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Department/Program: Parson Construction Management Technology (CMT) Program

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Brief Introductory Statement

In early 1995, an assessment was conducted by the College of Applied Science and Technology (COAST), in partnership with interested construction industry individuals, to determine the interest and demand for an Associate of Applied Science (AAS) degree in Construction Management. As a result, an Associate of Applied Science degree in Construction Management Technology was established.

Program classwork began in the fall quarter of 1996. The CM program changed from the quarter system to the semester system in 1997, which continues to operate today. In early 1999, ***American Council of Construction Education (ACCE)*** was selected as the accrediting agency. In December 1999, American Council for Construction Education accreditation board granted the program "candidate status" and the program moved forward in establishing accreditation credentials. By the 1999-2000 school year, the program had grown significantly and implemented a bachelor degree program. In 2000, the renaming of the construction management program established the "Parson Construction Management Technology Program", which it retains today.

By 2003, the program offered a Bachelor of Science (BS) degree in Construction Management Technology, and an Associate of Applied Science (AAS) degree in Construction Management Technology, and a Minor in Construction Management Technology. In addition, the program provided emphasis in areas supporting CMT Program participants in a Bachelor of Integrated Studies (BIS) degree and students earning a Minor in Business Administration.

In 2010, discussion began regarding the creation of a separate department for the Parson Construction Management Program within the College of Engineering and Applied Science Technologies (EAST.) This change was implemented early in 2011, and has given the CMT Program more visibility to potential students and industry alike. In mid-2010, the CMT Department began working with the University Planning Committee in the development of office, classroom and lab space in a new building facility for the CMT Program. This new facility was constructed on the university's campus in Layton, Utah. In addition, ACCE renewed the program's accreditation for an additional six years (2011-20016).

In 2011, the Construction Management Technology Department was established and recognized as a separate department within the College of Engineering and Applied Science. The new building facility was completed in mid-summer of 2013 and the CMT Program moved from the main campus in Ogden, Utah ready for the fall semester in Layton.

In the summer of 2014, the CMT Program, working with new ACCE requirements, began the transition from the ACCE "Process-Oriented Accreditation" program to the new "Outcome-Based Accreditation" program. This new set of criteria required a complete review and revision of the program assessment process moving from a prescribed process to an outcome-based process based on student learning outcomes.

In the fall of 2015, the department faculty reviewed the revised policies of the ***Accreditation Board for Engineering and Technology, Inc. (ABET's)*** inclusion of Construction Management Programs in the ***Applied Science Accreditation Commission (ASAC)***. It was recommended and approved by the faculty at this fall faculty meeting that the Construction Management program would seek accreditation through ABET's ASAC process, and resign from ACCE at the end of the current accreditation period. More information on ABET and ASAC can be found at http://www.abet.org/

In order to graduate, our students must take and score a 192 of 300 on the Associate Constructor (AC) Level 1 exam given by the ***American Institute of Constructors (AIC)*** and the Constructor Certification Commission. "The AC (Associate Constructor) certification is intended for constructors entering the construction field and exam questions will be primarily based upon education knowledge." This exam provides an independent direct measure of our program

outcomes compared to national outcomes. Historically, the Parson CMT program has done very well on the exam. The average for the spring 2017 test was 230.63 compared to a national average of 220.10. A 210 being a passing score. More information on the AC exam is available at http://www.professionalconstructor.org/Home/.

The Parson CMT program consists of a degree with two emphases, Construction Management and Facilities Management. The report will focus on the Construction Management emphasis because the Facilities Management is completing its development.

The program continues to cater to the non-traditional student who, for the most part, work full time and attend the university full time as well. Students are generally from the local area, but enrollment does include a small number of out of state students.

Standard A - Mission Statement

The mission of the Parson Construction Management Technology program, as an integral part of the College of Engineering and Applied Science Technologies, is a program to educate students from diverse backgrounds in the fundamental skills, knowledge, and practices of the construction profession in order to prepare them for construction management positions in service to the community and employers of the construction industry.

Standard B - Curriculum

Curriculum Map

Program Learning Outcome 1: *To prepare students for entry into successful careers in Construction Management emphasizing the mastery of* ***construction management fundamentals****, the* ***ability to solve construction management problems****, and the importance of construction management judgement, leadership, construction investigation, and the* ***creative process of construction management applications.***

Program Learning Outcome 2: *To instill in students the sense of pride and confidence that comes from* ***applying their knowledge of construction management principles and procedures*** *to the economic and social benefit of society.*

Program Learning Outcome 3: *To encourage students in an* ***understanding of the professional and ethical obligations*** *of the construction manager, to conduct themselves as professionals, recognizing their* ***responsibility to protect the health and welfare*** *of the public, and to be accountable for the social and environmental impact of their construction management practice.*

Program Learning Outcome 4: *To* ***establish an educational environment and curriculum*** *in which students* ***participate in cross disciplinary, team-oriented, open-ended activities*** *that prepare them to work in integrated construction management teams.*

Program Learning Outcome 5: *To offer curriculum that encourages students to become broadly educated construction managers and life-long learners, with a* ***sold background in the basic sciences and mathematics, and understanding and appreciation of the arts, humanities, and social sciences****, and* ***ability to communicate effectively*** *for various audiences and purposes, and a desire to seek out further educational opportunities.*

Program Learning Outcome 6: *To expose students to advances in construction management practice as preparation for opportunities in professional practice and graduate education.*

Core Courses in Department/Program	Program Learning Outcomes					
	Learning Outcome 1	Learning Outcome 2	Learning Outcome 3	Learning Outcome 4	Learning Outcome 5	Learning Objective 6
CMT 1100 – Construction Management Orientation	I	I	I	I	I	I
CMT 1150 – Construction Graphics						
CMT 1220 - Construction Contracts	I		I		I	
CMT 1310 – Materials and Methods						
CMT 1330 – Civil Materials						
CMT 1550 – Construction Safety						
CMT 2210 – Construction Jobsite Management	I	I	I	I	I	I
CMT 2260 – MEP						
CMT 2340 – Civil Design and Layout					I	
CMT 2360 – Commercial Design and Codes						
CMT 2410 – LEED-GA Preparation		R	R	R	R	R
CMT 2640 – Quantity Takeoff						
CMT 2990 – Construction Management Seminar	R	R	R	R	R	R
CMT 3115 – Construction Cost Estimating						
CMT 3130 – Construction Planning and Scheduling						
CMT 3310 – Leadership in the Construction Industry	R	R	R	R	R	R
CMT 3370 – Preconstruction Services						

Core Courses in Department/Program	Program Learning Outcomes					
	Learning Outcome 1	Learning Outcome 2	Learning Outcome 3	Learning Outcome 4	Learning Outcome 5	Learning Objective 6
CMT 4120 – Construction Accounting and Financial Management						
CMT 4150 – Construction Equipment and Methods						
CMT 4330 – Applied Structures						
CMT 4350 – Temporary Structures						
CMT 4510 or 4520 – Design Charrette / ASC Student Competition	R	R	R	R	R	R
CMT 4570 – Approaches to Construction Contracting						
CMT 4620 – Senior Project	E	E	E	E	E	E

***Note*: I = Introduced, R = Reinforce, E = Emphasized**

Standard C - Student Learning Outcomes and Assessment

a. Measurable Learning Outcomes

At the end of their study at WSU, students in this program will apply principles to:

