

## Architectural Engineering Technology (ACT)

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## **Program Summary ACT**

The ACT program provides students with a broad-based education with an emphasis on critical thinking, technical problem-solving ability, and computer applications in addition to a background in architectural design. The ACT program is committed to producing graduates who possess the necessary skills, critical thinking, discipline and work ethics to enter the Architecture/Engineering/Construction (A/E/C) industry fully capable of performing entry-level tasks at the office and in the field. Complex engineering systems keep modern buildings functioning. An architectural engineering technologist must understand civil infrastructure, plumbing, mechanical, electrical & lighting, and structural systems as well as the environmental & sustainability issues that are essential to a building's lifecycle. A degree in this field requires an orientation to the general principles of architectural design & multiple engineering disciplines and must include theoretical comprehension & practical skills of each. Graduates serve as architectural technologists for construction documentation (plans and specifications), CADD building data managers, construction project managers, facilities managers, systems engineers, and sales representatives for construction products; around 10% of our graduates continue their education to obtain architectural licenses. The Program Educational Objective of the ACT program is: "Graduates possess the necessary skills, critical thinking, discipline and work ethics to enter the A/E/C industry fully capable of performing entry-level tasks consistent with the expectations of employers." This fully supports the Mission of the Institution by cultivating intellectual development and creativity through the generation and application of knowledge. Recent survey responses indicate our alumni in all program areas are more than satisfied with their degree in the areas of critical thinking, teamwork, communication skills, design process, ethics, modern techniques, professionalism, diversity, lifelong learning and preparation (ETAC-ABET accreditation self-studies 2009). It should be noted here that ETAC-ABET no longer requires the definition of a Program Educational Objective as of this past October 2012. ACT is also responsive to IHL priorities in a number of ways: educating a reentering workforce, operates in the black, has substantial industry support to supplement state resources, and has taken innovative approaches to curriculum delivery such as development for delivery online.

## **Continuous Improvement Initiatives/Additional Action Plans**

The primary action plan which is always ongoing is the delivery of assessment presentations to faculty to illustrate the School of Construction approach to course-based assessment. This program underwent a 6th year ETAC-ABET accreditation visit in fall 2010. From that visit, it was apparent that the program objectives in WeaveOnline did not provide adequate resolution from program level to course level. The organization of supporting materials and student samples of work was also extremely difficult to collect and organize in a meaningful manner. It was decided then to reorganize the program learning outcomes to exactly map to the ETAC-ABET general and program specific criteria with direct linkages from each course in the program that supported particular criteria. This is now our fourth cycle using this approach it has resulted in overall objective areas average over 90% for the last two cycles. This result occurred despite a number of course reassignments and new faculty with new course developments that needed to embed these assessment processes into their activities. Each program must continue to reevaluate the mapping of course objectives to the program accreditation criteria listed below. For the Architectural Engineering Technology program, these criteria are as follows:

General Criteria for all baccalaureate degree programs, these student outcomes must include, but are not limited to, the following learned capabilities:

## School of Construction Program Outcomes

2013-2014

- a. an ability to select and apply the knowledge, techniques, skills, and modern tools of their disciplines to broadly-defined engineering technology activities,
- b. an ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies,
- c. an ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes,
- d. an ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives,
- e. an ability to function effectively as a member or leader on a technical team,
- f. an ability to identify, analyze, and solve broadly-defined engineering technology problems,
- g. an ability to communicate effectively regarding broadly-defined engineering technology activities,
- h. an understanding of the need for and an ability to engage in self-directed continuing professional development,
- i. an understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity,
- j. a knowledge of the impact of engineering technology solutions in a societal and global context, and k. a commitment to quality, timeliness, and continuous improvement.

Criteria Specific to Architectural Engineering Technology Associate degree programs (and our corresponding lower-division) must demonstrate that graduates are capable of:

- a. employing concepts of architectural theory and design in a design environment;
- b. utilizing modern instruments, methods and techniques to produce A/E documents and presentations;
- c. conducting standardized field and laboratory testing on construction materials;
- d. utilizing modern instruments and research techniques for site development and building layout;
- e. determining forces and stresses in elementary structural systems;
- f. estimating material quantities for technical projects;
- g. calculating basic loads and demands in mechanical and electrical systems;
- h. utilizing codes, contracts and specifications in design, construction and inspection activities; and
- i. employing productivity software to solve technical problems;

Baccalaureate degree programs must demonstrate that graduates, in addition to the competencies above, are capable of:

- a. creating, utilizing and presenting design, construction, and operations documents;
- b. performing economic analyses and cost estimates related to design, construction, and maintenance of building systems in the architectural engineering technical specialties;
- c. selecting appropriate materials and practices for building construction;
- d. applying principles of construction law and ethics in architectural practice;
- e. applying basic technical design concepts to the solution of architectural problems involving architectural history, theory and design; codes, contracts and specifications; electrical and mechanical systems, environmental control systems, plumbing and fire protection; site development; structures, material behavior, foundations; construction administration, planning and scheduling; and

- f. performing standard analysis and design in at least one recognized technical specialty within architectural engineering technology that is appropriate to the goals of the program.

Process Background: Faculty mapped each of their course objectives to the ETAC-ABET criteria using a listing of their assessment methods for each objective/criteria. This mapping provided evidence for which courses in the program inventory were supporting any given ETAC-ABET criteria. Additionally the mapping also provided a simple index system for staff to organize supporting materials by criteria for evaluation. ETAC-ABET requires only summative evidence, however this approach easily provides for formative inspection & evaluation of the curriculum. WeaveOnline Objectives reflect the exact ETAC-ABET criteria with two measures for each criteria: one direct and one indirect. The direct measures are the aggregated assessments for all student work samples (projects, exams, quizzes, papers) as determined by the faculty in their mapping exercise. The indirect measures are the graduate exit surveys and alumni surveys rewritten to also reflect the ETAC-ABET criteria.

Faculty then reported their findings for each section of their courses for fall 2012 and spring 2013. At the course level, it was decided to begin this process using targets of 80% of students would achieve 70 (out of 100) on the assessments. The findings were separated by program area the course might serve; for example, a course might have Architectural Engineering Technology (ACT), Construction Engineering Technology (BCT), Industrial Engineering Technology (IET), or other (OTHER) students. These findings were organized in a master spreadsheet organized so that the findings for each criteria for each program by semester and by delivery type (online or face-to-face) could be summed. This provides the total number of student samples for each criteria meeting the performance target versus total number of students being assessed. The findings for each criteria were then entered in WeaveOnline as annual summation values as well as being reported by semester and by type of site or delivery method. This system allows the program faculty to see the impact of their courses as a whole and individually on each criteria. Beyond the reporting system for SACS and ETAC-ABET, the faculty also now have a systematic approach to evaluate each of their course objectives using the defined performance target levels to look at weaknesses in each course.

