

2019  
2020

East Carolina University  
Department of Construction Management

**Quality Improvement Plan**

Revised August 15, 2019

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## **ECU CMGT STRATEGIC PLAN (2014-2019)**

### **1. INTRODUCTION**

The Strategic Plan provides a blueprint that will be reviewed annually at the Department's Fall retreat and updated if needed to enable the department's ability to accomplish its mission and attain its vision.

#### **Document structure and Contents**

The strategic plan has 10 sections. Each section consists of the following subsections.

#### **Goals and Rationale**

This subsection describes the high-level goals and motivation for the section. The goals and rationale should be related to the mission and vision of the Department. The high-level goals generally will not change substantially nor frequently over time. For example, "The goal of the undergraduate program is to prepare graduates for an outstanding professional career in the construction industry ..."

#### **Objectives and Measures**

The subsection objectives delineate the goals and provide measures for evaluating progress. Objective assessments are trended over time and the objectives and measures can change over time. For example, there are several ways that the level of student preparation can be assessed and one or more can be used over time.

#### **Implementation and Review**

This subsection documents the results of the annual review of goals and objectives. Activities include review results and measures, set or revise targets for the measures, and document the strategies, resources, and timeline for meeting the objectives. This section outlines the short term and longer term activities that are identified to address the objectives.

## **2. VISION AND MISSION**

The vision of the East Carolina University Department of Construction Management is

“In the next five years, the Department of Construction Management will become a leader in developing innovative, ethical, and technologically advanced construction management professionals.”

The vision is simple in concept but exceptionally difficult to attain. Many excellent construction programs exist in the U.S. and around the world. Therefore the vision establishes a high level of achievement for the department. To be considered a leader among many programs will require the department’s dedication and resources.

The vision is dependent upon the performance of faculty, staff, and students and is reflected in the department’s programs and strategic alliances with industry.

### **MISSION STATEMENT**

The mission of the East Carolina University Department of Construction Management Undergraduate Program is:

“The Undergraduate Program Mission is to educate students to develop valued, collaborative, industry-ready professionals through quality teaching, applied research, and service in the field of construction.”

The department will pursue this by the following objectives:

1. Students should be academically high achieving.
2. Students should have members of under-represented groups.
3. Provide a curriculum and educational experience relevant to a career in construction management with the expert instruction that results in a high level of student learning.
4. Provide diverse career opportunities for students.
5. Provide graduates for the construction industry.

### **3. FACULTY AND STAFF**

The faculty and staff are the foundation of the ECU Department of Construction Management. The faculty and staff are the only ongoing entity to which former students have an attachment. In general, faculty and staff are expected to become long-term employees. Faculty members have academic backgrounds in construction, engineering, and architecture and have industry experience. Experience may include employment with general contractors, subcontractors, architects, as well as previous experience at other universities. Faculty members generally hold doctoral degrees and engage in a wide variety of research and scholarly activities. The ECU Department of Construction Management places a strong emphasis on activities beyond teaching such as research and scholarly work, in addition to service to the university, community, and the profession.

Regardless of position or rank, all faculty members have equal status within the ECU Department of Construction Management. The only exception occurs when tenured faculty members vote on applications for tenure, or on university specified issues.

The staff holds a vital role in the support of the overall mission of the Department. The staff frequently have education and experience in student support, alumni and industry support, assistance in job placement, and management. Experience may include prior employment outside of academia, as well as, in other departments at the East Carolina University or other academic institutions.

#### **3.1.A Faculty Goals and their Rationale**

Goals:

- The faculty are qualified through experience and education.
- The number of the faculty shall be sufficient to carry the teaching, research, and service load of the Department.
- The faculty are engaged in the Department's activities and service.
- The combined expertise of the faculty shall satisfy the needs of the Department's teaching and research needs.
- The faculty load will be distributed over teaching, research and service to satisfy the Department's responsibilities in all three areas.

Rationale:

- Support the Department's vision to be a leader in developing innovative, ethical, and technologically advanced construction management professionals.

Goal:

- The teaching, research, and service assignments of faculty will support their career development.

Rationale:

- Increase the productivity and value of each faculty member and support the Department's vision to be a leader in developing innovative, ethical, and technologically advanced construction management professionals.

### **3.1.B Staff Goals and their Rationale**

Goals:

- The staff are qualified through experience and education.
- The number of staff shall be sufficient to provide support to the faculty, students, alumni, and guests of the Department.
- The staff are engaged in the Department's activities and service.

Rationale:

- Staff are critical to supporting the Department's vision to be a leader in developing innovative, ethical, and technologically advanced construction management professionals.

Goal:

- The staff's assignments will support their career development.

Rationale:

- Increase the productivity and value of each staff member and support the Department's vision to be a leader in developing innovative, ethical, and technologically advanced construction management professionals.