1. Create and apply effective communications
2. Create a construction project safety plan
3. Create construction project cost estimates
4. Create construction project schedules
5. Create a business plan for a small construction company
6. Analyze methods, materials, and equipment used to construct projects
7. Apply construction management and supervisory skills as a member of a multi-disciplinary team
8. Apply current software applications to the construction process
9. Apply basic surveying techniques for construction layout and control
10. Apply the preconstruction process and alternate delivery methods
11. Apply the principles of construction risk management
12. Apply the principles of construction accounting, cost control, and profit maximization
13. Understand construction quality assurance and control
14. Understand the legal implications of construction contracts and documents and regulatory law
15. Understand the principles of sustainable construction
16. Understand the principles of construction design
17. Understand the principles of effective leadership
18. Understand professional and ethical responsibility
19. Understand how to develop professional relationships

Core Courses in Department CMT Program	Student Learning Outcomes																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
CMT 1100 – Construction Management Orientation	1						1	1		1	1				1			1	1
CMT 1150 – Construction Graphics	2																		
CMT 1220 - Construction Contracts										2	2		1	3				2	
CMT 1310 – Materials and Methods						3													
CMT 1330 – Civil Materials						1													
CMT 1550 – Construction Safety	2	1									2							2	
CMT 2210 – Construction Jobsite Management	2						2	2		2	2		2						
CMT 2260 – MEP															2	1			
CMT 2340 – Civil Design and Layout									3										
CMT 2360 – Commercial Design and Codes								2											
CMT 2410 – LEED-GA Preparation															3				
CMT 2640 – Quantity Takeoff			1																
CMT 2990 – Construction Management Seminar																			2
CMT 3115 – Construction Cost Estimating	2		2					2										2	
CMT 3130 – Construction Planning and Scheduling				1				2			2								
CMT 3310 – Leadership in the Construction Industry							2										3	3	3
CMT 3370 – Preconstruction Services			2	2						3						2			

Core Courses in Department CMT Program	Student Learning Outcomes																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
CMT 4120 – Construction Accounting and Financial Management					1							3							
CMT 4150 – Construction Equipment and Methods						3													
CMT 4330 – Applied Structures																2			
CMT 4350 – Temporary Structures																2			
CMT 4510 or 4520 – Design Charrette / ASC Student Competition	2						3												
CMT 4570 – Approaches to Construction Contracting					3														
CMT 4620 – Senior Project	3	3	3	3				3			3		3			3			

Note[a]: **1**= introduced, **2** = emphasized, **3** = mastered

b. Five-year Assessment Summary

2012-13: Engineering concepts were noted as needing improvements. The introduction of revised coursework in temporary structures was implemented to support this need. Adjuncts teaching these concepts also reviewed "needed improvements" and implement same. Based on faculty discussion greater emphasis will be placed on writing and the application of the body of knowledge to project specific scenarios. Faculty committee was instituted to review engineering concepts coursework and student learning approached.

2013-14: Materials, methods and plan reading areas needed improvements. Pedagogical changes were implemented to correct this weakness. Surveying and project layout fell below program acceptable level and were monitored for improvements. The goal to be above the national average however was met. Changes were made in the classroom and project based applications that improved student learning outcomes. Continued emphasis was placed on writing, making presentations, and the application of the body of knowledge to project based applications.

2014-15: Engineering and management concepts required review. The categories of materials, methods, and plan reading, bidding and estimating, planning and scheduling, and surveying and project layout were shown to need attention and improvement The review committee's efforts, changes in the pedagogical approach were implemented in the classroom and in the coursework presentations.

2015-16: Preparing students in the area of engineering concepts, bidding and estimating, and surveying and project layout continued to need improvement. Through faculty discussions and the implementation of the project-based approach to student learning program changes were working. The industry advisory board (IAB) continued to work with faculty to improve course content, and updating our program offerings.

2016-17: It was determined that the curriculum and course work format required revisions and updating. The faculty and industry advisory board (IAB) revised and presented these changes to the college and university curriculum committees updating program requirements this fall. Changes were included in the fall 2017 university catalog. Scores in the engineering concepts continue to fall below the program minimum acceptable value. The department is reviewing this weakness and are evaluating alternatives to overcome this shortcoming. Changes to course curriculum and coursework have been made to address shortcomings and needs as noted in previous summaries.

Adjustments were implemented for various subject matter areas that were judged as needing improvement based on department faculty suggestions. The following subject areas were reviewed, during the five-year period by faculty, and pedagogical adjustments made to improve student outcomes: Engineering Concepts three of the five years, Material Methods and Plan Reading two of the five years, Bidding and Estimating two of the five years, Surveying and Layout two of the five years, Management Concepts, Planning & Scheduling, and Safety one of the five years. Project based instruction as well as more student interaction in classroom instruction was implemented in the student learning process.

c. Assessment of Graduating Students

1. The program does not assess students receiving the AAS degree in Construction Management.

2. The five-year program assessment findings for the bachelor (BS) degree confirmed that students graduating from the program are meeting the needs of the construction industry. As in the past, the Parson Construction Management Technology program uses the Associate Constructor (AC) Level 1 exam given by the American Institute of Constructors (AIC) and the Constructor Certification Commission to assess students receiving the BS degree. Assessment scores are based upon maximum/minimum scores in subject matter areas as well as a maximum/minimum aggregate score for the exam. All program students are required to score a 192 of 300, or better, on the exam to graduate from the program. Students consistently have met the program's goal by scoring above the national average total test score and have scored above the national area test scores on specific subject matter areas of the exams. The measureable student learning outcomes for subject matter areas of the exam are:

a. *Communication Skills:* Demonstrate effective verbal and written communication skills.
b. *Engineering Concepts*: Apply the principles of engineering, science, and math to solve practical construction problems.
c. *Management Concepts*: Apply the principles of accounting and business management to the construction industry.
d. *Materials, Methods, and Plan Reading*: Evaluate construction materials, methods, and equipment and demonstrate the ability to interpret contract and design documents.
e. *Bidding and Estimating*: Estimate construction quantities and apply costs to prepare bid proposals for construction projects.
f. *Budgeting, Costs, and Cost Control*: Apply the principles of accounting to project management, including budgeting and controlling costs.
g. *Planning, Scheduling, and Control*: Apply the principles of scheduling to construction projects, including activity selection and sequencing, duration calculation, and the development of a scheduling model.
h. *Construction Safety*: Identify the OSHA standards that apply to the construction industry and develop a safety management plan.
i. *Surveying and Project Layout*: Apply the principles of math to solve surveying problems and demonstrate the proper use of surveying equipment in construction layout.
j. *Project Administration*: Apply the principles of project management to construction projects, including site layout, contract administration, quality control, conflict resolution, and record keeping

1. Measurable Learning Outcome Students will:	Method of Measurement Direct and Indirect Measures	Findings Linked to Learning Outcomes (NOTE: The numbers in red indicate averages below the minimum acceptable)	Interpretation of Findings	Action Plan/Use of Results
All Areas	AIC Constructor Certification Commission CQE Level 1 The program's goal is to be above the national average and the minimum acceptable in this area.	Fall 2015 School's Average: 228.80 National Average: 206.11 Max Possible: 300 Min Acceptable: 210 3 of 10 (30%) in top 10% 9 of 10 (90%) passed Spring 2016 School's Average: 227.79 National Average: 204.41 Max Possible: 300 Min Acceptable: 210 2 of 14 (14.3%) in top 10% 12 of 14 (85.7%) passed Fall 2016 School's Average226.57 National Average: 217.97 Max Possible: 300 Min Acceptable: 210 1 of 7 (14.3%) in top 10% 6 of 7 (85.7%) passed Spring 2017 School's Average: 230.63 National Average: 220.10 Max Possible: 300 Min Acceptable: 210 1 of 8 (12.5%) in top 10% 6 of 8 (75.0%) passed	Students need to improve their skills in engineering and management concepts,	Curricular changes and revisions need to be implemented in the following category: engineering and management concepts,

Measurable Learning Outcome Students will:	Method of Measurement Direct and Indirect Measures	Findings Linked to Learning Outcomes (NOTE: The numbers in red indicate averages below the minimum acceptable)	Interpretation of Findings	Action Plan/Use of Results
a.Communication Skills: Demonstrate effective verbal and written communication skills.	AIC Constructor Certification Commission CQE Level 1 Construction Fundamentals – Communication Skills Section. The program's goal is to be above both the national average and the minimum acceptable in this area.	<u>Fall 2015</u> School's Average: 29.00 National Average: 26.14 Max Possible: 37 Min Acceptable: 26 <u>Spring 2016</u> School's Average: 28.00 National Average: 25.76 Max Possible: 37 Min Acceptable: 26 <u>Fall 2016</u> School's Average: 30.43 National Average: 29.83 Max Possible: 39 Min Acceptable: 27 <u>Spring 2017</u> School's Average: 31.13 National Average: 30.26 Max Possible: 39 Min Acceptable: 27	Students successfully demonstrated an understanding of communication skills.	No curricular or pedagogical changes needed at this time. We will monitor this as a potential area for improvement in the program.