### **Closing the Loop/Action Plan Tracking**

The ACT Program Coordinator will evaluate the Program Outcomes annually to identify objective areas which are trending towards underperforming. Based on the current cycle, objective areas are maintaining high levels of competency and therefore no immediate “major” revisions to the course-based objectives are necessary. However, ACT faculty will maintain and continuously improve the current methods of improvement to the overall quality & comprehension of the program which include at minimum:

- Annual individual faculty evaluations of the course-based instructional outcomes to identify areas of weakness within the frame-work of the ETAC-ABET criteria.
- Collective faculty reporting of course-based instructional outcomes that promote a collaborative problem solving approach to meeting the ETAC-ABET criteria across the program as well as individually within specific course sections.
- Interdepartmental reporting of course-based instructional outcomes to identify and encourage cross-disciplinary improvements in criteria outcomes for courses which have students enrolled from multiple degree programs within the School of Construction.
- Interdepartmental reporting of course-based instructional outcomes to refine and foster a multi-faceted approach to course delivery that results in higher success rates across all programs in courses which have students enrolled from multiple degree programs in the School of Construction.

## School of Construction Program Outcomes

2013-2014

- Support the University's initiative to identify earlier students who are at risk. This will inherently improve overall assessment numbers as students who do not complete the semester result in skewed and/or inconclusive evaluation results.

Continue to enforce faculty involvement at the program level rather than the course level in order to assure that ETAC-ABET criteria is being met across all courses in a collaborative and comprehensive manner.

### **Achievement Summary / Analysis**

What specifically did your assessments show regarding proven strengths or progress you made on outcomes/objectives?

Since we implemented a course-based approach to assessment in the 2010-2011 cycle, there has been a marked improvement in findings. The average of all outcomes has increased from 87% to 93% in the previous 2012-2013 cycle and 91% in the current 2013-2014 cycle. During the current cycle seven criteria outcomes were in the 84%-90% bracket with the remaining exceeding 90%. The focus on course-based findings that not only are correlated with the program outcomes but also provide direct feedback for the individual course objectives are proving to allow us to maintain standards above the 90% average across outcomes.

What specifically did your assessments show regarding any outcomes/objectives that will require continued attention?

Our assessment indicates that three outcomes/objective areas have dropped below the 90% mark since the 2012-2013 cycle. The focus on course-based findings provides direct feedback for the individual course objectives which will allow faculty to monitor and adapt to problem areas as they are identified. Annual evaluations that identify potential problem areas must be performed to establish pre-emptive strategies for improvement.



AEC 132/L	Course Objectives	General Criteria											Assoc & BS program criteria								BS program criteria										
		a	b	c	d	e	f	g	h	i	j	k	a	b	c	d	e	f	g	h	i	a	b	c	d	e	f				
	1. Practice freehand sketching skills of architectural/construction related items	3						3				3		3	3										3						
	2. Produce orthographic projections	2,3,4	2,3,4				2,4	2,3,4							2,3,4						2,4	2,3,4									
	3. Identify common architectural symbols	2,4,5						2,4,5																							
Germany	4. Identify common architectural abbreviations	2,4,5						2,4,5																							
Architectural Graphics	5. Identify common architectural terms	1						1																							
Architectural Graphics Laboratory	6. Create basic 2-D drawings using computer-aided drafting and design software	2,4	2,4				2,4	2,4			2,4		2,4	2,4	2,4						2,4	2,4									
	7. Create a partial drawing set of a residence using computer-aided drafting and design software	2,4	2,4				2,4	2,4			2,4		2,4	2,4	2,4						2,4	2,4									

**ASSESSMENT Tools**

1. Vocab Quizzes
2. CAD Exercises
3. Sketching Notebook
4. Final Project
5. Final Exam

Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio
FA13	F-F			FA13	ONL			SP14	F-F			SP14	ONL		
								1	5	6	83%				
								2	5	6	83%				
								3	6	6	100%				
								4	2	6	33%				
								5	3	6	50%				
			AVG				AVG				AVG				AVG
											50%				

AEC 204/L	Course Objectives	General Criteria											Assoc & BS program criteria								BS program criteria					
		a	b	c	d	e	f	g	h	i	j	k	a	b	c	d	e	f	g	h	i	a	b	c	d	e
Sharp	1. Identify the materials included in CSI Masterformat Divisions 3-14							6												6				6	6	
	2. Create a report on observations made of materials being applied on both commercial and residential construction sites	2						2	2	2		2								2				2		
	3. Define common construction processes and materials related terms	5		7,8				5-8							7,8					6				5-8	5-8	
ACT & BCT	4. Create a 1,250 - 1,750 word (5-7 pages) research paper about one construction material						3	3				3	3										3		3	
Building Materials	5. Create and discuss a layout of the location, type, and cost of materials found at both a general and specialized supplier	1						1	1			1							1				1			
Building Materials Laboratory	6. Demonstrate presentation skills by designing, developing, and delivering a formal presentation (10-15 minute) about building materials						4	4				4											4	4		

ASSESSMENT Tools	FA13 F-F				FA13 ONL				SP14 F-F				SP14 ONL				
	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	
	1. Supplier Report -- A layout of the location, type, and cost of materials found at both a general and specialized supplier	1	7	8	88%	1	1	1	100%	1	5	5	100%	1	1	1	100%
2. (2) Job Site Reports -- A report on observations made of materials being applied on both commercial and residential construction sites	2	6	8	75%	2	1	1	100%	2	5	5	100%	2	1	1	100%	
3. Research Project -- A 1,250 - 1,750 word (5-7 pages) research paper about one construction material	3	8	8	100%	3	1	1	100%	3	5	5	100%	3	1	1	100%	
4. Final Project Presentation -- A formal presentation (10-15 minutes) about the installation of one building material	4	8	8	100%	4	1	1	100%	4	5	5	100%	4	1	1	100%	
5. Quizzes 1-5 -- Quiz 1: glossary terms A-C; Quiz 2: glossary terms D-F; Quiz 3: glossary terms G-N; Quiz 4: glossary terms O-R; Quiz 5: glossary terms S-Z	5	8	8	100%	5	1	1	100%	5	5	5	100%	5	1	1	100%	
6. Exam One -- Covers Chapters: 1-2, 4-8, and Basic estimating	6	8	8	100%	6	1	1	100%	6	5	5	100%	6	1	1	100%	
7. Exam Two	7	8	8	100%	7	1	1	100%	7	5	5	100%	7	1	1	100%	
8. Final Exam	8	8	8	100%	8	1	1	100%	8	5	5	100%	8	1	1	100%	
				95%				100%				AVG	100%			AVG	100%





AEC 454	Course Objectives	General Criteria											BS program criteria						BS program criteria							
		a	b	c	d	e	f	g	h	i	j	k	a	b	c	d	e	f	g	h	i	a	b	c	d	e
Sharp ACT & BCT	1. Quantify and document three-dimensional materials represented by two-dimensional construction design drawings (Perform and display quantity surveying).	2-7									2-7						2-7			2-7	2-7	2-7				2-7
	2. Learn to algebraically resolve units of measure.	2-9	2-9					2-9			2-9						2-9			2-7	2-7	2-9				2-7
	3. Utilize the CSI Master Format to categorize and organize construction information.	7															7									
Estimating I	4. Visualize three dimensional structures and volumes from construction bidding documents (Construction drawing interpretation).	2-9	2-9					2-9			2-9						2-9			2-7	2-7	2-9				2-7
	5. Utilize the spreadsheet application and commercial software applications to automate quantity take-off.	1-7							1-7		1-7						1-7			1-7	1-7	1-7	1-7			1-7
	6. Interpret and conform to written technical specifications	7															7		7							
	7. Be productive in an environment of critical deadlines.	1-7									1-7						1-7									