### **3.2.A Faculty Objectives and Measures**

Objectives:

- The faculty is qualified and meet SACS requirements.
- The faculty effort allocation is adequate to support the teaching mission of the Department.
- The faculty effort allocation is adequate to support the research mission of the Department.
- The faculty effort allocation is adequate to support the service mission of the Department.
- Faculty meet the teaching, research and service missions of the Department.

Measures:

- Percent tenured, tenure-track, fixed term, and adjunct faculty

- Percent with a PhD or equivalent in field
- Number of years of U.S. industry experience for tenured/tenured-track
- Student credit hours by degree program
- Actual course FTE compared to available FTE
- Number of graduates by degree program (UG/Grad/Certificate)
- Number of journal editorships
- Number of journals reviewed by faculty
- Average number of journal articles faculty reviewed
- Number of Proceedings publications
- Number of Journal publications

Target Values are noted in Faculty Implementation and Review Table.

### **3.2.B Staff Objectives and Measures**

Objectives:

- The staff are qualified
- The total staff effort allocation is adequate to support the overall mission of the Department.

Measures and Target Measures are developed by the Chair in consultation with Staff members.

### **3.3.A Faculty Implementation and Review**

Action items for AY **2019-2020**:

- Increase number of journal articles for publication.
- Increase number of grant applications
- Increase grant awards.
- Increase involvement in local, state and national construction organizations
- **Increase involvement with student organizations and student competitions.**

### **3.3.B Staff Implementation and Review**

Action items for AY **2019-2020**:

Staff Implementation and Review are developed by the Chair in consultation with Staff members.

## 4. UNDERGRADUATE PROGRAMS

At present, the ECU Department of Construction Management offers the following undergraduate degree program:

- 1) Bachelor of Science in Construction Management

### 4.1 Goals and their Rationale

Goal:

- To educate students to develop valued, collaborative, industry-ready professionals through quality teaching, applied research, and service in the field of construction.

Rationale:

- This goal supports the Department's vision to be a leader in developing innovative, ethical, and technologically advanced construction management professionals.

This goal is supported by the experienced and dedicated faculty as well as the infrastructure and technology provided by the Department. By supporting this goal through monitoring of objectives and measures the program should fulfill its potential of being a leading construction management undergraduate program in the country.

The program has both lower division and upper division construction management students. Historically enrollment for both lower and upper divisions ranges between 250 and 500 students. The number of undergraduate students graduating ranges from 25 to 75 students each fall and spring semester. A total number of graduates from the program during the past thirty years is over 2,500.

### 4.2 Objectives and Measures

Objectives:

1. Students should be academically high achieving.
2. Students should have members of under-represented groups.
3. Provide a curriculum and educational experience relevant to a career in construction management with the expert instruction that results in a high level of student learning.
4. Provide diverse career opportunities for students.
5. Provide graduates for the construction industry.

Assessment Tools for the Objectives:

1. Students should be academically high achieving.
  - a. - Measure: Average SAT and GPA of lower division CMGT courses
2. Students should have members of under-represented groups.
  - a. - Measure: Percentages of underrepresented groups



3. Provide a curriculum and educational experience
  - a. – Measure: Results of graduating seniors survey questions addressing the SLOs student abilities.
4. Provide diverse career opportunities for students
  - a. - Measure: Percentage of placement rate within three months after graduation
  - b. - Measure: Percentage of students completing an internship
  - c. - Measure: Broad representation of companies from multiple industry sectors attending the career fair
5. Provide graduates for the construction industry
  - a. - Measure: Upper division enrollment
  - b. - Measure: Number of graduates.

### 4.3 Implementation and Review

#### Action items for AY **2019-2020**:

1. Continue to promote the professional and STEM components of the program to High School students and Counselors to encourage academically high achieving students to enter the program.
2. Promote program to High Schools and Community College programs particularly addressing the need for increased underrepresented groups within our program.
3. Work with Industry Advisory Board and the Career Center to encourage an increased number of construction and construction related companies to participate in the fall and Spring Career Fairs. **Promote a Construction Management only Career Fair with the College and the University (Both semesters)**
4. Continue development of the Construction Engineering UG degree program.

## 5. MASTERS PROGRAMS

At present, there are two programs that are under the leadership of the Director of Master's Programs. These are:

- 1) **Master of Science in Construction Management (MSCM)**
- 2) Certificate in Residential Construction Management

### 5.1 Goals and their Rationale

Goals:

- Provide world class construction managers for all major areas of construction.
- Provide a mechanism for students who have graduated from other disciplines to convert to construction management.
- Provide a mechanism for students who have graduated from non-US undergraduate programs to acquire a construction management degree from a US based institution.
- Provide a world-class online program that offers the online MCM program to diverse students that cannot attend on campus.

Rationale:

- To support the Department's vision to be the preeminent institution for construction education and research.