Measurable Learning Outcome Students will:	Method of Measurement Direct and Indirect Measures	Findings Linked to Learning Outcomes (NOTE: The numbers in red indicate averages below the minimum acceptable)	Interpretation of Findings	Action Plan/Use of Results
b.Engineering Concepts: Apply the principles of engineering, science, and math to solve practical construction problems.	AIC Constructor Certification Commission CQE Level 1 Construction Fundamentals – Engineering Concepts Section. The program's goal is to be above both the national average and the minimum acceptable in this area.	<u>Fall 2015</u> School's Average: 11.10 National Average: 9.51 Max Possible: 15 Min Acceptable: 11 <u>Spring 2016</u> School's Average: 10.00 National Average: 9.34 Max Possible: 15 Min Acceptable: 11 <u>Fall 2016</u> School's Average: 9.0 National Average: 9.60 Max Possible: 15 Min Acceptable: 11 <u>Spring 2017</u> School's Average: 9.75 National Average: 9.60 Max Possible: 15 Min Acceptable: 11	Students continue to not demonstrate an understanding of engineering concepts.	Curricular and/or pedagogical changes are to be made to this course work. The faculty review committee is developing pedagogy for this section. We will monitor this as a weakness in the program.

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Measurable Learning Outcome Students will:	Method of Measurement Direct and Indirect Measures	Findings Linked to Learning Outcomes (NOTE: The numbers in red indicate averages below the minimum acceptable)	Interpretation of Findings	Action Plan/Use of Results
c.Management Concepts: Apply the principles of accounting and business management to the construction industry.	AIC Constructor Certification Commission CQE Level 1 Construction Fundamentals – Management Concepts Section. The program's goal is to be above both the national average and the minimum acceptable in this area.	<u>Fall 2015</u> School's Average: 26.40 National Averaged: 24.25 Max Possible: 35 Min Acceptable: 25 <u>Spring 2016</u> School's Average: 25.93 National Average: 24.03 Max Possible: 35 Min Acceptable: 25 <u>Fall 2016</u> School's Average: 27.14 National Averaged: 25.72 Max Possible: 35 Min Acceptable: 25 <u>Spring 2017</u> School's Average: 27.50 National Average: 26.04 Max Possible: 35 Min Acceptable: 25	Students successfully demonstrated an understanding of management concepts.	No curricular or pedagogical changes needed at this time. We will monitor this as a possible weakness in the program

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Measurable Learning Outcome Students will:	Method of Measurement Direct and Indirect Measures	Findings Linked to Learning Outcomes (NOTE: The numbers in red indicate averages below the minimum acceptable)	Interpretation of Findings	Action Plan/Use of Results
d.Materials, Methods, and Plan Reading: Evaluate construction materials, methods, and equipment and demonstrate the ability to interpret contract and design documents.	AIC Constructor Certification Commission CQE Level 1 Construction Fundamentals – Materials, Methods, and Project Modeling and Visualization Section. The program's goal is to be above both the national average and the minimum acceptable in this area.	<u>Fall 2015</u> School's Average: 23.00 National Average: 19.67 Max Possible: 32 Min Acceptable: 22 <u>Spring 2016</u> School's Average: 22.43 National Average: 19.91 Max Possible: 32 Min Acceptable: 22 <u>Fall 2016</u> School's Average: 23.29 National Average: 21.44 Max Possible: 21 Min Acceptable: 30 <u>Spring 2017</u> School's Average: 24.25 National Average: 21.63 Max Possible: 30 Min Acceptable: 21	Students continue to demonstrate a weakness in materials, methods, and plan reading concepts.	Curricular and/or pedagogical changes are being made to this course work. The faculty review committee is developing revisions to curriculum/ pedagogy for this section. We will monitor this as a weakness in the program.

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Measurable Learning Outcome Students will:	Method of Measurement Direct and Indirect Measures	Findings Linked to Learning Outcomes (NOTE: The numbers in red indicate averages below the minimum acceptable)	Interpretation of Findings	Action Plan/Use of Results
e. **Bidding and Estimating** Estimate construction quantities and apply costs to prepare bid proposals for construction projects.	AIC Constructor Certification Commission CQE Level 1 Construction Fundamentals – Bidding and Estimating Section. The program's goal is to be above both the national average and the minimum acceptable in this area.	<u>Fall 2015:</u> School's Average: 24.50 National Average: 22.82 Max Possible: 36 Min Acceptable: 25 <u>Spring 2016:</u> School's Average: 26.71 National Average: 22.61 Max Possible: 36 Min Acceptable: 25 <u>Fall 2016:</u> School's Average: 27.43 National Average: 25.55 Max Possible: 36 Min Acceptable: 25 <u>Spring 2017:</u> School's Average: 27.00 National Average: 25.90 Max Possible: 36 Min Acceptable: 25	Students continue to demonstrate a weakness in this area.	Curricular and/or pedagogical changes have been made to this course work. The faculty review committee revised curriculum/pedagogy for this section. We will monitor this as a weakness in the program.

Measurable Learning Outcome Students will:	Method of Measurement Direct and Indirect Measures	Findings Linked to Learning Outcomes (NOTE: The numbers in red indicate averages below the minimum acceptable)	Interpretation of Findings	Action Plan/Use of Results
f.Budgeting, Costs, and Cost Control: Apply the principles of accounting to project management, including budgeting and controlling costs.	AIC Constructor Certification Commission CQE Level 1 Construction Fundamentals – Budgeting, Costs, and Section. The program's goal is to be above both the national average and the minimum acceptable in this area.	<u>Fall 2015:</u> School's Average: 30.20 National Average: 26.55 Max Possible: 37 Min Acceptable: 26 <u>Spring 2016:</u> School's Average: 30.14 National Average: 26.24 Max Possible: 37 Min Acceptable: 26 <u>Fall 2016:</u> School's Average: 28.86 National Average: 26.33 Max Possible: 36 Min Acceptable: 25 <u>Spring 2017:</u> School's Average: 27.50 National Average: 26.69 Max Possible: 36 Min Acceptable: 25	Students successfully demonstrated an understanding of budgeting, costs, and cost control.	No curricular or pedagogical changes needed at this time.

