2022-2023

Construction Management BS

Demonstrate Construction Management Knowledge and Skills

Goal Description:

Students will demonstrate knowledge and skills relevant to Construction Management.

Providing Department: Construction Management BS

RELATED ITEMS/ELEMENTS

RELATED ITEM LEVEL 1

Development Of Students' Knowledge And Skill Learning Objective Description:

Students will be able to demonstrate competency in key areas of Construction Management by successfully displaying skills in an Estimation Course. The Estimation Course serves as a capstone requirement with required skills in construction math, material pricing, bid tabulation, and project scheduling.

RELATED ITEM LEVEL 2

ETCM 4310 Construction Cost Estimating - Knowledge and Skills

Indicator Description:

The proposed indicators focus on evaluating the effectiveness of the teaching and learning process specific to cost estimation techniques, principles, and skills:

- Demonstrates knowledge of basic cost estimation principles, methods, and terminology.
- Understands the relationship between cost estimation and project planning.
- Shows comprehension of key cost factors, such as labor, materials, overhead, and contingencies.
- Applies appropriate units of measurement and cost estimation techniques.

Utilizes various cost estimation methods to different project scopes and complexities.

Criterion Description:

To evaluate students' knowledge of basic cost estimation principles, methods, and terminology, and their understanding of the relationship between cost estimation and project planning, two homework assignments were employed. These assignments required students to apply cost estimation principles and methods for a project scenario. The students' ability to accurately analyze project requirements and generate realistic cost estimates was evaluated.

To evaluate students' comprehension of key cost factors and their ability to apply appropriate units of measurement and cost estimation techniques, two homework assignments were employed. The students were provided with project scenarios and asked to develop a cost estimate using the appropriate techniques and terminology. Their ability to accurately analyze project requirements and generate realistic cost estimates was evaluated.

The students' knowledge of various cost estimation methods to different project scopes and complexities was evaluated by written exams. The midterm and final exams included questions about different estimation techniques, cost factors, formulas, and industry standards.

Findings Description:

The findings indicate that the students have met the minimum requirements for successful completion of the course. The findings would suggest the following:

- The majority, if not all, of the students actively participated in the learning process, showing a willingness to engage with the course content and complete the required assignments or assessments.
- The students have demonstrated a satisfactory understanding of the course material, as reflected in their ability to successfully pass the assessments or exams. They have grasped the core concepts, principles, methods, and terminology related to cost estimation.
- The assessment methods employed in the class were appropriate for evaluating students' knowledge and skills in cost estimation. The assessments effectively measured their

understanding, application, and synthesis of the course content.

RELATED ITEM LEVEL 3

ETCM 4310 Construction Cost Estimation- Knowledge and Skills **Action Description:**

Based on the analysis of assessment findings, some of the actions to improve the students' learning include:

- Mathematical and analytical skills were the areas where students struggled or demonstrated lower proficiency. The actions include to provide clear explanations of mathematical concepts and analytical techniques, breaking them down into understandable steps, use visual aids, realworld examples, and demonstrations to help students grasp abstract concepts more easily.
- Alternative teaching methods, such as incorporating more visual aids, real-world examples, or hands-on activities shall be considered to enhance student engagement and understanding.
- To incorporate feedback from students on their learning experiences, opportunities for students to share their perspectives on the course content, instructional methods, and assessment strategies shall be provided. Incorporate their suggestions and address any areas where they express difficulties or concerns.

Develop Professional Skills

Goal Description:

Students will gain necessary work force experience to compete in the construction field.

Providing Department: Construction Management BS

RELATED ITEMS/ELEMENTS -----

RELATED ITEM LEVEL 1

Demonstrate Professional Skills Learning Objective Description:

Students completing the BS in Engineering Technology will demonstrate skills necessary to compete in the professional marketplace through an internship.

- Students completing the BS in Engineering Technology will demonstrate skills necessary to compete in the professional marketplace through an internship.

- Students will establish a professionalism to be ready to start their successful careers in each professional field through an internship.
- Students will improve their written, oral, and graphical communication skills with stakeholders in each professional field to maintain professional working relationships.

At the conclusion of these courses, the student will have demonstrated successfully the following competencies:

1. Work in an Industrial Environment.

2. Work in either a Field Management, a Construction Management, a Superintendent Management, Project Management, Safety

Management or combinations of responsibilities.

- 3. Develop the required reports and maintain progressive reviews that identify the progress being made on the project.
- 4. Supervise workers in the various trades that are under their responsibilities.

5. Write change orders on specification sheets.

6. Prepare project documents and resources to support the activities for a project.

7. Communicate with subcontractors and maintain professional working relationships.

8. Write and maintain punch list and other required documentation.

9. Exhibit characteristics associated with successful employment in industry.

RELATED ITEM LEVEL 2

ETEC 4391 Internship Evaluation Indicator Description:

Students enrolled in the program should complete ETEC 4391 in the end of their third or final year (Junior or Senior) of enrollment. ETEC

4391 addresses key concepts and skills, as well as practical demonstrations of competency relevant to the field of each program in the

Department of Engineering Technology. All students in this course will be evaluated by their internship supervisor and by their course

instructor on a faculty-developed rating scale.