### 5.2 Objectives and measures

Objectives:

- Provide an opportunity for advancement in career
- Provide international students with a US-based degree
- Provide graduates for the construction industry

Measures:

- % of students in underrepresented groups
- Students with non-construction management undergraduate degree
- % of graduates who have a non-US degree prior to coming to ECU
- % of students who publish at least one peer-reviewed conference or journal paper within 18 months of graduation
- Number of students enrolled in **MSCM** program
- Number of applicants for **MSCM** program per year
- % acceptance rate for **MSCM** applicants
- % matriculation rate of **MSCM** applicants
- Number of **MSCM** degree graduates per year
- Number of students enrolled in Certificate in Residential Construction Management
- Number of Certificate in Residential Construction Management graduates per year

- Number of years (average) to complete the **MSCM** degree

Target Values:

- % of students in underrepresented groups (20%)
- Students with non-construction management undergraduate degree (20%)
- % of graduates who have a non-US degree prior to coming to ECU (10%)
- % of students who publish at least one peer-reviewed conference or journal paper within 18 months of graduation (100%)
- Number of students enrolled in **MSCM** program (50)
- Number of applicants for **MSCM** program per year (10)
- % acceptance rate for **MSCM** applicants (75%)
- % matriculation rate of **MSCM** applicants (100%)
- Number of **MSCM** degree graduates per year (10)
- Number of students enrolled in Residential Construction Management Certificate (25)
- Number of Residential Construction Management Certificate graduates per year (5)
- Number of years (average) to complete the **MSCM** degree (2.5)

### 5.3 Implementation and Review

Action items for AY **2019-2020**:

- Graduate program director to work with the Graduate committee and Chair to set up processes for:
  - Evaluation of curriculum by industry
  - Graduating student exit survey
  - One and four year alumni surveys
  - Career outcomes of graduates
- Review existing graduate courses and determine any revisions or proposed new courses
- Create scheduling model of class rollout per semester for a three-year time period
- **Review ACCE Master’s Program Accreditation Guidelines and determine potential for submission in 2020-2021 academic year.**

## **6. RESEARCH AND OTHER SCHOLARLY ACTIVITIES**

### **6.1 Goals and their Rationale**

Goal:

- To be recognized for applied construction research among peer construction management programs.

Rationale:

- With an increasing demand for graduate studies, graduate students are more likely to select Departments with an active, high quality research program.
- Programs with an excellent research reputation are more likely to attract higher quality graduate students and research faculty. This, in turn, will improve the quality and quantity of research output from the Department.
- The latest applied research will assist US contractors maintain their competitive edge in a growing global market.
- The benefits of a strong research program (increased revenue, higher quality research faculty and students, and an increase in reputation) will also indirectly enhance the quality and reputation of the Department's degree programs.

### **6.2 Objectives and Measures**

Objectives:

- Increase research expenditures that support the Department's vision
- Disseminate the Department's research
- Increase the recognition and the quality of the Department's research

Measures

- Number of Grant applications
  - Target: One Grant Application every year for each Tenure and Tenure-track faculty.
- Number of Grants received
  - Target: One Grant Received every two years for each Tenure and Tenure-track faculty.
- Total amount of grant money received.
  - Target: \$25,000 per Grant

### **6.3 Implementation and Review**

Action items for AY **2019-2020**:

- Chair to work with the Faculty Research Committee to review research including productivity and levels of internal and external research funding and develop strategies

to achieve the Department's goals in terms of research expenditures, dissemination, and quality. Proposal to be developed by the Faculty Research Committee.

- **With the employment of two new tenure track faculty, funding applications for grants should increase, particularly for tenure-track personnel.**

## **7. INDUSTRY RELATIONS AND CONTINUING EDUCATION**

The ECU CMGT Department has enjoyed a close and long-standing relationship with the construction industry. This relationship is sustained by an adaptable approach that includes the Executive Committee of the Industry Advisory Board, the Industry Advisory Board membership, the Career Center, ECU Career Net, CMGT Newsletter, IAB review of the CMGT curriculum, student organizations, and other activities that strengthen the relationship between the ECU CMGT Department and the construction community.

### **7.1 Goals and their Rationale**

Goals:

- Ensure the relevance of and support the Department's educational programs.
- Ensure the relevance of and support the Department's research program.
- Support the Department administrative initiatives.

Rationale:

- Industry relations will support the Department's vision to be recognized for applied construction research among peer construction management programs.

### **7.2 Objectives and Measures**

Objective:

- Industry is engaged with the Department's educational programs
- Industry is engaged with the Department's research programs

Measures:

- Number of guest industry lectures in classes
  - Target: 10 per academic year
- Number of Industry Workshops per academic year
  - Target: One Workshop per semester.
- Number of professionals enrolled in the Residential Construction Certificate Program
  - Target: Year 1: 5 with an additional 5 each following year.
- Number of research activities with Industry.
  - Target: 2 per academic year.

