I. Institution Mission

As a comprehensive public institution, Eastern Kentucky University prepares students to lead productive, responsible, and enriched lives. To accomplish this mission, the University emphasizes:

a. Student Success,

b. Regional Stewardship, and

c. Critical and Creative Thinking and Effective Communication.

II. Department of Applied Engineering & Technology Mission

The Department of Applied Engineering & Technology (AET) serves students and other stakeholders by providing managerial, technical, and educational career-directed programs through instruction, service, and scholarship.

Planning Objectives

a. AET will provide high-quality teaching.

b. AET will provide excellent advising services.

c. AET will recruit and retain faculty who are academically or professionally qualified in their professional field.

d. AET will engage in service activities relating to Regional Stewardship.

III. Program Academic Quality Plan

a. Program Mission

To educate, mentor, and inspire students so that each graduate is prepared for a career of professional excellence and service to the construction industry.

EKU Program Student Learning Objectives:

i. Students will use critical thinking.

ii. Students will communicate effectively both orally and written.

iii. Students will possess functional computer skills including the utilization of general and construction application software.
iv. Students will be able to apply mathematical and scientific skills in the management and execution of construction projects.

v. Students will be able to apply the concepts of management, accounting, economics and ethics in the management and execution of construction projects.

vi. Students will possess a basic understanding of the science of materials and the methods by which they are placed into service.

vii. Students will possess the essential plan reading, quantity takeoff and pricing skills to function as a junior estimator.

viii. Students will be able to prepare a project budget, analyze cost reports, and make cash flow projections for a project.

ix. Students will be able to prepare a project schedule, monitor progress toward completion, and update the schedule as needed.

x. Students will possess a basic knowledge of OSHA standards and be able to set up and enforce a safety plan on a job site.

xi. Students will be able to interpret site plans, establish horizontal and vertical control on a job site, and perform layout for buildings and utilities.

xii. Students will be able to administer situations on a project site, including evaluation of subcontractor pay requests, writing of purchase orders, and recording change orders, subcontracts, shop drawings, and daily reports.

ACCE Student Learning Outcomes:

i. Create written communications appropriate to the construction discipline

ii. Create oral presentations appropriate to the construction discipline

iii. Create a construction project safety plan

iv. Create construction project cost estimate

v. Create construction project schedules

vi. Analyze professional decisions based on ethical principles

vii. Analyze construction documents for planning and management of construction processes

viii. Analyze methods, materials, and equipment used to construct projects.

ix. Apply construction management skills as an effective member of multi-disciplinary team.
x. Apply electronic-based technology to manage the construction process.

xi. Apply basic surveying techniques for construction layout.

xii. Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.

xiii. Understand construction risk management.

xiv. Understand construction accounting and cost control.

xv. Understand construction quality assurance and control.

xvi. Understand construction project control processes.

xvii. Understand the legal implications of contract, common, and regulatory law to manage a construction project.

xviii. Understand the basic principles of sustainable construction.

xix. Understand the basic principles of structural behavior

xx. Understand the basic principles of mechanical, electrical and plumbing systems.

xi. Students will use critical thinking.

b. Assessment Tools

i. American Institute of Constructors’ Construction Fundamentals Exam.

The American Institute of Constructors (AIC) is a professional certification association for the construction industry. AIC requires individuals to successfully pass an 8 hour exam in order to be certified as an Associate Constructor. All graduating seniors must take the exam.

ii. Cooperative Education Student evaluations by employer.

Contractors who employ Cooperative Education students evaluate their performance after the employment period.

iii. Construction Management Graduate Assessment Survey.

Graduating seniors must complete a survey evaluating the quality of the Construction Management Program.
iv. Construction Management Industry Advisory Board.

The Construction Management Industry Advisory Board meets each year so that practitioners who are employers of Eastern Kentucky University graduates can provide feedback on the Construction Management program.

c. Unit Assessment Report – Spring 2014 / Fall 2013

i. Students will use critical thinking.

Assessment Method 1 – Term paper in CON425.

Criterion – 75% of students will score 70% or higher on a scoring rubric.

Schedule - Every course offering.