ASSESSMENT Tools	FA13 F-F				FA13 ONL				SP14 F-F				SP14 ONL			
	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio
1. Exercise 1	1	7	7	100%									1	6	6	100%
2. Exercise 2	2	7	7	100%									2	6	6	100%
3. Exercise 3	3	7	7	100%									3	6	6	100%
4. Exercise 4	4	6	7	86%									4	6	6	100%
5. Exercise 5	5	6	7	86%									5	6	6	100%
6. Exercise 6	6	7	7	100%									6	6	6	100%
7. Final Project	7	7	7	100%									7	6	6	100%
8. Exam One	8	7	7	100%									8	6	6	100%
9. Exam Two	9	7	7	100%									9	6	6	100%
		AVG		97%										AVG		100%



ACT 235/L	Course Objectives	General Criteria											Assoc. & BS program criteria								BS program criteria						
		a	b	c	d	e	f	g	h	i	j	k	a	b	c	d	e	f	g	h	i	a	b	c	d	e	f
Germany	1. Identify pertinent codes related to light frame construction.	2-3												1-3						1-3		2-3			1		
	2. Apply the Drawing System (UDS) and AIA CAD Layer		2-3											1-3													
	3. Utilize architectural terms.			2-3	2-3																	2-3					
	4. Analyze various wall systems and be able to explain their characteristics.											1-3		1-3							2-3						
	5. Determine the proper foundation system for specific building types based on codes and zoning restrictions.											1-3									2-3	2-3		2-3			
Architectural Working Drawings I Architectural Working Drawings I Lab	6. Recognize the various graphic symbols used on construction plans.																				2-3						
	7. Design a roof plan for any given house based on a given systematic approach.											1-3		2-3							2-3	2-3					
	8. Select the best building system for the current project.													1-3							1-3	1,2					
	9. Revise site contours to conform to the grading requirements of a given site.													2-3							1-3	2-3					
	10. Site a building in an appropriate location on a lot based on solar, topographical, codes, and zoning restrictions.											1-3		2-3							1-3	1-3					
	11. Calculate the correct stair rise and run with proper riser and tread ratios.													2-3													
	12. Examine the various fireplace components and demonstrate proficiency in detailing.																					2-3					
	13. Specify millwork profiles and design casework utilizing a variety of materials.																										

ASSESSMENT Tools	FA13 F-F				FA13 ONL				SP14 F-F				SP14 ONL			
	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio
1. Theory									1	13	17	76%				
2. Working Dwg									2	14	17	82%				
3. Final Dwgs									3	13	17	76%				
			AVG				AVG				AVG	78%			AVG	

ACT 262/L	Course Objectives	General Criteria											Assoc & BS program criteria								BS program criteria					
		a	b	c	d	e	f	g	h	i	j	k	a	b	c	d	e	f	g	h	i	a	b	c	d	e
Palacios	1. Adopt a process for program research	1,2,3,4				2,3,4			1,2		1	1	1,2													1,3,4
	2. Synthesize research data	1,2,5			2	2,5	2	1,2,5		1,2	1	1,5	1,2							2						
	3. Translate data into a meaningful design solution	2,3,4,5,6			2	2,3,4,5	2,4	2,3,4,5,6				5	2,3,4	4,5								2,3,4,5,6			3,4	3,4,5
	4. Interpret site data	3				3								3								3			3	
Architectural Design I	5. Evaluate building systems using sustainable guidelines and select appropriate solutions	2,4,5				2,4,5	2,4	2,4,5	2	2,4		5										2,4,5		4	4	
Architectural Design I Laboratory	6. Build communication skills	2,3,4,5,6				2,3,4,5			2,6												5,6					
	7. Understand the design process and how to utilize building systems not only as functional components of design but also as a source for architectural expression and human comfort	2,4,5			2	2,4,5	2,4	2,4,5	1,2	2,4	1	1,5	2,4									2,4,5		4	4,5	

ASSESSMENT Tools	FA13 F-F				FA13 ONL				SP14 F-F				SP14 ONL			
	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio
1. Architectural Precedent									1	7	11	64%				
2. Programming Presentation									2	10	11	91%				
3. Site Design Presentation									3	11	11	100%				
4. Schematic Design Presentation									4	11	11	100%				
5. Final Presentation									5	11	11	100%				
6. Design Portfolio									6	10	11	91%				
			AVG				AVG				AVG	91%			AVG	



ACT 336/L	Course Objectives	General Criteria											Assoc & BS program criteria								BS program criteria					
		a	b	c	d	e	f	g	h	i	j	k	a	b	c	d	e	f	g	h	i	a	b	c	d	e
Germany	1. Produce clear, concise, contract documents based on National CAD Standards drafting conventions.	1-4																	1-4						1-4	
	2. Plan an architectural set of drawings through the use of mock-up drawing development.														1-4											
Architectural Working Drawings II	3. Integrate engineering technology and building science in the assembly of architectural details.				1-4																1-4					
Architectural Working Drawings II Laboratory	4. Spot common pitfalls in the development of contract documents that can potentially lead to change orders or arbitration.					1-4					1-4															

ASSESSMENT Tools	FA13 F-F				FA13 ONL				SP14 F-F				SP14 ONL			
	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio
1. Final Drawings	1	11	12	92%												
2. Field Reports	2	12	12	100%												
3. Working Dwgs	3	12	12	100%												
4. Quizzes	4	12	12	100%												
			AVG	98%			AVG				AVG				AVG	

ACT 338/L	Course Objectives	General Criteria											Assoc & BS program criteria								BS program criteria									
		a	b	c	d	e	f	g	h	i	j	k	a	b	c	d	e	f	g	h	i	a	b	c	d	e	f			
Germany	1. Develop non-structural framing and finish envelop shaping architectural space	1-4			1-4						1-4				1-4								1-4	1-4		1-4				
	2. Discern the suitability of an already developed detail from a previous project, a reference textbook, or industry	1-4			1-4		1-4				1-4				1-4								1-4	1-4		1-4	1-4			
	3. Show marked improvement on designating material components of architectural details	1-4			1-4		1-4		1-4			1-4							1-4				1-4	1-4		1-4	1-4			
Architectural Working Drawings III	4. Produce clear, concise, details based on National CAD Standards drafting conventions	1-4					1-4				1-4				1-4							1-4	1-4	1-4		1-4				
Architectural Working Drawings III Laboratory	5. To integrate working drawings with specifications through effective notation and referencing.	1-4					1-4				1-4				1-4							1-4	1-4	1-4		1-4				
	6. Detail proper and effective fire resistance details	1-4					1-4				1-4				1-4							1-4	1-4	1-4				1-4		
	7. Detail custom basic millwork	1-4					1-4				1-4				1-4							1-4	1-4	1-4		1-4				

ASSESSMENT Tools	FA13 F-F				FA13 ONL				SP14 F-F				SP14 ONL			
	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio
1. Final Dwgs									1	17	20	85%				
2. Field Reports									2	13	20	65%				
3. Theory Modules									3	19	20	95%				
4. Working Dwgs									4	17	20	85%				
			AVG				AVG				AVG	83%			AVG	