### **7.3 Implementation and Review**

Action items for AY **2019-2020**:

- The Chair, IAB President, and College development director to review the Advisory Council and Executive Committee structure to find opportunities to engage an alumni group targeted towards leadership development.

- The Chair and Assessment Committee will develop a database of industry speakers and topics for guest lectures.
- **Continue development of IAB Mentors to assist faculty in evaluation of coursework and SLO assessment.**
- **Provide a minimum of one workshop for industry this academic year.**

## 8. ENDOWMENTS & FUNDRAISING

Currently the ECU CMGT Department has endowment funds with a total value of \$728,206.01 (as of March 1, 2015). These funds have been endowed for different purposes as shown in the following table.

Category	Fund
Endowed Professorships	\$697,456.01
Student Scholarships	\$30,750.00
Research Centers	
General	
<b>Total</b>	<b>\$728,206.01</b>

### 8.1 Goals and their Rationale

Goal:

- The funds allocated to the CMGT Department by the University are not sufficient to provide competitive salaries for faculty and support staff, educational materials and supplies, and equipment that are necessary for the program to achieve its stated mission, goals, and objectives. The CMGT Department must supplement its budgeted funds from the University by fundraising and creating endowments.

Rationale:

- The CMGT Department's endowments and fundraising support the department's vision to be a preeminent institution for construction education and research.

### 8.2 Objectives and Measures

Objectives:

- Increase the endowment value
- Establish new endowments
- Industry supports the Department's Student needs through funding for scholarships.

Measures:

- Increase Endowment Value
  - Target: 5% each academic year
- New Endowment created through Industry contribution
  - Target: One new endowment per academic year.
- Number of Industry Scholarships and Endowments.
  - Target: One new scholarship created each academic year. (Currently have 15.)

### 8.3 Implementation and Review



Action items for AY **2019-2020**:

- Chair to work with the Industry Advisory Board committee and the College Major Gifts Officer to develop a long- and short-term alumni and industry engagement plan.
- **Chair to work with the Industry Advisory Board to develop additional Scholarships, especially for Outstanding Entering Freshmen.**

## 9. FACILITIES

Facilities as used here is broadly defined to mean space such as office, classroom, and laboratory; and equipment such as IT hardware and software, telecommunications, networking, classroom, and laboratory.

### 9.1 Goals and their Rationale

The facilities support the Department's vision to be the preeminent institution for construction education and research.

Goal:

- Provide state of art facilities that satisfy the educational, research and administrative needs of the Department and are sustainable.

Rationale:

- Facilities enhance communication and capabilities in education, research, and administration.

### 9.2 Objectives and Measures

Objectives:

- Provide adequate facilities for faculty for teaching, research, and administration
- Provide adequate facilities for students for teaching, learning, and research

Measures:

- Obtain grant funding for new lab instruction equipment
  - Target: One grant or in-kind contribution per academic year.
- Obtain grant or industry in-kind contribution for new software for student and faculty use.
  - Target: One new software package each academic year.

### 9.3 Implementation and Review

Action items for AY **2019-2020**:

- Technology and Research Committees to meet with the Chair to prepare a statement of needs and budget.
- **Investigate greater use of department construction trailer for Student organization use in community projects.**



## 10. PROGRAM ASSESSMENT

The CMGT Department's outcomes assessment is a systematic process of gathering and interpreting information to discover if the Department is meeting established objectives and then using that information to enhance the program. Information includes surveys and interviews taken from the following sources: graduates, employers of the graduates, industry advisory board, exit interviews, comprehensive exams, capstone projects, and other systematically structured information. The intent is to verify that the Department is making progress in achieving its mission, objectives, and learning outcomes and that it takes the outcomes assessment results into consideration in the development of its degree programs.

Evaluation of the programs objectives and learning outcomes are compared to the stated performance criteria to determine whether stated objectives and learning outcomes were achieved and if there is a validated need for improvement in any areas. The results of each assessment cycle is documented in a systematic manner. After each assessment cycle, the entire process is reviewed and updated with plans for improvement including any revisions to the Department's assessment plan.

The previous sections of the strategic plan identified measures and targets for each objective. The following tables specify the annual assessment process for each section.

Each table has nine columns:

- Column 1: Measure (see the corresponding section for each measure)
- Column 2: Target to meet
- Column 3: Name of the individual responsible for collecting and proving data
- Column 4: Due date for submitting data to the appropriate committee
- Column 5: Date the appropriate committee should meet to review the data and determine if the target has been met and if any action is necessary.
- Column 6: Action items suggested by the review committee including any changes recommended for the assessment process.
- Column 7: The suggested action items should be reviewed and approved by the Department faculty in their annual Fall meeting.
- Column 8: Implementation plan for action items that require minor changes and can be completed within the next academic year.
- Column 9: Implementation plan for action items that require major changes and need more time to complete.