Results/Observations-

2014S: 100% scored 70% or higher (n=18)
2013S: 100% scored 70% or higher (n=18)

Assessment Method 2 - Internship Employer Survey

Criterion - 75% of students will score 4 or higher (out of 5) on the “Critical Thinking” portion of the survey.

Schedule - Annually

Results/Observations –

2013: Results:

“Evaluates situations effectively” = 88.23% (n=17)

“Makes well-informed decisions” = 81.25% (n=16)

“Identifies & suggests new ideas that benefit work environment” = 73.33% (n=14)

“Learns & applies new material appropriately” = 93.75% (n=16)

The average for all four questions is 84.14%.
2012: Results:

“Evaluates situations effectively” = 83.87% (n=31)
“Makes well-informed decisions” = 89.29% (n=28)
“Identifies & suggests new ideas that benefit work environment” = 80% (n=30)
“Learns & applies new material appropriately” = 83.33% (n=30)

The average for all four questions is 84.03%.

Use of Result and Follow-Up – This SLO is considered acceptable at this time, however concerned with the “Identifies & suggests new ideas that benefit work environment” SLO. Will monitor over next year to determine if action is necessary.

Direct Assessment – CON425 paper continues to indicate positive critical thinking skills.

After the Capstone course, CON499, starts 2014S, Assessment Method #1 will be replaced with a scored Value Engineering option since it is a better indicator of Contractor critical thinking.

Indirect Assessment – Co-op employers continue to rank students high in this SLO, but continued oversight on each part of the SLO is warranted.

ii. Students will communicate effectively both orally and written.

Assessment Method 1 – Speech presentation in CON425.

Criterion - 75% of students will score 70% or higher on a scoring rubric.

Schedule - Every course offering.

Results/Observations -

2014S: 100% scored 70% or higher (n=18)
2013F: 100% scored 70% or higher (n=18)
2013S: 100% scored 70% or higher (n=18)
Assessment Method 2 - The “Communication Skills” portion of The Certified Professional Contractor Exam (CPC Exam), administered by the Construction Certification Commission of the American Institute of Contractors (AIC).

Criterion – School average to meet or exceed national average test score.

Schedule - Every semester.

Results/Observations –

2014S: EKU average 21.5 (n=4), national average 20.92

2013F: EKU average 20.18 (n=11), national average 20.22

2012F: EKU average 65.8 (n=5) [71.77 adjusted (n=4)], national average 67.6

2013S: EKU average 67.9 (n=15), national average 69.4

Use of Result and Follow-Up – This SLO is considered acceptable at this time. CON425 speech continues to show that students exhibit good communication skills, while the AIC exam shows our average is slightly below the national average. This however does not reflect that this SLO needs action at this time. By incorporating AIC exam into CON499 coursework, student scores on the AIC exam are expected to improve since the exam will count for 20% of final grade.
iii. Students will possess functional computer skills including the utilization of general and construction application software.

Assessment Method 1 – Completion of preliminary and detailed project estimates using spreadsheets, cost databases, and proprietary software in CON423.

Criterion – 75% of students will score 70% or higher on a scoring rubric for a practical exercise in each course.

Schedule – Every course offering.

Results/Observations - CON 423 Assignment 2 and 3

2014S: 81.25% scored 75% or higher (n=18)
2013F: 92.31% scored 75% or higher (n=13)
Assignment 2 Only (Assignment 3 Not Completed)
2012F: 100% scored 70% or higher (n=12)
2013S: 78% scored 70% or higher (n=9)

Assessment Method 2 – Internship Employer Survey

Criterion – 75% of students will score 4 or higher (out of 5) on the “Performance Skills” portion of the Survey.

Schedule – Annually

Results/Observations: Spring 2014

“Manages projects effectively” = 87.5% (n=16)
“Uses resources effectively” = 94.11% (n=17)
“Sets goals and prioritizes” = 87.5% (n=16)
“Allocates time to meet deadlines” = 93.33% (n=15)
“Produces quality work” = 94.11% (n=17)
“Understands & uses technology appropriate to the position” = 93.75% (n=16)

The average for all six questions is 91.72% (n=16)

Use of Result and Follow-Up – This SLO is considered acceptable.
iv. Students will be able to apply mathematical and scientific skills in the planning and execution of construction projects.