ACT 348	Course Objectives	General Criteria											Assoc & BS program criteria									BS program criteria					
		a	b	c	d	e	f	g	h	i	j	k	a	b	c	d	e	f	g	h	i	a	b	c	d	e	f
Germany	1. Create 3D visualizations from verbal and/or visual descriptions of building	1,2,3,4	1,2,3,4		1,2,3,4		1,2,3,4					1,2,3,4		1,2,3,4,5						1,2	1,2,3,4,5	1,2,3,4,5		1,2,3,4			
	2. Plan, organize, & develop models & utilize software tools as required to produce visual media for promotional, scheduling, or analysis.	1,2,3,4	1,2,3,4		1,2,3,4		1,2,3,4					1,2,3,4		1,2,3,4,5						1,2	1,2,3,4,5			1,2,3,4			
Modeling	3. Utilize typical vocabulary, graphic symbols, standards & language used in architecture, engineering, & construction to develop models.	1,2,3,4					1,2,3,4	1,2,3,4						1,2,3,4,5						1,2	1,2,3,4,5			1,2,3,4			

ASSESSMENT Tools	FA13 F-F				FA13 ONL				SP14 F-F				SP14 ONL			
	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio
1. Wall Section Models	1	8	9	89%												
2. Construction Animation	2	8	9	89%												
3. Texture & Materials	3	8	9	89%												
4. CAD to SketchUp	4	8	9	89%												
5. Final Portfolio	5	8	9	89%												
		AVG		89%												

ACT 364/L	Course Objectives	General Criteria											Assoc & BS program criteria								BS program criteria					
		a	b	c	d	e	f	g	h	i	j	k	a	b	c	d	e	f	g	h	i	a	b	c	d	e
Palacios	1. Adopt a process for program research	1,2,3,4				2,3,4			1,2		1	1	1,2													1,3,4
	2. Synthesize research data	1,2,5			2	2,5	2	1,2,5		1,2	1	1,5	1,2							2						
	3. Translate data into a meaningful design solution	2,3,4,5,6			2	2,3,4,5	2,4	2,3,4,5,6				5	2,3,4	4,5								2,3,4,5,6			3,4	3,4,5
	4. Interpret site data	3				3								3								3			3	
Architectural Design III	5. Evaluate building systems using sustainable guidelines and select appropriate solutions	2,4,5				2,4,5	2,4	2,4,5	2	2,4		5										2,4,5		4	4	
Architectural Design III Laboratory	6. Build communication skills	2,3,4,5,6				2,3,4,5			2,6																	
	7. Understand the design process and how to utilize building systems not only as functional components of design but also as a source for architectural expression and human comfort	2,4,5			2	2,4,5	2,4	2,4,5	1,2	2,4	1	1,5	2,4									2,4,5		4	4,5	

ASSESSMENT Tools	FA13 F-F				FA13 ONL				SP14 F-F				SP14 ONL			
	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio
1. Architectural Precedent									1	9	17	53%				
2. Programming Presentation									2	17	17	100%				
3. Site Design Presentation									3	17	17	100%				
4. Schematic Design Presentation									4	13	17	76%				
5. Final Presentation									5	17	17	100%				
6. Design Portfolio									6	16	17	94%				
			AVG				AVG				AVG	87%			AVG	





ACT 401	Course Objectives	General Criteria											Assoc. & BS program criteria									BS program criteria					
		a	b	c	d	e	f	g	h	i	j	k	a	b	c	d	e	f	g	h	i	a	b	c	d	e	f
Palacios	1. Illustrate building systems correctly.	3,4,6,8			3,4,6	3,6					6,8			3,4,6											3,4,6	3,4,6	
	2. Specify suitable system components.	5,6,7				6	5				5					6	6	6	6,7					6	5,6,7	5,6,7	
	3. Assemble drawings into a cohesive document.	3,4,6			3,4,6	3,6				6		6	3	3,4,6									3,4,6		3,4,6	3,4,6	
Senior Project II	4. Analyze industry data in the production of specifications.	7							7		7							7						7	7	7	
	5. Manage information gathered for the development of contract documents.	1,2			1	1,2	2	1	1,2	1		2	2														
	6. Evaluate and revise documents based on student and instructor assessments	3,4,5,8			3,4	3					5											3,4			3,4	3,4	
	7. Build communication skills.	1,2,3,6,8				1,2,3,6						2,8															
	8. Develop a multi-disciplinary approach to problem solving.	1			1	1				1	1																

ASSESSMENT Tools	FA13 F-F				FA13 ONL				SP14 F-F				SP14 ONL			
	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio
1. BIM Management Plan	1	6	6	100%					1	3	3	100%				
2. Code Research & Programming	2	6	6	100%					2	3	3	100%				
3. Schematic Design Construction Drawings	3	6	6	100%					3	3	3	100%				
4. Design Development Construction Drawings	4	5	6	83%					4	2	3	67%				
5. Sustainability Assessment	5	6	6	100%					5	1	3	33%				
6. Final Construction Drawings	6	6	6	100%					6	3	3	100%				
7. Specifications	7	6	6	100%					7	3	3	100%				
8. Design Presentation	8	6	6	100%					8	3	3	100%				
			AVG	98%							AVG	88%				

ACT 450	Course Objectives	General Criteria											Assoc & BS program criteria								BS program criteria						
		a	b	c	d	e	f	g	h	i	j	k	a	b	c	d	e	f	g	h	i	a	b	c	d	e	f
	1. Given BIM files, utilize standard software tools to make observations about design & constructability of building systems.	2,3	2,3			3	2,3	2,3	3			2,3	3	3						3						3	
Germany	2. Understand & provide feedback about the implementation and use of BIM during the design, construction, and occupancy phases of a building lifecycle.	1,2,3	1,2,3			1,3	1,2,3	1,2,3				1,2,3	1,3	1,2,3					1,2	3	1					3	
VR	3. Utilize typical vocabulary, standards & language to describe BIM concepts as they relate to architecture, engineering, construction & facilities management.	1,2,3	1,2,3			1,3	1,2,3	1,2,3				1,2,3	1,3	1,2,3					1,2	3	1					3	

ASSESSMENT Tools	FA13 F-F				FA13 ONL				SP14 F-F				SP14 ONL			
	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio
1. BIM Report									1	10	12	83%				
2. BIM & Navis Quizzes									2	10	12	83%				
3. Navisworks Exercises									3	8	12	67%				
			AVG				AVG				AVG	78%			AVG	



BCT 205/L	Course Objectives	General Criteria											Assoc & BS program criteria									BS program criteria								
		a	b	c	d	e	f	g	h	i	j	k	a	b	c	d	e	f	g	h	i	a	b	c	d	e	f			
Hannon	1. Measure with steel tape, correct for errors, and adjust for temperature and tension	1-3	1-3	1-3			1-3								1-3		1-3								1-3					1-3
	2. Understand the concept of differential leveling	1-3	1-3	1-3			1-3								1-3		1-3								1-3					1-3
	3. Use level and perform calculations in order to adjust for errors and close the loop	1-3	1-3	1-3			1-3								1-3		1-3								1-3					1-3
Surveying	4. Use transit and understand the concept of angles and directions	1-3	1-3	1-3			1-3								1-3		1-3							1-3					1-3	
	5. Calculate coordinates based on bearings and distances and vice versa, and also adjust for error closure	1-3	1-3	1-3			1-3								1-3		1-3							1-3					1-3	
	6. Perform construction layout (setting up points of known coordinates/and As-built)	1-3	1-3	1-3			1-3								1-3		1-3							1-3					1-3	
	7. Application of GPS and GIS technology used in Surveying and Construction Layout	1-3	1-3	1-3			1-3								1-3		1-3							1-3					1-3	
Hannon	1. Measuring Distances using Pacing	4,5	4,5	4,5		4,5							4,5																	
	2. Survey Field Note Standards	4,5	4,5	4,5		4,5							4,5																	
	3. Measuring building height using similar triangles	4,5	4,5	4,5		4,5							4,5																	
Surveying Laboratory	4. Determine the Finish Floor Elevation of a building using differential leveling	4,5	4,5	4,5		4,5							4,5																	
	5. Traverse survey	4,5	4,5	4,5		4,5							4,5																	
	6. Excel Spreadsheet of Compass Rule	4,5	4,5	4,5		4,5							4,5																	
	7. Building Layout	4,5	4,5	4,5		4,5							4,5																	