Faculty Implementation and Review								
Measures	Target	Person responsible for data collection	Due Date for data collection	Review by Assessment Committee – Met Target	Suggest action item	Review and approved by CMGT faculty	Implement changes (minor)	Implement changes (major)
			May 15th	June 10th	June 20th	Fall Faculty Retreat	This academic year	Next academic year
Percent tenured, tenure-track, fixed term, and adjunct faculty	40% T 40% T-T 20% FT/ADJ	Chair						
Percent with a PhD or equivalent in field	75%	Chair						
Number of years of U.S. industry experience for tenured/tenure-track	5	Chair						
Number of graduates by degree program (UG/Grad/Certificate)	400 UG 50 Grad 50 Cert	Chair / Grad Director						
Number of journal editorships	2	Chair						
Number of journals reviewed by faculty	5	Chair						
Average number of journal articles faculty reviewed	10	Chair						
Number of Proceeding publications	1 per Faculty	Assessment Committee						
Number of Journal publications	1 per T/TT Faculty	Assessment Committee						
Number of Grant applications	1 per every year T/TT Faculty	Assessment Committee						
Number of Grants received	1 per every two years T/TT Faculty	Assessment Committee						
Total amount of grant money received	\$25,000 per grant	Chair						

Undergraduate Program Implementation and Review								
Measures	Target	Person responsible for data collection	Due Date for data collection	Review by Assessment Committee – Met Target	Suggest action item	Review and approved by CMGT faculty	Implement changes (minor)	Implement changes (major)
			May 15th	June 10th	June 20th	August Faculty Retreat	This academic year	Next academic year
Average SAT score and GPA of Lower level CMGT courses	1100/3.0	Registrar						
Percentage of underrepresented groups	20%	IPAR						
Direct Student Learning Outcome Assessments	At least 75% of class score “C” or above	Faculty						
Number of CMGT students participating in competition teams annually	10	Faculty / CMGT Secretary-Student Admin.						
Number of courses with hands on experiments	4	Chair						
Number of courses that effectively integrate technology	6	Chair						
Number of construction site visits annually	8	Faculty						
Graduating seniors exit survey (Knowledge, Skills, Personal Growth)	90%	IPAR						
One and Four year alumni survey	3.5/5	Assessment Committee / IPAR						
Employer Survey (Yearly)	3.5/5	Assessment Committee / IPAR						
Placement rate within 3 months after graduation	100%	CMGT 4400 / Career Services						
Number of students	90%	CMGT Secretary-						

completing an 500 Work Hours		Student Admin.						
Broad representation of companies from multiple industry sectors attending the career fair	Minimum of 5 for each major segment of the industry	Career Services						
Upper Division enrollment	250	Registrar						
Number of Graduates each semester	50	Registrar / CMGT Secretary-Student Admin.						

Masters Program Implementation and Review								
Measures	Target	Person responsible for data collection	Due Date for data collection	Review by Assessment Committee – Met Target	Suggest action item	Review and approved by CMGT faculty	Implement changes (minor)	Implement changes (major)
			May 15th	June 10th	June 20th	August Faculty Retreat	This academic year	Next academic year
% of students in underrepresented groups	20%	IPAR						
Students with non-construction management undergraduate degree	20%	CMGT Secretary-Student Admin.						
% of graduates who have a non-US degree prior to coming to ECU	10%	CMGT Secretary-Student Admin.						
% of students who publish at least one peer-reviewed conference or journal paper within 18 months of graduation	100%	Graduate Director / Graduate Faculty						
Number of students enrolled in MCM program	50	Graduate Director						
Number of applicants for MCM program per year	10	Graduate Director						
% acceptance rate for MCM applicants	75%	Graduate Director						
% matriculation rate of MCM applicants	100%	Graduate Director						
Number of MCM degree graduates per year	10	CMGT Secretary-Student Admin.						
Number of students enrolled in Certificate in Residential Construction Management	25	CMGT Secretary-Student Admin.						
Number of Certificate in Residential Construction	5	CMGT Secretary-Student Admin.						



Management graduates per year								
Number of years (average) to complete the MCM degree	2.5	CMGT Secretary-Student Admin.						

I.

## **II. ASSESSMENT PLAN FOR BS CMGT DEGREE**

### **1. Mission Statement for BS CMGT Degree**

The Undergraduate Program Mission is to educate students to develop valued, collaborative, industry-ready professionals through quality teaching, applied research, and service in the field of construction.

### **2. Objectives for BS CMGT Degree**

- Students should be academically high achieving.
- Students should have members of under-represented groups.
- Provide a curriculum and educational experience relevant to a career in construction management with expert instruction that results in a high level of student learning.
- Provide diverse career opportunities for students.
- Provide graduates for the construction industry.