Assessment Method 1 – The “Engineering Concepts” portion of The Certified Professional Contractor Exam (CPC Exam), administered by the Construction Certification Commission of the American Institute of Contractors (AIC).

Criterion – School average to meet or exceed national average test score

Schedule – Every semester.

Results/Observations –

2012F: EKU average 57.33 (n=5) [adjusted average 60.00 (n=4)], national average 61.27

2013S: EKU average 57.07 (n=15), national average 61.07

2013F: EKU average 7 (n=4), national average 8.95

2014S: EKU average 7.54 (n=11), national average 9.08

Assessment Method 2 – Senior Assessment Survey

Criterion – 75% of students will rank 4 or higher (out of 5) on the “Structural Engineering” portion of the Survey.

Schedule – Every semester.

Results/Observations –

2014S: 90% ranked 4 or higher (n=10)

2013F: 89.47% ranked 4 or higher (n=19)

2013S: 89.5% ranked 4 or higher (n=19)

Use of Result and Follow-Up – No further action to be taken at this time.

Direct Method – EKU is been below national average at this time. By incorporating AIC exam into CON499 coursework, student scores on the AIC exam are expected to improve since the exam will count for 20% of final grade. Until this change occurs and an assessment period takes place, no changes are warranted.
Indirect Method – Senior assessment survey continues to be favorable for this SLO.

v. Students will be able to apply the concepts of management, accounting, economics and ethics in the management and execution of construction projects.

Assessment Method 1 – The “Management Concepts” portion of The Certified Professional Contractor Exam (CPC Exam), administered by the Construction Certification Commission of the American Institute of Contractors (AIC).

Criterion – School average to meet or exceed national average test score

Schedule – Every semester.

Results/Observations:

2012F: EKU average 58.33 (n=5) [adjusted EKU average 65.96 (n=4)], national average 70.53

2013S: EKU average 70.31 (n=15), national average 70.53

2013F: EKU average 24.64 (n=11), national average 25

2014S: EKU average 23.5 (n=4), national average 24.9

Assessment Method 2 – Internship Employer Survey

Criterion – 75% of students will score 4 or higher (out of 5) on the “Professional Qualities” portion of the Survey.
Schedule – Annually

Results/Observations:

“Assumes responsibility/accountability for actions” = 100% (n=31)

“Possesses honesty/integrity/personal ethics” = 100% (n=31)

“Reacts positively to supervision” = 100% (n=31)

“Demonstrates flexibility/adaptability” = 100% (n=31)

The average for all four questions is 100% (n=31).

Use of Result and Follow-Up – No further action to be taken at this time.

Direct Method – AIC exam average slightly below national average. By incorporating AIC exam into CON499 coursework, student scores on the AIC exam are expected to improve since the exam will count for 20% of final grade. Once this occurs an assessment can take place to determine if action is necessary.

Indirect method – Co-op employers continue to rank students high in this SLO.

vi. Students will possess a basic understanding of the science of materials and the methods by which they are placed into service.

Assessment Method 1 – The “Materials, Methods, and Plan reading skills” portion of The Certified Professional Contractor Exam (CPC Exam), administered by the Construction Certification Commission of the American Institute of Contractors (AIC).
Criterion – School average to meet or exceed national average test score

Schedule – Every semester.

Results/Observations –

2012F: EKU average 67.74 (n=5) [adjusted EKU average 70.96 (n=4)], national average 67.71

2013S: EKU average 64.13 (n=15), national average 66.23

2013F: EKU average 19.5 (n=4), national average 20.16

2014S: EKU average 19.36 (n=11), national average 20.49

Assessment Method 2 – Senior Assessment Survey

Criterion – 75% of students will rank 4 or higher (out of 5) on the “Materials and Methods of Construction” portion of the Survey.

Schedule – Every semester.

Results/Observations –

2013S: 85% scored 4 or higher (n=20)

2013F: 100% scored 4 or higher (n=20)

Use of Result and Follow-Up – No further action at this time.