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Measurable Learning Outcome Students will:	Method of Measurement Direct and Indirect Measures	Findings Linked to Learning Outcomes (NOTE: The numbers in red indicate averages below the minimum acceptable)	Interpretation of Findings	Action Plan/Use of Results
g. **Planning, Scheduling, and Control:** Apply the principles of scheduling to construction projects, including activity selection and sequencing, duration calculation, and the development of a scheduling model.	AIC Constructor Certification Commission CQE Level 1 Construction Fundamentals – Planning, Scheduling, and Schedule Control Section. The program's goal is to be above both the national average and the minimum acceptable in this area.	<u>Fall 2015:</u> School's Average: 28.60 National Average: 25.32 Max Possible: 36 Min Acceptable: 25 <u>Spring 2016:</u> School's Average: 27.71 National Average: 25.17 Max Possible: 36 Min Acceptable: 25 <u>Fall 2016:</u> School's Average: 26.43 National Average: 27.50 Max Possible: 36 Min Acceptable: 25 <u>Spring 2017:</u> School's Average: 29.50 National Average: 27.67 Max Possible: 36 Min Acceptable: 25	Students demonstrated an understanding of planning, scheduling and control.	No curricular or pedagogical changes needed at this time.

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Measurable Learning Outcome Students will:	Method of Measurement Direct and Indirect Measures	Findings Linked to Learning Outcomes (NOTE: The numbers in red indicate averages below the minimum acceptable)	Interpretation of Findings	Action Plan/Use of Results
h.Construction Safety: Identify the OSHA standards that apply to the construction industry and develop a safety management plan.	AIC Constructor Certification Commission CQE Level 1 Construction Fundamentals – Construction Safety Section. The program's goal is to be above both the national average and the minimum acceptable in this area.	<u>Fall 2015:</u> School's Average: 17.10 National Average: 16.27 Max Possible: 22 Min Acceptable: 15 <u>Spring 2016:</u> School's Average: 17.00 National Average: 16.00 Max Possible: 22 Min Acceptable: 15 <u>Fall 2016:</u> School's Average: 15.00 National Average: 14.66 Max Possible: 21 Min Acceptable: 15 <u>Spring 2017:</u> School's Average: 15.38 National Average: 14.75 Max Possible: 21 Min Acceptable: 15	Students successfully demonstrated an understanding of construction safety.	No curricular or pedagogical changes needed at this time.

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Measurable Learning Outcome Students will:	Method of Measurement Direct and Indirect Measures	Findings Linked to Learning Outcomes (NOTE: The number in red indicate averages below the minimum acceptable)	Interpretation of Findings	Action Plan/Use of Results
i.**Surveying and Project Layout:** Apply the principles of math to solve surveying problems and demonstrate the proper use of surveying equipment in construction layout.	AIC Constructor Certification Commission CQE Level 1 Construction Fundamentals – Construction Geometrics Section. The program's goal is to be above both the national average and the minimum acceptable in this area.	<u>Fall 2015:</u> School's Average: 3.90 National Average: 3.27 Max Possible: 6 Min Acceptable: 4 <u>Spring 2016:</u> School's Average: 4.71 National Average: 3.66 Max Possible: 6 Min Acceptable: 4 <u>Fall 2016:</u> School's Average: 4.43 National Average: 4.46 Max Possible: 6 Min Acceptable: 4 <u>Spring 2017:</u> School's Average: 5.0 National Average: 4.56 Max Possible: 6 Min Acceptable: 4	Students demonstrated an understanding of surveying and project layout	Curricular or pedagogical changes have been made. We will monitor this as a possible weakness in the program.

Measurable Learning Outcome Students will:	Method of Measurement Direct and Indirect Measures	Findings Linked to Learning Outcomes (NOTE: The numbers in red indicate averages below the minimum acceptable)	Interpretation of Findings	Action Plan/Use of Results
j.Project Administration: Apply the principles of project management to construction projects, including site layout, contract administration, quality control, conflict resolution,; and record keeping.	AIC Constructor Certification Commission CQE Level 1 Construction Fundamentals – Project Administration Section. The program's goal is to be above both the national average and the minimum acceptable in this area.	<u>Fall 2015:</u> School's Average: 35.00 National Average: 31.86 Max Possible: 44 Min Acceptable: 31 <u>Spring 2016:</u> School's Average: 35.14 National Average: 31.61 Max Possible: 44 Min Acceptable: 31 <u>Fall 2016:</u> School's Average: 34.57 National Average: 32.87 Max Possible: 45 Min Acceptable: 32 <u>Spring 2017:</u> School's Average: 33.63 National Average: 32.99 Max Possible: 45 Min Acceptable: 32	Students successfully demonstrated an understanding of project administration.	No curricular or pedagogical changes needed at this time.

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3. The program does not have a Master Degree in Construction Management.

Standard D - Academic Advising

Advising Strategy and Process

The Department of Construction Management has a written policy governing advising. This policy covers the following topics:

- Advising assignments
- Procedures for waiving courses
- Current and past articulation agreement along with expiration dates
- Waiving of prerequisites
- The student's responsibilities regarding advising
- The program's philosophy regarding the scheduling of classes
- Requirements for departmental honors
- Procedures for documenting student advising

Students are encouraged to meet with an advisor at the beginning of their freshman and junior years.

The advising is divided between the Parson CMT Program Coordinator, Facilities Management Coordinator, and the Department Chair. The advising is divided as follows:

Program Coordinator, Chris Soelberg:

- All students seeking a B.S. Degree in Construction Management – Construction Management Emphasis

Program Coordinator, Pieter J. van der Have

- All students seeking a B.S. Degree in Facilities Management – Construction Management Emphasis
-

Department Chair, Joseph Wolfe:

- All students seeking a BIS, a second bachelor's degree in either emphasis, or a minor in construction management in addition to their regular advisor.

- All students who want to receive Departmental Honors must meet with the Department Chair in addition to their regular advisor.

The Department Chair works with the SLCC advisors to ensure that the advising is consistent and accurate. The written policy has been shared with these advisors.

Effectiveness of Advising

No data has been collected regarding the effectiveness of advising.

Past Changes and Future Recommendations

Through discussion with advisors and the students, the program continues to identify the most common mistakes students make when scheduling their classes. The faculty provides advice on how to avoid these mistakes. The program faculty needs to continue to encourage students to come in for advising at the beginning of their senior year.

Standard E - Faculty

Faculty Demographic Information

The department has five full-time faculty, which includes one tenured, full professor, two tenured, associate professor, and two instructor. One instructor is assigned to the facilities management emphasis, the other instructor is assigned to the construction management emphasis. The program also uses six adjunct faculty.

Programmatic/Departmental Teaching Standards

The Department Chair meets with all full-time faculty at the beginning of fall semester to set goals for teaching, scholarship, and services for the year. The faculty then report their accomplishments to the chair at the end of spring semester.

The students evaluate all courses taught by tenure-track and adjunct faculty. For tenured faculty, the students evaluate one course each semester (fall and spring). The evaluations include both a numeric rating (on a scale of 1 to 4) and comments to open ended questions. The evaluations are provided to the faculty at the completion of the semester. For tenured and tenure-track faculty, the numeric ratings from these evaluations are placed in their professional file; which are kept in the Dean's office.

The Department Chair reviews all tenure-track faculty each year, except for the years that they are formally reviewed for progress towards tenure or tenure. The results of these reviews are placed in the faculty's professional file.

Faculty Qualifications

Tenure-track faculty are required to have a minimum of five-year full-time experience in the construction industry and a master's degree in construction management or a related field. Instructors and adjunct facility are required to have a minimum of five-year full-time experience in the construction industry and a bachelor's degree in construction management or a related field.

Faculty & Staff (current academic year)

	Tenure	Contract	Adjunct
Number of faculty with Doctoral degrees	-	-	-
Number of faculty with Master's degrees	**3**	**1**	**5**
Number of faculty with Bachelor's degrees		**1**	**1**
Other Faculty			
Total			

Evidence of Effective Instruction

i. Regular Faculty

The evidence of effective learning consists of the student evaluation and the formal peer reviews that are performed as part of the promotion and tenure process. Both of these are maintained in the faculty's professional file.