Students need to meet the below student eligibility to register ETEC4391 for 3 credits or 6 credits.

Minimum semester hours - 32 hrs. Including 21 within the academic major for your degree program or the 15 within the academic minor for your minor program. Some internships may specify courses / content to have been completed.

Minimum grade of "C" or higher in ENG 1301 and 1302 or equivalent.

- **B**ransfer students become eligible upon the successful completion of one full-time semester if all other eligibility requirements are fulfilled and apply according to instructions on announcements.
- Section Program internships (ETEC 4391) Due to the unique structure of this program, the above listed eligibility requirements do not apply. See the Trades and Industry Certification Program coordinator regarding specific requirements for this program.

The students in ETEC 4391 in Summer 2022 were evaluated by the following detail rubric:

Weekly Reports [10 weekly reports]	20 Points
Summary of Syllabus	3 Points
Resume	3 Points
LinkedIn	2 Points
EMAIL Communication Skills	2 Points
ONLINE Video Review and Summary (1 video)	10 Points
FINAL SUMMARY PAPER	20 Points
FINAL SUMMARY PRESENTATION	20 Points
Supervisor's Evaluation	15 Points
Supervisor's working hour verification letter	5 Points
TOTAL	100 Points

COURSE EVALUATION – GRADING: 100 POINT SCALE

Grade Scale - Final grades will be based upon the following points.

Your final numerical point will ROUND OFF to THE NEARNEST WHOLE NUMBER.

A = +90 Points

- B = 80 89 Points
- C = 70 79 Points
- D = 60 69 Points
- F = under 60 Points

Criterion Description:

It is expected that at least 85% of the students enrolled in ETEC 4391 will achieve above average standard (B or higher) of performance on

the supervisor evaluation rating scale and the final letter grade. In general, if the students in ETEC 4391 miss to submit any assignments, the

assignments not submitted will impact their final grades by two letter grades.

All assignments should be submitted to Blackboard by the specific due dates as below.

Assignments	Due Date
10 Weekly Reports (Weekly Logs) (6/1/2022 – 8/2/2022: 10 weeks)	By Midnight, Every Sunday i.e. The 1 st Weekly Report (5/30/2022-6/3/2022) → By Midnight, 6/5/2022 (Sunday)

Summary of Syllabus	6/5/2022
Resume	6/5/2022
LinkedIn	6/12/2022
ONLINE Video Review and Summary (1 Video)	6/19/2022
EMAIL Communication Skills	No due date. (Based on your email communication
	between a student and an instructor)
FINAL SUMMARY PAPER	7/24/2022
FINAL SUMMARY PRESENTATION	7/24/2022
Supervisor's Evaluation	7/24/2022
Supervisor's working hour verification letter	7/24/2022

Weekly Reports are due Midnight, Every Following Sunday:

Follow and use the format as posted on Blackboard.

Don't modify the template and fill in every required information on the format.

Please describe your daily activities as specific as you can like the sample.

If your internship begins before the semester, please fill out your daily activities to the attached template and submit your weekly reports to the first week of summer semester.

For instance, if your internship begins 5/15/2023, please write 2 weekly reports from 5/15 to 5/19 and from 5/22 to 5/26 and submit 2 weekly reports with the 1st weekly report (5/29-6/2) to the folder of the 1st weekly report.

Resume:

Example will be on Blackboard – follow the example closely. Upload all your Weekly Reports to ETEC4391-1 on Blackboard before or on due date posted on Blackboard.

LinkedIn Profile:

You will develop a professional LinkedIn profile as a requirement for ETEC 4391, and you should update your profile including your current internship. And then please link your profile to Dr. Min Jae Suh and the LinkedIn page of "Sam Houston State University - Engineering Technology".

Summary of Syllabus:

This course is an online course, and the course instructor confirms that students read a course syllabus carefully or not. Students summarize key points or core contents after reading the course syllabus.

Email Communication Skills:

When you send your email properly and professionally to a course instructor. One of the purposes of this courses is to improve your professional commination skills. Additionally, the email is the best way to communicate between the instructor and the student because this is ONLINE courses. Please check your school email once a week at least!

Video Review and Summary:

An announcement/notification will be posted to ETEC4391-1 on Blackboard including the link to

the video. You will watch the videos and summarize the video topics. 1-page summary should be uploaded before or on the due date to Blackboard.