ASSESSMENT Tools	FA13 F-F				FA13 ONL				SP14 F-F				SP14 ONL			
	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio
1. Midterm					1	4	4	100%	1	7	7	100%				
2. Final Exam					2	4	4	100%	2	7	7	100%				
3 Research Paper					3	4	4	100%	3	7	7	100%				
			AVG				AVG	100%			AVG	100%				AVG

ASSESSMENT Tools	FA13 F-F				FA13 ONL				SP14 F-F				SP14 ONL			
	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio	Assessment	#students >= C	#students	Ratio
4 Leveling Exercises					4	4	4	100%	4	7	7	100%				
5 Traverse Exercises					5	4	4	100%	5	7	7	100%				
			AVG				AVG	100%			AVG	100%				AVG

# School of Construction Program Outcomes

2013-2014

## Findings: General Criteria (a-k)

GC	ACT criteria	ACT			sem	ACT			type	ACT			ACT			ACT concatenated findings
		>=70	ENR	%		>=70	ENR	%		>=70	ENR	%	>=70	ENR	%	
GC	a	1013	1128	90%	FA13	506	544	93%	F-F	483	521	93%	90	1,013	1,128	90% ( 1,013 of 1,128 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET General Criteria 'a'. FA13: F-F = 93% ( 483 of 521 ); ONL = 100% ( 23 of 23 ); SP14: F-F = 86% ( 423 of 493 ); ONL = 92% ( 84 of 91 );
					SP14	507	584	87%	ONL	23	23	100%				
									F-F	423	493	86%				
									ONL	84	91	92%				
GC	b	489	528	93%	FA13	227	238	95%	F-F	86	92	93%	93	489	528	93% ( 489 of 528 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET General Criteria 'b'. FA13: F-F = 93% ( 86 of 92 ); ONL = 97% ( 141 of 146 ); SP14: F-F = 85% ( 76 of 89 ); ONL = 93% ( 186 of 201 );
					SP14	262	290	90%	ONL	141	146	97%				
									F-F	76	89	85%				
									ONL	186	201	93%				
GC	c	112	119	94%	FA13	38	38	100%	F-F	16	16	100%	94	112	119	94% ( 112 of 119 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET General Criteria 'c'. FA13: F-F = 100% ( 16 of 16 ); ONL = 100% ( 22 of 22 ); SP14: F-F = 100% ( 45 of 45 ); ONL = 81% ( 29 of 36 );
					SP14	74	81	91%	ONL	22	22	100%				
									F-F	45	45	100%				
									ONL	29	36	81%				
GC	d	640	707	91%	FA13	380	414	92%	F-F	259	288	90%	91	640	707	91% ( 640 of 707 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET General Criteria 'd'. FA13: F-F = 90% ( 259 of 288 ); ONL = 96% ( 121 of 126 ); SP14: F-F = 87% ( 122 of 140 ); ONL = 90% ( 138 of 153 );
					SP14	260	293	89%	ONL	121	126	96%				
									F-F	122	140	87%				
									ONL	138	153	90%				
GC	e	294	310	95%	FA13	116	116	100%	F-F	108	108	100%	95	294	310	95% ( 294 of 310 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET General Criteria 'e'. FA13: F-F = 100% ( 108 of 108 ); ONL = 100% ( 8 of 8 ); SP14: F-F = 92% ( 178 of 194 ); ONL = 0% ( 0 of 0 );
					SP14	178	194	92%	ONL	8	8	100%				
									F-F	178	194	92%				
									ONL	0	0	0%				
GC	f	612	674	91%	FA13	302	316	96%	F-F	167	176	95%	91	612	674	91% ( 612 of 674 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET General Criteria 'f'. FA13: F-F = 95% ( 167 of 176 ); ONL = 96% ( 135 of 140 ); SP14: F-F = 83% ( 197 of 237 ); ONL = 93% ( 113 of 121 );
					SP14	310	358	87%	ONL	135	140	96%				
									F-F	197	237	83%				
									ONL	113	121	93%				
GC	g	819	909	90%	FA13	329	336	98%	F-F	321	328	98%	90	819	909	90% ( 819 of 909 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET General Criteria 'g'. FA13: F-F = 98% ( 321 of 328 ); ONL = 100% ( 8 of 8 ); SP14: F-F = 84% ( 407 of 483 ); ONL = 92% ( 83 of 90 );
					SP14	490	573	86%	ONL	8	8	100%				
									F-F	407	483	84%				
									ONL	83	90	92%				
GC	h	273	310	88%	FA13	104	106	98%	F-F	102	104	98%	88	273	310	88% ( 273 of 310 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET General Criteria 'h'. FA13: F-F = 98% ( 102 of 104 ); ONL = 100% ( 2 of 2 ); SP14: F-F = 83% ( 167 of 202 ); ONL = 100% ( 2 of 2 );
					SP14	169	204	83%	ONL	2	2	100%				
									F-F	167	202	83%				
									ONL	2	2	100%				
GC	i	355	391	91%	FA13	176	184	96%	F-F	175	183	96%	91	355	391	91% ( 355 of 391 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET General Criteria 'i'. FA13: F-F = 96% ( 175 of 183 ); ONL = 100% ( 1 of 1 ); SP14: F-F = 85% ( 96 of 113 ); ONL = 88% ( 83 of 94 );
					SP14	179	207	86%	ONL	1	1	100%				
									F-F	96	113	85%				
									ONL	83	94	88%				
GC	j	227	270	84%	FA13	66	64	103%	F-F	66	64	103%	84	227	270	84% ( 227 of 270 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET General Criteria 'j'. FA13: F-F = 103% ( 66 of 64 ); ONL = 0% ( 0 of 0 ); SP14: F-F = 78% ( 121 of 155 ); ONL = 78% ( 40 of 51 );
					SP14	161	206	78%	ONL	0	0	0%				
									F-F	121	155	78%				
									ONL	40	51	78%				
GC	k	638	702	91%	FA13	425	457	93%	F-F	409	441	93%	91	638	702	91% ( 638 of 702 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET General Criteria 'k'. FA13: F-F = 93% ( 409 of 441 ); ONL = 100% ( 16 of 16 ); SP14: F-F = 83% ( 153 of 185 ); ONL = 100% ( 60 of 60 );
					SP14	213	245	87%	ONL	16	16	100%				
									F-F	153	185	83%				
									ONL	60	60	100%				