### **3. Learning Outcomes for BS CMGT Degree**

#### **3.1 Program Learning Outcomes**

PLO 1: Apply knowledge of engineering, materials, methods, equipment, and processes to safely construct buildings and structures.

PLO 2: Survey and quantify building components to estimate project costs, analyze progress, and control expenditures.

PLO 3: Create an effective planning, scheduling, and control system by identifying, evaluating and organizing the diverse elements of a construction project.

PLO 4: Set up and manage project administration and management systems to document efficiently and monitor the construction process.

PLO 5: Communicate technical and financial data effectively in speech and in writing to all stakeholders in the construction process.

PLO 6: Exhibit an understanding of professional and ethical responsibility.

#### **3.2 ACCE Student Learning Outcomes**

1. Create written communications appropriate to the construction discipline.
2. Create oral presentations appropriate to the construction discipline.
3. Create a construction project safety plan.
4. Create construction project cost estimates.
5. Create construction project schedules.
6. Analyze professional decisions based on ethical principles.
7. Analyze construction documents for planning and management of construction processes.
8. Analyze methods, materials, and equipment used to construct projects.
9. Apply construction management skills a member of a multi-disciplinary team.
10. Apply electronic-based technology to manage the construction process.

11. Apply basic surveying techniques for construction layout and control.
12. Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.
13. Understand construction risk management.
14. Understand construction accounting and cost control.
15. Understand construction quality assurance and control.
16. Understand construction project control processes.
17. Understand the legal implications of contract, common, and regulatory law to manage a construction project.
18. Understand the basic principles of sustainable construction.
19. Understand the basic principles of structural behavior.
20. Understand the basic principles of mechanical, electrical and piping systems

#### **4. Assessment Tools for BS CMGT Degree**

##### **4.1 Assessment Tools for the BS CMGT Degree Objectives**

- 4.1.1 Students should be academically high achieving.
  - a. Measure: Average SAT and GPA of Lower Level CMGT courses each semester
- 4.1.2 Students should have members of under-represented groups.
  - a. Measure: Percentages of underrepresented groups each academic year
- 4.1.3 Provide a curriculum and educational experience relevant to a career in construction management with expert instruction that results in a high level of student learning.
  - a. ACCE accreditation every six years
  - b. Student Learning Outcome assessments
    - a. Direct Student Learning Outcome assessments through projects, assignments, and exams of Capstone, Project Management, and other courses - measured each semester by faculty
  - c. Number of Department students participating in competition teams annually
  - d. Number of courses with hands on experiments and/or demonstration of crafts work annually
  - e. Number of courses that effectively integrate technology to enhance the learning annually
  - f. Number of construction jobsite visits each semester
  - g. Graduating seniors exit survey each semester
  - h. One and four-year alumni survey annually
  - i. Employer survey annually
  - j. Assessment of the quality of instruction in each course by students each semester
- 4.1.4 Provide diverse career opportunities for students
  - a. Measure: Percentage of placement rate within three months after graduation
  - b. Measure: Percentage of students complete an internship

- c. Measure: Diversity of companies attending the career fair

4.1.5 Provide graduates for the construction industry

- a. Measure: Upper division enrollment
- b. Measure: Number of fall and Spring graduates.

**4.2 Assessment Tools for the BS CMGT Degree Program Learning Outcomes – measured each academic year.**

PLO 1. Final Assessment Tools for SLO 3, 8, 11, 18, 19, and 20.

PLO 2. Final Assessment Tools for SLO 4 and 14.

PLO 3. Final Assessment Tools for SLO 1, 2.

PLO 4. Final Assessment Tools for SLO 7, 9, 10, 12, 13, 16, and 17.

PLO 5. Final Assessment Tools for SLO 6.

PLO 6. Final Assessment Tools for SLO 5 and 15.

**4.3 Assessment Tools for the ACCE Student Learning Outcomes – measured each semester. (Revised April 24, 2018)**

SLO	DIRECT ASSESSMENT	INDIRECT ASSESSMENT	
SLO 1.	CMGT 4300, CMGT 4320	Alumni/Employer Survey	
SLO 2	CMGT 4300, CMGT 4400	Alumni/Employer Survey	
SLO 3	CMGT 2900	Alumni/Employer Survey	
SLO 4	CMGT 4000, CMGT 4010	Alumni/Employer Survey	
SLO 5	CMGT 4100, CMGT 4200	Alumni/Employer Survey	
SLO 6	CMGT 2600, CMGT 3500	Alumni/Employer Survey	
SLO 7	CMGT 2700, CMGT 4000, CMGT 4380	Alumni/Employer Survey	
SLO 8	CMGT 2700, CMGT 4380	Alumni/Employer Survey	
SLO 9	CMGT 4400	Alumni/Employer Survey	
SLO 10	CMGT 3010, CMGT 4010, CMGT 4200	Alumni/Employer Survey	
SLO 11	CMGT 2950	Alumni/Employer Survey	
SLO 12	CMGT 3500	Alumni/Employer Survey	
SLO 13	CMGT 3500, CMGT 4340	Alumni/Employer Survey	