Supervisor's Evaluation:

Download the Supervisor Evaluation from Blackboard. Have your immediate supervisor complete the evaluation and email it to Dr. Min Jae Suh, mjs068@shsu.edu **Supervisor's Working Hour Verification Letter:**

The letter should include student's total working hours at a jobsite to verify complete student's working hours and potential future working hours to meet 300 working hours or 600 working hours. The letter should be prepared by student's supervisor or HR and include his/her signature in the letter. There is no specific format, but you can find samples for this letter.

Based on your working hour verification letter, I can confirm you can make 300 working hours or 600 working hours during your internship before or after Summer 10 Semester. Please see the samples!

Final Summary Paper:

Submit a 2-3 page, 1.5-spaced paper. The paper should describe the history of the company in which you are interning, the job title and description for your position, the actual activities / duties / job tasks you completed while interning and your personal thoughts of the internship such as pros and cons.

Final PPT or Video Presentation:

Create a Power Point presentation that illustrates your internship experience. You will need to include pictures showing the projects / activities you performed.

Upload the presentation file to Blackboard on or before the due date.

OR

Create a 4-5 minute video that describes your experience using a self-recording.

For both of the presentations you need to identify the company, job title, skills you learned, location, travel expected, activities and/or duties you preformed, and pros and cons of your internship. Also include examples of the classes you have taken that supported your experience and skills you think should be included or added to the courses of your major.

Findings Description:

There were 67 Engineering Technology students enrolled in ETEC4391-01 and/or 02 in Summer 2022. The number of students in ETEC4391-01 and/or 02 was gently increased compared to the previous year, Summer 2021. Most students successfully completed this course in Summer 2022. The summary of our findings in relation to the learning objectives is shown in the below table.

Summarized Students' Course Achievements		
Directly supported learning objectives and student outcomes:	 Students' Course Achievements Students completing the BS in Engineering Technology will demonstrate skills necessary to compete in the professional marketplace through an internship. 1.Work in an Industrial Environment. 2.Work in either a Field Management, a Construction Management, a Superintendent Management, Project Management, Safety Management, or combinations of responsibilities. 3.Exhibit characteristics associated with successful employment in industry. Students will establish a professionalism to be ready to start their successful careers in each professional field through an internship. Develop the required reports and maintain progressive reviews that identify the progress being made on the project. Supervise workers in the various trades that are under their responsibilities. Write change orders on specification sheets. 	
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stakeholders in each professional field to maintain professional working

relationships.

8. Communicate with subcontractors and maintain professional working relationships

9. Write and maintain punch list and other required documentation.

Student's internship supervisors submitted their supervisor's evaluations with their evaluation rating scale and observations to a course instructor, and the evaluation rating was determined by immediate student's internship supervisor using 5 rating scale from A to F and it was based on the performance of internship student at their jobsite during their internship program. 95.6% of internship students received 'A' from their internship supervisors and 4.4% of internship students received 'B'. Therefore, 100% of students in this course achieved A or B at their internships and the percent was higher than the target percentile of ETEC4391-1 and/or 2 in summer 2022.

Most of students completed the course in Summer 2022 and they successfully received above average final letter grade at the end of semester. The summary of the distribution of final letter grade is as follows: 95.5% of students in ETEC4391-01 and/or 02 students achieved above the average final letter grade, and the percentile is higher than the target of criterion, at least 85% of the students enrolled in ETEC 4391 will achieve above average standard ('B' or higher). 3.0% of students achieved 'C' and 1.5% of students achieved 'D'. Overall, the percentile of students who received above average standard (B or higher) was increased in Summer 2022.

RELATED ITEM LEVEL 3

ETEC 4391 Internship Evaluation

Action Description:

To improve of this course, a course instructor considers student's professionalism at their workplaces. That is the reason why the instructor added a new assignment, email communication, to the existing rubric, and it was a useful assessment to improve student's professional writing communication skill. The target percentile of criterion will be increased by 90 percent from current 85 percent.

Update to Previous Cycle's Plan for Continuous Improvement Item

Previous Cycle's Plan For Continuous Improvement (Do Not Modify):

Closing Summary

The BS in Construction Management program has just been accredited by the ABET ANSAC commission. The faculty in the program will continue to address the observations regarding the needs to add a dedicated course to the existing curriculum addressing construction law and recruitment of additional full-time faculty with the increasing students majoring in this program.

Update of Progress to the Previous Cycle's PCI:

The BS in Construction Management published new course curriculum including a few new courses such as Construction Cost Estimating, Construction Scheduling, Construction Project Management, and others. The revised curriculum can provide more educational options to students in Construction Management and meet the current industry needs. In addition, Construction Management program hired two tenure-track faculty, one full-time lecturer, and one part-time lecturer and they are teaching existing and new courses of Construction Management.

New Plan for Continuous Improvement Item

Closing Summary:

The BS in Construction Management keeps updating the course curriculum to meet the ABET ANSAC requirements, the needs of students, and the demand of construction industry. Concurrently, the program tries that all equipment, manpower, and other needs will be provided to implement revised curriculum for students in Construction Management without any challenges or barriers.