We have implementing course outcomes to measure the success of course instruction. Approximately 25% of the courses are measured each year. The data from the course outcomes assessment are used to measure the effectiveness of the course and help instructors improve the courses.

ii. Adjunct Faculty

The evidence of effective learning consists of the student evaluation. Copies of these are maintained in the Department's office.

We have implementing course outcomes to measure the success of course instruction. Approximately 25% of the courses are measured each year. The data from the course outcomes assessment are used to measure the effectiveness of the course and help instructors improve the courses.

Faculty Scholarship

Faculty Scholarship and Professional Development – Parson Construction Management Program

1. **Matthew K. Brower**: (Adjunct Faculty): Mr. Brower continues his scholarship and professional development with his current employer. As chair of the Industry Advisory Board, Mr. Brower attend ACCE's Industry Advisory Board member training in Long Beach, California.

2. **Russell C. Butler** (Full-Time Faculty): As the newest member of the program faculty, Mr. Butler participates in his scholarship and professional development through attendance at industry workshops; completing a 4-day Design Build Institute of America Educator's workshop in August 2017, and the university sponsored eleven (11) week "Higher Education Academy" held the spring 2017. He supported the program's student competition during the 2016-2017 academic year and attended ASC sponsored faculty workshops and training classes supporting current teaching and learning classroom trends.

3. **Shawna Code** (Adjunct Faculty): Ms. Code continues her scholarship and professional development through her work with the university. She continues her development with coursework development with APPA's Institute for Facilities Management and the Leadership Academy as well as coursework preparation for International Facilities Management Association. Her continuing educational development through APPA, RMA and IFMA Annual Meetings and attending seminars and workshops related to her areas of expertise.

4. **Todd S. Laker** (Adjunct Faculty): Mr. Laker currently serves as the IAB Secretary and is actively involved in supporting full-time faculty. Mr. Laker continues his scholarship and professional development through industry research and continuing his education and development through attending industry workshops. His most current continuing education came through attending the National Ready Mix Concrete Association – Concrete Technologist in February 2017.

5. **Layne B. Packer** (Adjunct Faculty): Mr. Packer continues to stay current with his scholarship and professional development through his professional organizations as well as attending industry-sponsored training. Mr. Packer stays current through multiple 1-hour on-line engineering and construction continuing education courses through AEC, daily averaging approximately ten (10) hours per year. Mr. Packer completed "Introduction to LEED V4 Key Concepts, Strategies, and Performance in 2016.

6. **Steven J. Peterson** (Full-Time Faculty): Mr. Peterson continues his scholarship and professional development by continuing his education as a Ph.D. candidate in Civil Engineering – Transportation at the University of Utah. In addition, his professional and scholarship development has included attendance of the annual meetings of the

Transportation Research Board, and attending the Design-Build Institute of America's "Design-Build Conference and Expo" last November.

7. **Chris Soelberg** (Full-Time Faculty): Mr. Soelberg continues his scholarship and professional development by staying current with his professional industry associations, attending teaching and learning workshops at ASC activities and attending short-course training seminars presented through national industry associations. Mr. Soelberg maintains his current Utah licensed Master Plumber State of Utah certifications through his efforts of continuing education.

8. **Pieter J. van der Have** (Full-Time Faculty): Mr. van der Have maintains his scholarship and professional development through coursework and curriculum development for the program. He has been a presenter at numerous APPA educational programs, as well as contributing author developing certifications programs for APPA. Pieter has been contributing author to a number of books published by RSMeans, APPA and other educational institutions. He is a regular author to bi-monthly articles, published in College Planning and Management. To date, over a period of 15 plus years, has published over 100 articles with a focus on all and any aspects of facility management, ranging from HR challenges to chiller maintenance to a comparison of paper vs. linen towels vs. electric hand-dryers. He is actively involved in working with the International Facility Management Association, (IFMA), in the development of program accreditation processes.

9. **Dan Wall** (Adjunct Faculty): Dan maintains his scholarship and professional development through his current employer. His membership in industry organizations enables Mr. Wall to continue in his scholarship and professional development through his professional associations in industry.

10. **Tim H. Willard** (Adjunct Faculty): Mr. Willard maintains his scholarship and professional development through his current employer by attending various workshops and seminars. He maintains current in his profession as a structural engineer through various structural design coursework and seminars as well as his supervision skills through workshops provided by his employer. Mr. Willard maintains his professional license, Utah Licensed Structural Engineer, through continuing educational credits in his profession.

11. **Joseph M. Wolfe Jr**. (Full-Time Faculty): Mr. Wolfe maintains his scholarship and professional development through the university's "Teaching and Learning Forum" activities provided to faculty, chairs and managers, as well as workshops and meeting provided by EAST, our department college. Mr. Wolfe continues his professional development in his current assignment working with and attending workshops and seminars prepared by Academic Affairs at their annual "Deans/Department Chairs Retreat in August this year. In addition, Mr. Wolfe participates in university-sponsored training for Department Chairs to improve skills in faculty administration. Scholarship and professional development has included AIBD Design & Build Day for AECT industry held at the WSU Davis campus in April, and

industry system technology training in logistic, planning and scheduling held in July 2017. He has developed six (6) continuing educational courses for the construction industry, conducting this coursework with industry at the Davis campus during the 2015-2016 academic year and during the spring of 2017.

Mentoring Activities

The college offers training to the department's faculty in the promotion and tenure process, measuring outcomes, and other university related issues.

With 60% of our faculty being instructors, it is difficult to provide adequate mentoring. The department chair mentors the new faculty instructor discussing current policy, classroom issues, continuing education, and course development. No formal mentoring program has been established for the department.

Diversity of Faculty

The faculty includes five male, all Caucasian. As we hire new faculty, we will actively recruit female and minority faculty.

Ongoing Review and Professional Development

The college and the Department Chair support the faculty attending one major conference per year, with the college covering the transportation cost and the department covering the seminar costs.

Additionally, the Department Chair sends all of the faculty to the ASC Region 6 Student competitions where the faculty spends time interacting with their peers from other construction management programs and one day in presentations related to teaching in construction management programs.

The Department Chair supports the faculty continuing their professional development by attending local training provided by the Associated General Contractors of America (AGC), Associated Builders and Contractors, Inc. (ABC), the Utah Mechanical Contractors Association (UMCA), etc.

The Department Chair supports faculty attending free training provided by the Teaching, Learning, and Assessment Forum and other university sponsored training.

The Department Chair supports faculty attending training provided by the local and regional construction related organizations and other department, college, and university sponsored training programs.

Standard F – Program Support
Support Staff, Administration, Facilities, Equipment, and Library

Adequacy of Staff
The Parson CMT Program is housed in the Department of Construction Management. The department has one three-quarter-time secretary/Administrator and one work-study student. The level of support staff is currently adequate for our needs.

i. Ongoing Staff Development

The Staff Development program provides funding for professional development of Weber State University's exempt and non-exempt staff members. Staff Development Committee members representing each division, including the area of Diversity; evaluate proposals four times a year.

Grant proposals are judged on how much the project benefits the individual, their department, and the University as a whole.

The President's Council has allocated funding for the express purpose of staff development. Weber State University staff is fortunate to have administrative support for professional growth and development. The Staff Development Committee encourages any interested exempt or non-exempt staff to submit their requests, using the guidelines on the grant checklist. Executives, faculty and students are not eligible for staff development grants.

The written request need not be elaborate, sophisticated, or complicated, but must be complete and meet the guidelines. If staff have concerns about writing this proposal, they may contact any member of the committee for assistance.

Staff Development grants may, among other things, include:

- Team Building
- Conferences
- Staff Retreats
- Campus Speakers
- Workshops
- Audio/Video Training
- Group/Individual Training Seminars

Training is offered through the Office of Workplace Learning.