SLO 14	CMGT 4200, CMGT 4340	Alumni/Employer Survey	
SLO 15	CMGT 4300	Alumni/Employer Survey	
SLO 16	CMGT 4200	Alumni/Employer Survey	
SLO 17	CMGT 3500	Alumni/Employer Survey	
SLO 18	CMGT 4320	Alumni/Employer Survey	
SLO 19	CMGT 2650	Alumni/Employer Survey	
SLO 20	CMGT 2750	Alumni/Employer Survey	

**5. Performance Criteria (see Table 9.2.3.5)**

**Table 9.2.3.5 Undergraduate program measures, targets, and sequence of data collection**

<b>Measure</b>	<b>Target</b>	<b>Responsible Person for Data Collection</b>	<b>Sequence</b>
Average SAT and GPA of Lower Level CMGT courses each semester	1100/3.0	Registrar	Semester
Percentages of underrepresented groups each academic year	20%	IPAR	Annual
Direct Student Learning Outcome assessments	At least 75% of class score C- or above	Faculty	Semester
Number of Department students participating in competition teams annually	10	Faculty	Annual
Number of courses with hands on experiments	4	Chair	Annual
Number of courses that effectively integrate technology	6	Chair	Annual
Number of construction jobsite visits	8	Chair	Semester
Graduating seniors exit survey (Knowledge, Skills & Personal Growth)	90%	IPAR / Assessment Committee	Semester
One and Four Year Alumni Survey	3.5/5	Assessment Committee	Annual
Employer Survey	3.5/5	Assessment Committee	Annual
Percentage of placement rate within three months after graduation	100%	Faculty	Semester
Percentage of students complete an internship	90%	CMGT Secretary-Student Admin.	Annual
Diversity of companies attending the career fair	5	Career Center	Semester
Upper division enrollment	250	Registrar	Semester
Number of graduates each semester	50	CMGT Secretary-Student Admin.	Semester

### III. Assessment Implementation Plan

#### 1. Assessment of the BSCM Degree

Evaluation of the programs objectives and learning outcomes are compared to the stated performance criteria to determine whether stated objectives and learning outcomes were achieved and if there is a validated need for improvement in any areas.

Table 3.1 (a) shows due dates for data collection, comparison with targets, suggested changes, and implementation of the suggested changes. The review will be done annually for all measures except ACCE Student Learning Outcomes that follow Table 3.1 (b)

**Table 3.1 (a) Due Dates for data collection and evaluation**

Due Date for Data Collection	Review by the Assessment Committee – Met Target	Suggested Action Items	Review and Approve by CMGT faculty	Implement Changes (Minor)	Implement Changes (Major)
May 15th	June 10th	June 20th	August Faculty Retreat	This academic year	Next academic year

**Table 3.1 (b) Sequence of review of ACCE Student Learning Outcomes**

Year	Industry Focus Group	SLOs to be Reviewed	SLO Emphasis
2016-2017 <b>(Completed)</b>	IAB Group 1	SLOs 1, 2, 4, 6, 7, 9, 13, 14	Communication, Ethics, Management, Estimating, Risk, Cost Control
2017-2018 <b>(Completed)</b>	IAB Mentors – Group 2	SLOs 3, 5, 8, 10, 11	Scheduling, Methods, Surveying, Safety, Electronic Technology
2018-2019 <b>(Completed)</b>	IAB Mentors – Group 3	SLOs 12, 15, 16, 17, 18, 19, 20	Project Delivery, Quality, Project Control, Legal, Sustainability, Structural, MEP
2019-2020 <b>(To be assessed this year)</b>	IAB Mentors – Group 1	SLOs 1, 2, 4, 6, 7, 9, 13, 14	Communication, Ethics, Management, Estimating, Risk, Cost Control

2020-2021	IAB Mentors – Group 2	SLOs 3, 5, 8, 10, 11	Scheduling, Methods, Surveying, Safety, Electronic Technology
2021-2022	IAB Mentors – Group 3	SLOs 12, 15, 16, 17, 18, 19, 20	Project Delivery, Quality, Project Control, Legal, Sustainability, Structural, MEP

**2. Results of each Assessment Cycle**

The results of each assessment cycle including suggested changes and their implementation plan are documented and will be provided to the Visiting Team.

**3. Action Items for Goals that have not Been Achieved**

The undergraduate assessment committee will evaluate the outcome of each change in achieving the specified target in subsequent semesters to verify the changes has been effective. The results are reported at the annual faculty retreat in August.

**4. Improvement of the Assessment Plan**

After each assessment cycle, the entire process is reviewed and updated with plans for improvement including any revisions to the Department’s assessment plan.