Findings: Associate Level Criteria

	ACT criteria			sem			type			%			ACT concatenated findings			
	>=70	ENR	%	>=70	ENR	%	>=70	ENR	%	>=70	ENR	%	>=70	ENR	%	
AS	a	483	547	88%	FA13	248	271	92%	F-F	235	258	91%	88	483	547	88% ( 483 of 547 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Associate Degree Program Specific Criteria 'a'. FA13: F-F = 91% ( 235 of 258 ); ONL = 100% ( 13 of 13 ); SP14: F-F = 85% ( 234 of 275 ); ONL = 100% ( 1 of 1 );
					SP14	235	276	85%	ONL	13	13	100%				
									F-F	234	275	85%				
									ONL	1	1	100%				
AS	b	408	461	89%	FA13	221	243	91%	F-F	221	243	91%	89	408	461	89% ( 408 of 461 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Associate Degree Program Specific Criteria 'b'. FA13: F-F = 91% ( 221 of 243 ); ONL = 0% ( 0 of 0 ); SP14: F-F = 88% ( 147 of 167 ); ONL = 78% ( 40 of 51 );
					SP14	187	218	86%	ONL	0	0	0%				
									F-F	147	167	88%				
									ONL	40	51	78%				
AS	c	70	75	93%	FA13	30	30	100%	F-F	16	16	100%	93	70	75	93% ( 70 of 75 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Associate Degree Program Specific Criteria 'c'. FA13: F-F = 100% ( 16 of 16 ); ONL = 100% ( 14 of 14 ); SP14: F-F = 88% ( 38 of 43 ); ONL = 100% ( 2 of 2 );
					SP14	40	45	89%	ONL	14	14	100%				
									F-F	38	43	88%				
									ONL	2	2	100%				
AS	d	43	45	96%	FA13	30	30	100%	F-F	30	30	100%	96	43	45	96% ( 43 of 45 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Associate Degree Program Specific Criteria 'd'. FA13: F-F = 100% ( 30 of 30 ); ONL = 0% ( 0 of 0 ); SP14: F-F = 87% ( 13 of 15 ); ONL = 0% ( 0 of 0 );
					SP14	13	15	87%	ONL	0	0	0%				
									F-F	13	15	87%				
									ONL	0	0	0%				
AS	e	252	265	95%	FA13	133	138	96%	F-F	12	12	100%	95	252	265	95% ( 252 of 265 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Associate Degree Program Specific Criteria 'e'. FA13: F-F = 100% ( 12 of 12 ); ONL = 96% ( 121 of 126 ); SP14: F-F = 100% ( 8 of 8 ); ONL = 93% ( 111 of 119 );
					SP14	119	127	94%	ONL	121	126	96%				
									F-F	8	8	100%				
									ONL	111	119	93%				
AS	f	149	152	98%	FA13	81	84	96%	F-F	80	83	96%	98	149	152	98% ( 149 of 152 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Associate Degree Program Specific Criteria 'f'. FA13: F-F = 96% ( 80 of 83 ); ONL = 100% ( 1 of 1 ); SP14: F-F = 100% ( 13 of 13 ); ONL = 100% ( 55 of 55 );
					SP14	68	68	100%	ONL	1	1	100%				
									F-F	13	13	100%				
									ONL	55	55	100%				
AS	g	111	126	88%	FA13	12	12	100%	F-F	12	12	100%	88	111	126	88% ( 111 of 126 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Associate Degree Program Specific Criteria 'g'. FA13: F-F = 100% ( 12 of 12 ); ONL = 0% ( 0 of 0 ); SP14: F-F = 87% ( 99 of 114 ); ONL = 0% ( 0 of 0 );
					SP14	99	114	87%	ONL	0	0	0%				
									F-F	99	114	87%				
									ONL	0	0	0%				
AS	h	377	424	89%	FA13	178	187	95%	F-F	176	185	95%	89	377	424	89% ( 377 of 424 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Associate Degree Program Specific Criteria 'h'. FA13: F-F = 95% ( 176 of 185 ); ONL = 100% ( 2 of 2 ); SP14: F-F = 85% ( 151 of 178 ); ONL = 81% ( 48 of 59 );
					SP14	199	237	84%	ONL	2	2	100%				
									F-F	151	178	85%				
									ONL	48	59	81%				
AS	i	359	424	85%	FA13	160	169	95%	F-F	160	169	95%	85	359	424	85% ( 359 of 424 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Associate Degree Program Specific Criteria 'i'. FA13: F-F = 95% ( 160 of 169 ); ONL = 0% ( 0 of 0 ); SP14: F-F = 78% ( 159 of 204 ); ONL = 78% ( 40 of 51 );
					SP14	199	255	78%	ONL	0	0	0%				
									F-F	159	204	78%				
									ONL	40	51	78%				

Findings: Bachelor Level Criteria

ACT		criteria			sem			type			ACT concatenated findings					
		>=70	ENR	%	>=70	ENR	%	>=70	ENR	%	>=70	ENR	%			
BS	a	633	694	91%	FA13	331	364	91%	F-F	317	350	91%	91	633	694	91% ( 633 of 694 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Bacalaureate Degree Program Specific Criteria 'a'. FA13: F-F = 91% ( 317 of 350 ); ONL = 100% ( 14 of 14 ); SP14: F-F = 93% ( 218 of 235 ); ONL = 88% ( 84 of 95 );
									ONL	14	14	100%				
					SP14	302	330	92%	F-F	218	235	93%				
									ONL	84	95	88%				
BS	b	327	364	90%	FA13	193	216	89%	F-F	192	215	89%	90	327	364	90% ( 327 of 364 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Bacalaureate Degree Program Specific Criteria 'b'. FA13: F-F = 89% ( 192 of 215 ); ONL = 100% ( 1 of 1 ); SP14: F-F = 85% ( 79 of 93 ); ONL = 100% ( 55 of 55 );
									ONL	1	1	100%				
					SP14	134	148	91%	F-F	79	93	85%				
									ONL	55	55	100%				
BS	c	263	280	94%	FA13	157	159	99%	F-F	152	154	99%	94	263	280	94% ( 263 of 280 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Bacalaureate Degree Program Specific Criteria 'c'. FA13: F-F = 99% ( 152 of 154 ); ONL = 100% ( 5 of 5 ); SP14: F-F = 90% ( 74 of 82 ); ONL = 82% ( 32 of 39 );
									ONL	5	5	100%				
					SP14	106	121	88%	F-F	74	82	90%				
									ONL	32	39	82%				
BS	d	258	281	92%	FA13	115	117	98%	F-F	115	117	98%	92	258	281	92% ( 258 of 281 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Bacalaureate Degree Program Specific Criteria 'd'. FA13: F-F = 98% ( 115 of 117 ); ONL = 0% ( 0 of 0 ); SP14: F-F = 84% ( 74 of 88 ); ONL = 91% ( 69 of 76 );
									ONL	0	0	0%				
					SP14	143	164	87%	F-F	74	88	84%				
									ONL	69	76	91%				
BS	e	652	716	91%	FA13	322	335	96%	F-F	198	206	96%	91	652	716	91% ( 652 of 716 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Bacalaureate Degree Program Specific Criteria 'e'. FA13: F-F = 96% ( 198 of 206 ); ONL = 96% ( 124 of 129 ); SP14: F-F = 83% ( 216 of 259 ); ONL = 93% ( 114 of 122 );
									ONL	124	129	96%				
					SP14	330	381	87%	F-F	216	259	83%				
									ONL	114	122	93%				
BS	f	650	697	93%	FA13	365	391	93%	F-F	232	253	92%	93	650	697	93% ( 650 of 697 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Bacalaureate Degree Program Specific Criteria 'f'. FA13: F-F = 92% ( 232 of 253 ); ONL = 96% ( 133 of 138 ); SP14: F-F = 91% ( 132 of 145 ); ONL = 95% ( 153 of 161 );
									ONL	133	138	96%				
					SP14	285	306	93%	F-F	132	145	91%				
									ONL	153	161	95%				

