in the organization of construction documents learning unit.
- Sharing this Information
This information will be shared with the chairs of both the Architectural Technology and the Construction Supervision Advisory Committees.
It will also be shared with adjunct faculty members as our department expands the formal assessment data gathering process. This sharing will be used to facilitate revised learning unit delivery approaches.

Architectural Technology

Assessment Plan 2006/2007

I. Program Intended Learner Outcomes

- C. Demonstrate Ability to Create Residential Construction System Drawings
- D. Demonstrate Ability to Create Commercial Construction System Drawings
- E. Demonstrate Knowledge of Construction Document Organization

II. Assessment Methods for Each Outcome

- A. (Residential Construction)
 - 1. Measured by the ability to draw a wood frame wall detail
 - 2. Measured by pre-and-post learning unit test
- B. (Commercial Construction)
 - 1. Measured by the ability to create a steel frame beam-to-beam connection detail
 - 2. Measured by pre-and-post learning unit test
- C. (Construction Document Organization)
 - 1. Measured by a pre-C.D. and post C.D. learning unit written exam
 - 2. Measured by capstone C.D. project

III. Assessment Benchmarks

- A. (Residential Construction)
 - 1. Wood Frame Wall Detail
 - a. Benchmarks
 - completeness of detail
 - correct dimensions of each drawn member
 - correct notation of each drawn member

correct material symbols used

b. Level of Achievement

We will strive for 75% of students in first semester architectural drafting class to reach a mastery level on each benchmark in creating the wood frame wall detail.

2. Pre-and-post learning unit test

a. Benchmarks

1. Elements

Students will identify 10 separate members of a wood frame wall assembly.

2. Level of Achievement

Students in first semester architectural drawing classes will strive to reach a developing level or better on the post learning unit test.

B. (Commercial Construction)

1. Steel Frame Beam-to-Beam Connection Detail

a. Benchmarks

completeness of detail

correct dimensions of each drawn member

correct notation of each drawn member

correct material symbols used

b. Level of Achievement

This assessment will take place in the third semester commercial drafting class. The expectation will be that 80% of students will reach a mastery level on each benchmark.

2. Pre-and-post learning unit test

a. Benchmarks

Students will identify 5 elements that make up a steel frame welded assembly.

b. Level of achievement

80% of students in commercial drawing classes will correctly identify 3 or more elements of a steel frame welded assembly.

C. (Construction Document Organization)

1. Pre-and-post learning unit test

a. Benchmarks

Construction Document Organization Assessment Test

3. Elements

Pre and post construction document learning unit assessment test will consist of ten questions in which students will demonstrate knowledge of:

- Pictorial drawings
- Working drawings
- Orthographic projection
- Customary measurement
- Line type
- Scales

b. Level of Achievement

The pre-and-post construction document organization test will take place during the first semester architectural drafting class. The expectation will be that 70% of the students will score 80% or above on the post unit test.

2. Capstone C.D. Project

a. Benchmarks

Students will compile an abbreviated set of construction documents showing correct coordination of:

- Floor Plans
- Exterior Elevations
- Building Sections
- Interior Elevations

b. Level of achievement

80% of students will strive to correctly coordinate two or more supplementary drawings with the floor plan.