#### IV. Previous Accreditation Actions

**During the 2017 accreditation review (Site visit September 2016), there were five weaknesses identified by the visiting team.**

**Weakness 1:** *SLO 9 Inclusion and Assessment. The Visiting Team was not able to verify that SLO 9 “Apply construction management skills as a member of a multi-disciplinary team,” was included and assessed.*

**Response:** This weakness was alleviated in the first year report.

To help our students understand the concept of working in multidisciplinary teams we implemented the following approach in CMGT 4400 Construction Capstone this semester - and will continue to do so in the future semesters as well.

Rather than serving as upper management personnel of their companies for the Capstone presentations as they have in the past, this semester our students were instructed that they were employed by a medium/large to large design/build or construction management firm that utilized a matrix organization approach. Hence, each member of the team while employed by the same company was a member of a different department within the company. One member was from the Estimating Department, one from Scheduling, one from Quality, one from Safety and where there was a fifth member of the team that student was from perhaps the Marketing department.

Using this approach, the students learned that in a matrix organization each of the departments produced the estimate, schedule, etc. for multiple projects and had no other major responsibility. Hence, the students created organization charts that displayed the matrix format and also showed that each member of a department might be assigned to multiple different projects and reporting authorities.

**Weakness 2:** *SLO Assessment All SLO’s, except for SLO’s 1, 2, 4, 5, 6, 9, 10, 11, and 12 are adequately assessed using an indirect method consisting of surveys by alumni and employers. SLO’s 1, 2, 4, 5, 6, 9, 10, 11, and 12 were also the subject of an indirect assessment by alumni and employers: however the program used terminology that is inconsistent with Bloom’s taxonomy for the SLO’s, invalidating the assessment.*

**Response:** During the summer 2017, Indirect Surveys to Alumni and Employers incorporated the corrected wording on the noted questions to incorporate the appropriate terminology consistent with the Bloom’s Taxonomy for the SLO’s.

**Weakness 3:** *Quality Improvement Plan. The results of the direct assessment were included in the program’s Quality Improvement Plan, however the indirect assessments were not used in the program quality improvement.*

**Response:** This weakness appears to be inappropriately stated as the Indirect Surveys are assessed in the Quality Improvement Plan. See Section 10 Program Assessment where the following items are included:

One and Four year Alumni Survey	3.5/5	Assessment Committee	Annual
Employer Survey	3.5/5	Assessment Committee	Annual

The assessment results are included in the document noted in two documents available on the Public Information link on our webpage (<http://www.ecu.edu/cs-cet/construction/public-info.cfm>) under *Information Obtained – Assessment Measures and Actions Taken as a Result of Assessment Data Collected*.

**Weakness 4:** *Faculty Size: The faculty data provided in the self-study indicates that the number of courses offered and number of students per faculty in the Department of Construction Management are significantly higher than those other departments in the College.*

**Response:** In Fall 2017, two tenure track faculty members were hired. In the Fall 2019, an addition two tenure-track faculty were hired as well as two fixed-term faculty. There is a potential to add a few more faculty starting the 2020-2021 academic year. The university administration is aware of the urgent need to hire new faculty and are working to meet this need through hiring additional faculty. The department saw an enrollment decline several years ago which lead to the departure of several faculty members to other universities and the construction industry. The department has now grown in enrollment.

**Weakness 5:** *Academic Policies. No evidence was found that students are involved in program and curriculum revisions.*

**Response:** A new academic policy that incorporates students into the academic requirements for program and curriculum revisions has been developed to meet the Document 103, Section 5.1.1 Standard: *Policies pertaining to academic requirements shall be in writing and shall be developed with input from faculty, students, and other degree program stakeholders. Such policies shall clearly indicate required courses and acceptable elective courses that meet degree program objectives and the Student Learning Outcomes.*

The visiting team identified two areas of concern:

**Concern 1:** *Faculty size. Currently, the size of the faculty seems to be adequate to support the number of courses offered, the number of students, and other*

*responsibilities of the faculty. There is a concern that the program will not meet the requirement if student enrollment is increased.*

**Response:** As addressed in Weakness #4, there is a need for additional faculty in the department. In the Fall 2019, an addition two tenure-track faculty were hired as well as two fixed-term faculty. There is also the potential for hiring additional faculty in the 2020-2021 academic year.

**Concern 2:** *Faculty Compensation. Faculty compensation at the assistant professor and fixed-term levels seems to be below that offered in other departments. There is a concern that the program might not be able to attract quality faculty to meet its needs when facing increased enrollments if compensation is not equitable.*

**Response:** This was incorrect. The visiting team looked at some incorrect data for the faculty compensation. The actual faculty compensation is competitive or even better than our peer programs. This information was communicated to the visiting team and the correct data was provided.