**Action Plans**

<b>AEC 132 FF SP14</b>		<b>Performance &lt; target 80%</b>				<b>ACTION PLANS</b>
Shane Germany		<b>ACT</b>	<b>BCT</b>	<b>IET</b>	<b>ID / Other</b>	
Sketchbook			69			Construction students avoid "Hand sketching" exercises, refuse to submit; Monitor, evaluate & obtain feedback on why this trend is obvious to BCT and adapt
Sketchbook						
Sketchbook				33		Small sample size, similar to BCT comments
CAD Exercises				67		Small sample size, ,monitor
Quizzes				67		Small sample size, ,monitor
Final Exercise		33	75			14/22 ACT-BCT Students opted not to submit the final or submitted it grossly incomplete; Monitor, prepare students better for the reality of a culmulative final & time commitment;
Final Exercise				33	50	Small sample sizes, 2/5 IET-ID Students
Final Exam		50	63			13/22 Students opted not to submit the final or submitted it grossly incomplete; Monitor, prepare students better for the reality of a culmulative final & time commitment
Final Exam				33		Small sample size, monitor

<b>AEC 270 ONL SP14</b>		<b>Performance &lt; target 80%</b>				<b>ACTION PLANS</b>
Jessica Sharp		<b>ACT</b>	<b>BCT</b>	<b>IET</b>	<b>ID / Other</b>	
5. Homework 5			74			Cheating was discovered, so multiple students received a "0" for this assignment. Remediation: Course delivery has been altered to reduce cheating. Assignments are graded but awarded less credit towards the student's overall grade. Exams are now proctored, ensuring each student understands and retains the course materials.

<b>AEC 444 ONL FA13</b>		<b>Performance &lt; target 80%</b>				<b>ACTION PLANS</b>
Desmond Fletcher		<b>ACT</b>	<b>BCT</b>	<b>IET</b>	<b>ID / Other</b>	
A 2					50	No action required; small sample (2)
A 4					50	No action required; small sample (2)
A 9					50	No action required; small sample (2)
A 13					50	No action required; small sample (2)

<b>AEC 444 ONL SP14</b>		<b>Performance &lt; target 80%</b>				<b>ACTION PLANS</b>
Desmond Fletcher		<b>ACT</b>	<b>BCT</b>	<b>IET</b>	<b>ID / Other</b>	
ASSIGNMENT 1		50				improve review materials
ASSIGNMENT 1			59			improve review materials

Action Plans (Continued)

AEC 454 FF FA13		Performance < target 80%				ACTION PLANS
Jessica Sharp		ACT	BCT	IET	ID / Other	
3. Assignment 3			73			Cheating was discovered, so multiple students received a "0" for this assignment. Remediation: Course delivery has been altered to reduce cheating. Assignments are graded but awarded less credit towards the student's overall grade. Exams are now proctored, ensuring each student understands and retains the course materials.
5. Assignment 5			73			Cheating was discovered, so multiple students received a "0" for their submission. Remediation: Course delivery has been altered to reduce cheating. Assignments are graded but awarded less credit towards the student's overall grade. Exams are now proctored, ensuring each student understands and retains the course materials.

AEC 496 ONL FA13		Performance < target 80%				ACTION PLANS
Doris Kemp		ACT	BCT	IET	ID / Other	
1. Internship agreement					50	Low numbers of students: no action required
4. Implement conversation between instructor/supervisor			50			

ACT 234/L FF FA13		Performance < target 80%				ACTION PLANS
Shane Germany		ACT	BCT	IET	ID / Other	
Final Project				0	0	small sample, incomplete submission, monitor

ACT 235 FF SP14		Performance < target 80%				ACTION PLANS
Shane Germany		ACT	BCT	IET	ID / Other	
Theory		76				Students were not consistently submitting these assignments, likely due to open due dates (10 are required by Final); Increase emphasis on weight towards final average, set reminders & incremental due dates for each.
Final Dwgs		76				Three students did not complete the semester and did not withdraw; Monitor, attempt to contact students for feedback

ACT 262/L FF SP14		Performance < target 80%				ACTION PLANS
Hans Palacios		ACT	BCT	IET	ID / Other	
2 Architectural Precedent Final Paper		64				integrate assignments to enhance analytical and writing skills development

Action Plans (Continued)

<b>ACT 322 FF FA13</b>	<b>Performance &lt; target 80%</b>				<b>ACTION PLANS</b>
Shane Germany	<b>ACT</b>	<b>BCT</b>	<b>IET</b>	<b>ID / Other</b>	
Research Paper	<b>71</b>				Evidence of lack of proof reading, finalizing, spelling, & gramatic errors; Implement peer reviewed drafts, emphasize writing center collaboration

<b>ACT 338 FF SP14</b>	<b>Performance &lt; target 80%</b>				<b>ACTION PLANS</b>
Shane Germany	<b>ACT</b>	<b>BCT</b>	<b>IET</b>	<b>ID / Other</b>	
Field Reports	<b>65</b>				Students were not consistently submitting these assignments, likely due to open due dates (10 are required by Final); Increase emphasis on weight towards final average, set reminders & incremental due dates for each.

<b>ACT 364/L FF SP14</b>	<b>Performance &lt; target 80%</b>				<b>ACTION PLANS</b>
Hans Palacios	<b>ACT</b>	<b>BCT</b>	<b>IET</b>	<b>ID / Other</b>	
2 Architectural Precedent Final Paper	<b>53</b>				integrate assignments to enhance analytical and writing skills development
8 Schematic Design Final	<b>76</b>				develop strategies to reinforce design process; effectively communicate assignment instructions and objectives

<b>ACT 380 FF SP14</b>	<b>Performance &lt; target 80%</b>				<b>ACTION PLANS</b>
Doris Kemp	<b>ACT</b>	<b>BCT</b>	<b>IET</b>	<b>ID / Other</b>	
1. Exam 1	<b>54</b>				Students failed to prepare adequately for Exam #1 and stated that they had several exams the same day; The CDT exam is very difficult and the pass rate on the first attempt is low nation wide. The instructor will perform a detailed analysis of exam results and incorporate additional material in the course to improve the outcome of student performance on the CDT exam. This group of students also failed to show up for Friday evening study sessions and many were enrolled in Senior Project classes.
6. CDT Exam	<b>8</b>				Students failed to prepare adequately for Exam #1 and stated that they had several exams the same day; The CDT exam is very difficult and the pass rate on the first attempt is low nation wide. The instructor will perform a detailed analysis of exam results and incorporate additional material in the course to improve the outcome of student performance on the CDT exam. This group of students also failed to show up for Friday evening study sessions and many were enrolled in Senior Project classes.