Adequacy of Administrative Support

The Dean has been supportive of the program and department. The program has worked with the Dean to establish our own awards/graduation ceremony.

Academic Support Units

The names and titles of the individuals responsible for each of the units that teach courses required by the program being evaluated are:

Mathematics – Department Chair – Dr. Paul Talaga
Physics – Department Chair – Dr. Colin Inglefield
Communications – Department Chair – Dr. Sheree Josephson
Accounting – Department Chair – Dr. David Malone
Economics – Department Chair – Dr. Brandon Koford
Business – Department Chair – Dr. Michael Stevens
Botany – Department Chair – Dr. Suzanne Harley
School of Computing – Department Chair – Dr. Brian Rague

Non-academic Support Units

The names and titles of the individuals responsible for each of the units that provide non-academic support to the program being evaluated are listed below:

The Stewart Library has a full time librarian assigned to the college. In addition, each department has a budget for library materials. The University Librarian is Dr. Wendy Holliday, Extension 6403, and the librarian assigned to our college is Jason Francis, extension 6069.

Because the college maintains its own computing resources, it does not rely on services from the university's information technology office. The individual that maintains the computing services for the college is Brad Naisbitt, Extension 7762.

Placement and employment service is handled through the university's Career Services office. They have a full-time individual assigned to our college who is Kim Ann Ealy, extension 6877.

Rainie Lynn Ingram, extension 7785, handles student advising service for non-core coursework

Dana D. Dellinger, extension 7552, handles college recruiting for the college. Dana serves on the program advisory board.

College and program development is handled through the WSU Development Office. Kelly Stackaruk, Director, extension 6978 and Kristin Wojciechowski, Associate Director, extension 6187, provides college and department support.
Kelly serves on the Scholarship and Fundraising subcommittee of the IAB

Administrative support of the program is sufficient to meet the needs of the program.

Adequacy of Facilities and Equipment

The program has space on the Davis campus in Layton, Utah. The Department has dedicated office space, eight classrooms that will be shared with other programs when not being used by the Department, a dedicated senior project room, a dedicated computer lab, and a dedicated concrete testing lab. The office space include 14 offices three of which are currently shared with other programs, space for four adjunct instructors, an administration office, a secretarial station, and a storage/work room.

Facilities are adequate for the program.

Adequacy of Library Resources

The Stewart Library houses numerous books, journals, media holdings and electronic journals. All students, including distance education students may access the WSU Stewart Library from any location via the Internet. Students may access any number of electronic databases in this manner. In addition, students may request interlibrary loan options from this website. The library has a dedicated librarian for the College of Applied Science and Technology. The holdings and services of the library are more than adequate for the Parson CMT program. The Davis Campus has a full service library located at the Weber State Davis Campus located in Building 2, second floor.

Library resources are adequate for the program

G. Relationships with External Communities

Description of Role in External Communities

The Construction Management Industry Advisory Committee (IAB) meets formally four times a year, two meetings in fall and spring. Industry advisors, CMT faculty, the Department Chair, and the Dean of our college attend the committee meetings. The proceedings are conducted by the IAB chairperson or designated member of the advisory board leadership. This board has been extremely active the past several years, providing financial support and industry advice. The program relies on this board to provide advice and suggestions on curriculum changes, course content, scholarships, department funding, employment strategies, etc. In the past, the board has been very helpful in obtaining support and backing for the program in forms of donations and scholarships.

Summary of External Advisory Committee Minutes

The following is a copy of the November 1, 2007 meeting agenda and copy of the meeting minutes of the August 30, 2017 meeting.

Parson Construction Management
Industry Advisory Board (IAB) Meeting
November 1, 2017-7:30 am
Davis Campus D-3 Room 309

1. Welcome-Todd Laker
   a. Attendance
   b. Pledge of Allegiance
   c. Approval of Aug. 30 Meeting Minutes

2. IAB Updates
   a. Committee Updates - Todd Laker & Committee Chairs
      i. Enrollment/Marketing
         1. Marketing Material - Community Focus
         2. Updates with CTI
      ii. Curriculum & Accreditation-Survey results
      iii. Fundraising & Scholarship
      iv. Student Placement

3. Student Clubs/Competition
   a. Daniel Fuhriman(Clubs)
   b. Michael Hooper(Competition Teams)

4. Parson CMT Updates
   a. Program & Department Name Change Update - Joseph Wolfe
   b. ABET Accreditation Process - Joseph Wolfe
   c. Design Charrette - Chris Soelberg

5. CMT Alumni - Drew Allen
   a. AIC Exam
   b. Graduation Celebration Speaker

6. Upcoming Events
   a. Networking Night (Career Fair) - Wednesday Nov 8, 2017 4:30 - 7:30
   b. Graduation Celebration - Breakfast- Friday, December 15, 10 am Union Grill followed by 1:00 pm Commencement at Dee Events Center

7. Next scheduled meeting is January 31, 2018.

Construction Management Technology
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801-395-3427 | weber.edu/cmt

Parson Construction Management
Industry Advisory Board (IAB) Meeting
August 30, 2017-7:30 am
Davis Campus D-3 Room 309

Attendance: Matt Brower, David Stryker, Slade Opheikens, Nick Dyer, Joe Wolfe, Pete van der Have, Perry Hilton, Drew Allen, Nate Taggart, Scott Dixon, Eric Wells, Chris Soelberg, David Ferro, Andrea Stuart, Daniel Fuhriman,

1. Welcome, Pledge of Allegiance and approval of minutes.
2. Committee Updates
    a. Curriculum & Accreditation-Slade shared his survey ideas for software, competency of graduates, graduates ready to enter work force, and hiring of WSU-CM graduates. We invite all to share the google form with any organization. Andrea will send the form to the IAB, AGC and ABC. Members of the IAB are welcome to share the form to their associates in the industry.
    Here is a link for the Survey: https://goo.gl/forms/3xmgQxJl41xvqmCV2
    b. Enrollment and marketing- Joe Wolfe reports on he and Pieter van der Have's discussion with Don Salazar about the Hispanic community.
    He voiced his displeasure with Davis Marketing and now in on the Davis marketing board. They are working with the marketing/communications group. Marketing will need to follow the template set up by Weber State.
    c. Fundraising & Scholarship-Kristin Wojciechowski with WSU Development office reported the program has two new donors. Brandon Radmall will Paul Davis Restoration has agreed to fund a new scholarship for our CM students. A new endowment has been set up to honor Norman L. Maero. Jim Laub and members of the construction community have agree to fund this endowment.
    Kristin also discussed the golf tournament. It is top notch. The board voted to leave at Hubbard Golf Course. We appreciate all who attend and sponsor this event.
3. Student Clubs and Competition- Daniel Fuhriman is the new club student president. He is planning on helping with events. He will coordinate info sessions as well as club activities. HHI will be coming Oct 10, 2017. The club will be having a tailgate party on Oct 28, 2017. All are invited. If you would like to join us please email andreastuart@weber.edu.
Competition teams will be lead by Michael Hooper and Jordan Jones. They have four team scheduled to go to the BYU competition in November. The CM department is looking forward to four teams to represent Weber State at the 2018 ASC student competition in Sparks, Nevada. This event will be held in February 2018.
4. Parson CMT Updates.
    a. Accreditation updates- ABET self study in now sent into accreditation body. With the new curriculum the course follow ACCE and ABET requirements.
    Northwest Accreditation (UNIVERSITY WIDE) is now be compiled.
    b. Joe reported on Continuing Education Programs. Oldcastle has set up educational programs for their employees. He look forward for other CE opportunities.
    c. Design Charrette is an interdisciplinary event for Interior Design, Design Engineering and Construction Management student. The event was held Sept 14-16. 60+ students collaborated to design, model, schedule and create a budget for the Nyafumba Village, Uganda Legacy Library.