Direct method – AIC exam average slightly below national average. By incorporating AIC exam into CON499 coursework, student scores on the AIC exam are expected to improve since the exam will count for 20% of final grade. Once this occurs an assessment can take place to determine if action is necessary. Proposal for Habitat for Humanity house pending approval by University legal. Subsequent implementation of this Habitat for Humanity initiative into the Materials and Methods courses will improve performance in this SLO.

Indirect methods – Senior assessment survey continues to be favorable for this SLO.
vii. Students will possess the essential plan reading, quantity takeoff and pricing skills to function as a junior estimator.

Assessment Method 1 – The “Bidding and Estimating” portion of The Certified Professional Contractor Exam (CPC Exam), administered by the Construction Certification Commission of the American Institute of Contractors (AIC).

Criterion – School average to meet or exceed national average test score

Schedule – Every semester.

Results/Observations –

2012F: EKU average 55.11 (n=5) [adjusted EKU average 60.56 (n=4)], national average 65.31
2013S: EKU average 63.07, national average 64.91
2013F: EKU average 26 (n=4), national average 28.34
2014S: EKU average 26.18 (n=11), national average 28.62

Assessment Method 2 – Completion of a detailed project estimate in CON423.

Criterion – 75% of students will score 70% or higher on a scoring rubric for a practical exercise in the course.

Schedule – Every course offering.

Results/Observations - Concrete and Masonry Estimates

2012F: 100% scored 70% or higher (n=12)
2013S: 83.5% scored 70% or higher (n=9)
2013F: 84.84% scored 70% or higher (n=11)
2014S: 98.24% scored 70% or higher (n=19)

Use of Result and Follow-Up – While this SLO needs improving, no additional action required at this time.
Direct method – Catalog change that increased hours needs more time to take effect.

Estimating coursework was revised using AIC study guide. Instruction on equipment productivity was increased utilizing sitework lab and bid package. Impact of this change will be assessed in future reporting periods. AIC exam average slightly below national average. By incorporating AIC exam into CON499 coursework, student scores on the AIC exam are expected to improve since the exam will count for 20% of final grade. Once this occurs an assessment can take place to determine if action is necessary. Proposal for Habitat for Humanity house pending approval by University legal. Subsequent implementation of this Habitat for Humanity initiative into the Materials and Methods courses will improve performance in this SLO.

Assessment Method 1 – The “Budgeting, Costs, and Cost Control” portion of The Certified Professional Contractor Exam (CPC Exam), administered by the Construction Certification Commission of the American Institute of Contractors (AIC).

Criterion – School average to meet or exceed national average test score

Schedule – Every semester.

Results/Observations –

2012F: EKU average 74.55 (n=5) [adjusted EKU average 78.03 (n=4)], national average 71.52

2013S: EKU average 69.33 (n=15), national average 72.79

2013F: EKU average 20.5 (n=4), national average 23.37

2014S: EKU average 18.69 (n=11), national average 23.11

Assessment Method 2 – Completion of a schedule-based project budget in CON426.
Criterion – 75% of students will score 70% or higher on a scoring rubric for a practical exercise in the course.

Schedule – Every course offering.

Results/Observations - Assignment 4 and Exam 2
2012F: 91.5% scored 70% or higher (n=6)
2013S: 88% scored 70% or higher (n=17)
2013F: 85% scored 70% or higher (n=10)
2014S: 54.5% scored 70% or higher (n=11)

Use of Result and Follow-Up – This SLO is considered unacceptable at this time.

Direct Assessment – AIC exam average continues to be below national average. By incorporating AIC exam into CON499 coursework, student scores on the AIC exam are expected to improve since the exam will count for 20% of final grade. Once this occurs an assessment can take place to determine if action is necessary. Proposal for Habitat for Humanity house pending approval by University legal. Subsequent implementation of this Habitat for Humanity initiative into the Materials and Methods courses will improve performance in this SLO. Change in coursework has resulted in a drop in scores. These improvements will be monitored to determine effectiveness.

ix. Students will be able to prepare a project schedule, monitor progress toward completion and update the schedule as needed.

Assessment Method 1 - The “Planning, Scheduling and Control” portion of The Certified Professional Contractor Exam (CPC Exam), administered by the Construction Certification Commission of the American Institute of Contractors (AIC).

Criterion – School average to meet or exceed national average test score

Schedule - Every semester.