Action Plans (Continued)

<b>ACT 400 FF SP14</b>	<b>Performance &lt; target 80%</b>				<b>ACTION PLANS</b>
Hans Palacios	<b>ACT</b>	<b>BCT</b>	<b>IET</b>	<b>ID / Other</b>	
2 Code & Programming	<b>60</b>				integrate assignments to enhance analytical and writing skills development
5 Sustainability Assessment	<b>20</b>				integrate assignments to enhance analytical and writing skills development

<b>ACT 401 FF SP14</b>	<b>Performance &lt; target 80%</b>				<b>ACTION PLANS</b>
Hans Palacios	<b>ACT</b>	<b>BCT</b>	<b>IET</b>	<b>ID / Other</b>	
4 Design Development	<b>60</b>				small sample in this case; just monitor
5 Sustainability Assessment	<b>20</b>				integrate assignments to enhance analytical and writing skills development

<b>ACT 450 FF SP14</b>	<b>Performance &lt; target 80%</b>				
Shane Germany	<b>ACT</b>	<b>BCT</b>	<b>IET</b>	<b>ID/Other</b>	
Bim Report	<b>67</b>				Two students did not complete the semester, one WP; Monitor, request student feedback if contact can be made

<b>ACT 465/L FF FA13</b>	<b>Performance &lt; target 80%</b>				<b>ACTION PLANS</b>
Hans Palacios	<b>ACT</b>	<b>BCT</b>	<b>IET</b>	<b>ID / Other</b>	
5 Exam	<b>75</b>				reinforce study skills and familiarity with course content

# School of Construction Program Outcomes

2013-2014

## ACT Four-year Summary

ACT 2010-2011 summary					ACT 2011-2012 summary					ACT 2012-2013 summary					ACT 2013-2014 summary				
	criteria	>=70	ENR	%		criteria	>=70	ENR	%		criteria	>=70	ENR	%		criteria	>=70	ENR	%
GC	a	732	816	90%	GC	a	671	767	87%	GC	a	479	512	94%	GC	a	1013	1128	90%
GC	b	108	128	84%	GC	b	104	128	81%	GC	b	306	321	95%	GC	b	489	528	93%
GC	c	96	113	85%	GC	c	81	96	84%	GC	c	33	36	92%	GC	c	112	119	94%
GC	d	119	146	82%	GC	d	113	139	81%	GC	d	305	315	97%	GC	d	640	707	91%
GC	e	56	60	93%	GC	e	48	59	81%	GC	e	17	20	85%	GC	e	294	310	95%
GC	f	558	641	87%	GC	f	484	565	86%	GC	f	395	423	93%	GC	f	612	674	91%
GC	g	485	547	89%	GC	g	384	436	88%	GC	g	311	360	86%	GC	g	819	909	90%
GC	h	187	220	85%	GC	h	162	184	88%	GC	h	117	125	94%	GC	h	273	310	88%
GC	i	283	311	91%	GC	i	233	276	84%	GC	i	330	360	92%	GC	i	355	391	91%
GC	j	338	373	91%	GC	j	352	402	88%	GC	j	159	175	91%	GC	j	227	270	84%
GC	k	753	840	90%	GC	k	579	662	87%	GC	k	264	288	92%	GC	k	638	702	91%
AS	a	845	987	86%	AS	a	758	894	85%	AS	a	127	133	95%	AS	a	483	547	88%
AS	b	203	239	85%	AS	b	143	172	83%	AS	b	56	63	89%	AS	b	408	461	89%
AS	c	52	62	84%	AS	c	39	44	89%	AS	c	33	36	92%	AS	c	70	75	93%
AS	d	273	308	89%	AS	d	234	267	88%	AS	d	61	61	100%	AS	d	43	45	96%
AS	e	58	71	82%	AS	e	53	64	83%	AS	e	108	114	95%	AS	e	252	265	95%
AS	f	47	58	81%	AS	f	25	33	76%	AS	f	66	68	97%	AS	f	149	152	98%
AS	g	94	108	87%	AS	g	92	110	84%	AS	g	250	262	95%	AS	g	111	126	88%
AS	h	355	401	89%	AS	h	306	356	86%	AS	h	122	127	96%	AS	h	377	424	89%
AS	i	640	747	86%	AS	i	649	769	84%	AS	i	196	235	83%	AS	i	359	424	85%
BS	a	694	821	85%	BS	a	589	699	84%	BS	a	330	351	94%	BS	a	633	694	91%
BS	b	590	665	89%	BS	b	506	574	88%	BS	b	293	303	97%	BS	b	327	364	90%
BS	c	174	197	88%	BS	c	103	120	86%	BS	c	123	131	94%	BS	c	263	280	94%
BS	d	205	219	94%	BS	d	215	254	85%	BS	d	142	157	90%	BS	d	258	281	92%
BS	e	538	617	87%	BS	e	414	478	87%	BS	e	304	325	94%	BS	e	652	716	91%
BS	f	380	435	87%	BS	f	283	340	83%	BS	f	246	258	95%	BS	f	650	697	93%
	ACT	8863	10130	87%		ACT	7620	8888	85%		ACT	5173	5559	93%		ACT	10507	11599	91%

**ACT Graduate Exit Survey Findings (Indirect Measure 2)**

criteria		2013	ACT Exit Survey Findings	
<b>1</b>	a	3.3	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'a' was 3.3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>2</b>	b	3.4	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'b' was 3.4. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>3</b>	c	3.3	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'c' was 3.3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>4</b>	d	3.3	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'd' was 3.3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>5</b>	e	3.5	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'e' was 3.5. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>6</b>	f	3.4	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'f' was 3.4. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>7</b>	g	3.5	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'g' was 3.5. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>8</b>	h	3.5	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'h' was 3.5. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>9</b>	i	3.5	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'i' was 3.5. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>10</b>	j	3.2	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'j' was 3.2. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>11</b>	k	3.4	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'k' was 3.4. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>12</b>	a	3.3	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET Associate Degree Program Specific Criteria 'a' was 3.3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>13</b>	b	3.3	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET Associate Degree Program Specific Criteria 'b' was 3.3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met

<b>14</b>	c	3.2	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET Associate Degree Program Specific Criteria 'c' was 3.2. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>15</b>	d	3.3	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET Associate Degree Program Specific Criteria 'd' was 3.3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>16</b>	e	3.3	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET Associate Degree Program Specific Criteria 'e' was 3.3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>17</b>	f	3.2	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET Associate Degree Program Specific Criteria 'f' was 3.2. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>18</b>	g	3.2	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET Associate Degree Program Specific Criteria 'g' was 3.2. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>19</b>	h	3.4	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET Associate Degree Program Specific Criteria 'h' was 3.4. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>20</b>	i	3.3	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET Associate Degree Program Specific Criteria 'i' was 3.3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>21</b>	a	3.3	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET Baccalaureate Degree Program Specific Criteria 'a' was 3.3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>22</b>	b	3.3	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET Baccalaureate Degree Program Specific Criteria 'b' was 3.3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>23</b>	c	3.3	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET Baccalaureate Degree Program Specific Criteria 'c' was 3.3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>24</b>	d	3.5	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET Baccalaureate Degree Program Specific Criteria 'd' was 3.5. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>25</b>	e	3.3	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET Baccalaureate Degree Program Specific Criteria 'e' was 3.3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met
<b>26</b>	f	3.3	Average of 7 ratings on the evaluation category supporting 2013-2014 ABET Baccalaureate Degree Program Specific Criteria 'f' was 3.3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True)	Met