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Standard H – Program Summary

Results of Previous Program Reviews

Problem Identified	Action Taken	Progress
Issue 1 – Curriculum Review Complete the curriculum review and seek to make changes to the curriculum to address weaknesses identified by ACCE and to strengthen the curriculum.	**Previous 5 Year Program Review:**	
	Year 1 Action Taken: Submit curriculum changes.	Changes were reviewed by faculty, and updates and modifications made as appropriate.
	Year 2 Action Taken: None	Faculty discussion and documentation
	Year 3 Action Taken: None	Faculty discussion and documentation
	Year 4 Action taken: Curriculum review and updates were again reviewed by faculty and IAB	Changes were developed and revisions established for curriculum update the Spring 2017.
Issue 2 – Program/Student Outcomes Establish program outcomes for the CMT course used for the Construction Management Technology Degree – Construction Management emphasis and begin measuring the outcomes.	**Previous 5 Year Program Review:**	
	Year 1 Action Taken: Finalize course outcomes. Have the faculty practice measuring outcomes for at least one course per semester to experience measuring outcomes.	Program/Student Outcomes were discussed by faculty, and reviewed and approved by Industry Advisory Board (IAB).
	Year 2 Action Taken: Measure outcomes for 25% of the courses. Review outcomes to see if any revisions need to be made.	Faculty reviewed findings with IAB
	Year 3 Action Taken: Measure outcomes for 25% of the courses. Review outcomes to see if any revisions need to be made.	Faculty review findings with IAB.
	Year 4 Action taken: Measure outcomes for 25% of the courses. Review outcomes to see if any revisions need to be made.	Changes review with IAB and will be incorporated into program outcomes during year 5.

Action Plan for Ongoing Assessment Based on Current Self Study Findings

Action Plan for Evidence of Learning Related Findings

Problem Identified	Action to Be Taken
Issue 1 – Curriculum Review Review 25% of defined program curriculum, during years 2, 3, 4, and 5 for modifications and updates supporting industry needs and standards.	Current 5 Year Program Review:
	Year 2 Action to Be Taken: Submit curriculum changes as required.
	Year 3 Action to Be Taken: Submit curriculum changes as required.
	Year 4 Action to Be Taken: Submit curriculum changes as required.
	Year 5 Action to Be Taken: Submit curriculum changes as required.
Issue 2 – Program Outcomes Review one-third program outcomes with Industry Advisory Board (IAB) and update or modify as appropriate during years 3, 4, and 5.	Current 5 Year Program Review:
	Year 2 Action to Be Taken: None
	Year 3 Action to Be Taken: Update "Program Outcomes" as appropriate.
	Year 4 Action to Be Taken: Update "Program Outcomes" as appropriate..
	Year 5 Action to Be Taken: Update "Program Outcomes" as appropriate.
Issue 3 – Student Learning Outcomes Review 25% program outcomes with faculty and Industry Advisory Board (IAB) updating or modifying as appropriate during years 3, 4, and 5	Current 5 Year Program Review:
	Year 2 Action to Be Taken:: Update "Learning Outcomes" as appropriate. Make changes in program listings as necessary.
	Year 3 Action to Be Taken: Update "Learning Outcomes" as appropriate. Make changes in program listings as necessary.
	Year 4 Action to Be Taken: Update "Learning Outcomes" as appropriate. Make changes in program listings as necessary.
	Year 5 Action to Be Taken: Update "Learning Outcomes" as appropriate. Make changes in program listings as necessary.

Action Plan for Staff, Administration, or Budgetary Findings

Problem Identified	Action to Be Taken
Issue 1- Program Budget: Develop and provide annual program budget information for Industry Advisory Board review and comment. Document soft fund distribution.	Current 5 Year Program Review:
	Year 1 Action to Be Taken: Program faculty to review income/expense data and develop budget for program. Review budget information with Department Chair, College Dean and Industry Advisory Board.
	Year 2 Action to Be Taken: Review and update budget. Review budget with Department Chair, College Dean and Industry Advisory Board.
	Year 3 Action to Be Taken: Review and update budget. Review budget with Department Chair, College Dean and Industry Advisory Board..
	Year 4 Action to Be Taken: Review and update budget. Review budget with Department Chair, College Dean and Industry Advisory Board.
Issue 2 – Program Staff/Faculty: Develop program faculty succession plan	Current 5 Year Program Review:
	Year 1 Action to Be Taken: Program faculty to review program-staffing data and develop succession plan for program. Review succession plan information with Department Chair, College Dean and Industry Advisory Board.
	Year 2 Action to Be Taken: Review and update succession plan. Review succession plan with Department Chair, College Dean and Industry Advisory Board.
	Year 3 Action to Be Taken: Review and update succession plan. Review succession plan with Department Chair, College Dean and Industry Advisory Board.
	Year 4 Action to Be Taken: Review and update succession plan. Review succession plan with Department Chair, College Dean and Industry Advisory Board.
Issue 3 – Program Strategic Plan: Revise and update program strategic plan	Current 5 Year Program Review:
	Year 1 Action to Be Taken: Program faculty, Industry Advisory Board and College Dean to review and update program strategic plan.

Continued **Issue 3 – Program Strategic Plan**: Revise and update program strategic plan	Year 2 Action to Be Taken: Year 1 Action to Be Taken: Program faculty, Department Chair, Industry Advisory Board and College Dean to review and update program strategic plan.
	Year 3 Action to Be Taken: Year 1 Action to Be Taken: Program faculty, Department Chair, Industry Advisory Board and College Dean to review and update program strategic plan.
	Year 4 Action to Be Taken: Year 1 Action to Be Taken: Program faculty, Department Chair, Industry Advisory Board and College Dean to review and update program strategic plan.

Summary of Artifact Collection Procedure

Artifact	Learning Outcome Measured	When/How Collected?	Where Stored?
AIC Constructor Certification Commission CQE Level 1 - Construction Fundamentals (National Exam)	**1.Communication Skills:** Demonstrate effective verbal and written communication skills.	Last semester of senior year. Exam is given in the spring and the fall.	CMT Offices
AIC Constructor Certification Commission CQE Level 1 - Construction Fundamentals (National Exam)	**2.Engineering Concepts:** Apply the principles of engineering, science, and math to solve practical construction problems.	Last semester of senior year. Exam is given in the spring and the fall.	CMT Offices
AIC Constructor Certification Commission CQE Level 1 - Construction Fundamentals (National Exam)	**3.Management Concepts:** Apply the principles of accounting and business management to the construction industry.	Last semester of senior year. Exam is given in the spring and the fall.	CMT Offices
AIC Constructor Certification Commission CQE Level 1 - Construction Fundamentals (National Exam)	**4.Materials, Methods, and Plan Reading:** Evaluate construction materials, methods, and equipment and demonstrate the ability to interpret contract and design documents.	Last semester of senior year. Exam is given in the spring and the fall.	CMT Offices
AIC Constructor Certification Commission CQE Level 1 - Construction Fundamentals (National Exam)	**5.Bidding and Estimating:** Estimate construction quantities and apply costs to prepare bid proposals for construction projects.	Last semester of senior year. Exam is given in the spring and the fall.	CMT Offices
AIC Constructor Certification Commission CQE Level 1 - Construction Fundamentals (National Exam)	**6.Budgeting, Costs, and Cost Control:** Apply the principles of accounting to project management, including budgeting and controlling costs.	Last semester of senior year. Exam is given in the spring and the fall.	CMT Offices