Results/Observations –

2012F: EKU average 68.89 (n=5) [adjusted EKU average 69.44 (n=4)], national average 74.22
2013S: EKU average 74.02 (n=15), national average 74.33

2013F: EKU average 31 (n=4), national average 32.68

2014S: EKU average 29.45 (n=11), national average 32.37

Assessment Method 2 - Oral defense of schedule in CON426.

Criterion - 75% of students will score 70% or higher on a scoring rubric.

Schedule - Every course offering.

Results/Observations - Assignment 6
2012F: 100% scored 70% or higher (n=6)
2013S: 94% scored 70% or higher (n=17)
2013F: 80% scored 70% or higher (n=10)
2014S: 81.81% scored 70% or higher (n=11)

Use of Result and Follow-Up – AIC exam average continues to be below national average. By incorporating AIC exam into CON499 coursework, student scores on the AIC exam are expected to improve since the exam will count for 20% of final grade. Once this occurs an assessment can take place to determine if action is necessary. Proposal for Habitat for Humanity house pending approval by University legal. Subsequent implementation of this Habitat for Humanity initiative into the Materials and Methods courses will improve performance in this SLO. Change in coursework has resulted in a drop in scores. These improvements will be monitored to determine effectiveness.

x. Students will possess a basic knowledge of OSHA standards and be capable of developing an Accident Prevention Plan.

Assessment Method 1 – The “Construction Safety” portion of The Certified Professional Contractor Exam (CPC Exam), administered by the Construction Certification Commission of the American Institute of Contractors (AIC).

Criterion – School average to meet or exceed national average test score

Schedule – Every semester.
Results/Observations –

2012F: EKU average 74.29 (n=5) [adjusted EKU average 83.33 (n=4)], national average 74.1

2013S: EKU average 72.33 (n=15), national average 73.1

2013F: EKU average 14 (n=4), national average 15.18

2014S: EKU average 11.84 (n=11), national average 15.12

Assessment Method 2 – Completion of project-specific Accident Prevention Plan in CON499.

Criterion – 75% of students will score 70% or higher on a scoring rubric.

Schedule – Annually

Results/Observations – None because CON499 has not been offered yet. First class will be 2014S.

Use of Result and Follow-Up – AIC exam average continues to be below national average. By incorporating AIC exam into CON499 coursework, student scores on the AIC exam are expected to improve since the exam will count for 20% of final grade. Once this occurs an assessment can take place to determine if action is necessary. Proposal for Habitat for Humanity house pending approval by University legal. Subsequent implementation of this Habitat for Humanity initiative into the Materials and Methods courses will improve performance in this SLO. Change in coursework has resulted in a drop in scores. These improvements will be monitored to determine effectiveness. This SLO will be further measured once CON499 meets beginning 2014s. By incorporating AIC exam into CON499 coursework, student scores on the AIC exam are expected to improve since the exam will count for 20% of final grade.

xi. Students will be able to interpret site plans, establish horizontal and vertical control on a job site, and perform layout for buildings and utilities.

Assessment Method 1 – The “Surveying and Project Layout” portion of The Certified Professional Contractor Exam (CPC
Exam), administered by the Construction Certification Commission of the American Institute of Contractors (AIC).

Criterion – School average to meet or exceed national average test score

Schedule – Every semester.

Results/Observations –

- 2012F: EKU average 65.71 (n=5) [adjusted EKU average 67.86 (n=4)], national average 69.14
- 2013S: EKU average 59.86 (n=15), national average 66.29
- 2013F: EKU average 5 (n=4), national average 4.47
- 2014S: EKU average 4.45 (n=11), national average 4.59

Assessment Method 2 – Completion of a building layout survey in CON320.

Criterion – 75% of students will score 70% or higher on a scoring rubric on a practical exercise in the course.

Schedule – Every course offering.

Results/Observations –

- 2011F: Building Layout – 100% scored 70% or higher (n=6)
- 2012F: Building Layout – 100% scored 70% or higher (n=12)
- 2013F: Building Layout – 86.67% scored 70% or higher (n=15)

Use of Result and Follow-Up – This SLO is satisfactory at this time.