Artifact	Learning Outcome Measured	When/How Collected?	Where Stored?
AIC Constructor Certification Commission CQE Level 1 - Construction Fundamentals (National Exam)	**7.Planning, Scheduling, and Control:** Apply the principles of scheduling to construction projects, including activity selection and sequencing, duration calculation, and the development of a	Last semester of senior year. Exam is given in the spring and the fall.	CMT Offices
AIC Constructor Certification Commission CQE Level 1 - Construction Fundamentals (National Exam)	**8.Construction Safety:** Identify the OSHA standards that apply to the construction industry and develop a safety management plan.	Last semester of senior year. Exam is given in the spring and the fall.	CMT Offices
AIC Constructor Certification Commission CQE Level 1 - Construction Fundamentals (National Exam)	**9.Surveying and Project Layout:** Apply the principles of math to solve surveying problems and demonstrate the proper use of surveying equipment in construction layout.	Last semester of senior year. Exam is given in the spring and the fall.	CMT Offices
AIC Constructor Certification Commission CQE Level 1 - Construction Fundamentals (National Exam)	**10.Project Administration:** Apply the principles of project management to construction projects, including site layout, contract administration, quality control, conflict resolution, and record keeping.	Last semester of senior year. Exam is given in the spring and the fall.	CMT Offices

APPENDICES

Appendix A: Student and Faculty Statistical Summary (*Note*: Data provided by Institutional Effectiveness)

	2012-13	2013-14	2014-15	2015-16	2016-17
Student Credit Hours Total	2,707	2,319	2,342	2,053	1,984
Student FTE Total	90.23	77.30	78.07	68.43	66.13
Student Majors	189	192	186	176	166
Program Graduates					
Associate Degree	2	2	5	13	18
Bachelor Degree	18	15	9	21	21
Student Demographic Profile					
Female	12	11	9	8	10
Male	177	181	177	168	156
Faculty FTE Total	7.07	7.34	6.17	5.10	n/a
Adjunct FTE	2.75	2.78	1.59	0.99	n/a
Contract FTE	4.32	4.56	4.56	4.11	n/a
Student/Faculty Ratio	12.76	10.53	12.69	13.42	n/a

Academic Year		2012-13	2013-14	2014-15	2015-15	2016-17
90-CH majors graduating w/in 1 year	University	957	987	1145	1762	2755
	College	138	151	237	255	519
	Department	5	2	22	27	25
90-CH majors graduating w/in 2 years	University	761	712	1044	994	234
	College	131	132	181	144	43
	Department	11	9	4	4	1
90-CH majors graduating w/in 3 years	University	297	300	742	109	-
	College	51	65	144	18	-
	Department	8	5	8	0	-
Average overall hours of graduates	University	141.00	140.00	139.58	141.00	139.50
	College	147.50	147.00	141.00	146.00	149.00
	Department	152.00	149.99	149.50	143.00	149.00
Average 'years to degree' for bachelor degree	University	6.31	5.98	5.69	5.99	5.99
	College	6.98	7.30	6.31	6.68	6.32
	Department	9.68	7.67	11.99	8.95	6.95
Other Analyses	**Fall**	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-14**
Ratio of lower division/upper division SCH	University	2.58	2.34	2.35	2.38	2.47
	College	2.26	2.27	2.15	2.00	2.11
	Department	0.93	1.15	1.17	1.27	
Ratio of GenEd_Service/overall SCH	University	NA	NA	NA	NA	NA
	College	NA	NA	NA	NA	NA
	Department	1.0	1.0	1.0	1.0	1.0
Percent of courses with adequate completion (adequate compl = 70%+, A, B, and C grades)	University	83.6	83.3	85.0	84.7	85.6
	College	91.0	92.6	90.2	89.3	90.1
	Department	91.7	93.8	93.5	94.5	94.2

Appendix B: Contract/Adjunct Faculty Profile

Name	Gender	Ethnicity	Rank	Tenure Status	Highest Degree	Years of Teaching	Areas of Expertise
Matthew K. Brower	M	Caucasian	A	NTT	M	5	CM
Russell C. Butler	M	Caucasian	I	NTT	M	6.5	CM
Shawna Code	F	Caucasian	A	NTT	M	2	CM
Todd S. Laker	M	Caucasian	A	NTT	M	2	CM
Layne B. Packer	M	Caucasian	A	NTT	M	11	CM
Pieter J. van der Have	M	Caucasian	I	NTT	B	9	CM
Dan Wall	M	Caucasian	A	NTT	B	16	CM
Tim H. Willard	M	Caucasian	A	NTT	M	17	CM

M = Male, F = Female, A = Adjunct, I = Instructor, NTT = Non Tenure Track, M = Master's Degree, Bachelor's Degree
CM = Construction Management

Appendix C: Staff Profile

Name	Gen	Ethnicity	Job Title	Years of Employment	Areas of Expertise
Andrea Stuart	F	Caucasian	Administrative Specialist I	5	Administrative Support

Appendix D: Financial Analysis Summary
(This information is provided by the Provost's Office)

Program Name					
Funding	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17**
Appropriated Fund	$454,786	$517,747	$540,071	$484,812	$587,631
Other:					
Special Legislative Appropriation	0.0	0.0	0.0	0.0	0.0
Grants or Contracts	0.0	0.0	0.0	0.0	0.0
Special Fees/Differential Tuition	$10,017	$9,455	$7,349	$7,451	$6,070
Total	$464,803	$527,202	$547,420	$502,263	$593,701

Appendix E: External Community Involvement Names and Organizations

Name	Company
Michael Allison	Big-D
Kelly Booth	NUAMES, Principal
*Matt Brower	Sure Steel
Jim Cavey	Jacobsen Construction Company, Inc
Garry Claflin	Elkhorn Construction
Allen Clemons	
Clint Costley	Kier Construction
Chris DeHerrera	ABC Utah Chapter
Dana Dellinger	WSU, Recruiter
Scott Dixon	Stacey Enterprises, Inc.
Nick Dyer	Oakland
Kim Ealy	WSU, Career Services
Dave Ferro	WSU, Dean
Shane Francis	Elkhorn Construction
Richard Fullmer	AGC, Utah Chapter
Morgan Green	Green Construction
Dave Hill	Utah Plumbing & Heating Contractors Association
Tim Homer	Wasatch Electric
Michael Hooper	Student Comp Rep
Steve Kier	Kier Construction
Todd Laker	Holcim
Jennifer Lanzetti	Cn3d
Chris Martineau	CL Martineau Homes
Bryan McCurdy	Hughes GC
Mike McDonough	Layton Construction Company

Mike Perkes	Cache Valley Electric
Heather Johnson	CSDZ
Slade Ophiekens	R&O Construction
Scott W.Parson	Staker & Parson Company
Dan Penncock	Oakland Construction
Steve Peterson	WSU, CMT Professor
Jason Robinson	Babcock, Scott and Babcock
Chris Soelberg	WSU, CMT Program Coordinator
Kelly Stackaruk	WSU, Development
Dave Stryker	Elwood Staffing
Andrea Stuart	WSU, CMT Secretary
Nate Taggart	NUAMES High School
Kris Talynn	Oakland Construction
Pete van der Have	WSU, FM Instructor
Dave Wadman	Wadman Corporation
Eric J Wells	Granite
Ben Wheelright	Wadman Corporation

Appendix F: Site Visit Team (both internal and external members)

Name	Position	Affiliation
Dr. Allyson Saunders, Ph.D.	Assistant Dean	Weber State University - EAST
Dr. Barry Hallsted, Ph.D.	Associate Professor	Utah Valley University
Slade Opheikens	IAB Subcommittee Chair	R&O Construction Company
Matt Brower	IAB Chairman	Sure Steel, Inc.