By incorporating AIC exam into CON499 coursework, student scores on the AIC exam are expected to improve since the exam will count for 20% of final grade. Assessment Method 1 will be revisited once CON499 underway to see if there is a more appropriate measurement tool.

Faculty member retired this academic year (2012-2013) and Assessment Method #2 data was not collected. Data is being collected effective 2013f.
xii. Students will be able to administer situations on a project site, including evaluation of subcontractor pay requests, writing of purchase orders, and recording change orders, subcontracts, shop drawings, and daily reports.

Assessment Method 1 – The “Project Administration” portion of The Certified Professional Contractor Exam (CPC Exam), administered by the Construction Certification Commission of the American Institute of Contractors (AIC).

Criterion – School average to meet or exceed national average test score.

Schedule – Every semester.

Results/Observations –
2012F: EKU average 60 (n=5) [adjusted EKU average 68.75 (n=4)], national average 70.92
2013S: EKU average 68.75 (n=15), national average 71.25
2013F: EKU average 26 (n=4), national average 25.2
2014S: EKU average 25.27 (n=11), national average 26.27

Assessment Method 2 – Senior Assessment Survey

Criterion – 75% of students will rank 4 or higher (out of 5) on the “Project Organization, Supervision, and Scheduling” portion of the Survey.

Schedule – Every semester.

Results/Observations –
2014S: 100% ranked 4 or higher (n=10)
2013S: 100% ranked 4 or higher (n=20)

Use of Result and Follow-Up – SLO is considered acceptable at this time.

Direct Assessment: Percentage passing Project Administration portion of both AIC exams is above national average. By incorporating AIC exam into CON499 coursework, student scores on the AIC exam are expected to improve since the exam will count for 20% of final grade.

Indirect Assessment: Graduating seniors still report high satisfaction with their instruction in this subject area.
IV. Student Achievement  
a. Student employment  
i. There were 9 graduates spring 2014. Of the 9 graduates who reported, 9 obtained employment in construction.  

ii. There were six graduates fall 2012. Of the five graduates who reported, four obtained employment in construction and one went to graduate school.  

iii. There were 17 graduates spring 2012. Of the 15 graduates who reported, 14 obtained employment in construction and one started EKU’s graduate program in Construction Management.  

iv. The five fall 2011 graduates all obtained employment in construction within four months of graduation.  

v. The two graduates in summer 2011 did not report their employment status.  

vi. There were seven graduates spring 2011 and eight graduates fall 2010 for a total of 15. Of the 12 graduates who reported, all obtained employment in construction.  

vii. Graduates were hired as Scheduler, Estimator, Superintendent, Project Coordinator, Project Manager, Project Engineer, Construction Management Superintendent, Site Superintendent, Assistant Construction Manager, Assistant Project Engineer, Safety Coordinator, Production Manager, QC/Plant Technician, Equipment Manager, and Assistant Superintendent.  

viii. Companies who hired these graduates were: mechanical contractor, masonry contractor, electrical contractor, mine service, residential contractor, design-builder, supplier, general contractor, construction manager, materials testing firm, pipeline testing firm, home remodeler, and power manufacturing firm.  

ix. From summer 2010 to spring 2014, salary range for the graduates who reported their initial salary was $30,000 - $83,720 with the average being $49,655.  

b. Student Awards  
i. Nick Ray was selected as Construction Management’s Outstanding Senior.  

c. Student Scholarships  
i. 2014-2015 Richard Brooker/Associated General Contractors of Kentucky – Greg Jones  

ii. 2014-2015 Murry Riffee HBA Scholarship – Chris Poynter
V. Program Admissions Requirements

a. Be a high school graduate, have a G.E.D., or have completed an approved home-school curriculum. If you are in your senior year, you may be admitted tentatively upon submission of a sixth-semester (through your junior year) high school transcript. After graduation, you must submit a final high school transcript certifying the actual date of graduation.

b. Provide American College Test (A.C.T.) or Scholastic Achievement Test (S.A.T.) Scores.

c. Have completed Kentucky's Pre-College Curriculum, or the equivalent thereof. This curriculum requires four specified units of English (English I, II, III, and IV), three units of mathematics (Algebra I and II and geometry), three units of social science, three units of science, two units of a foreign language, one-half unit of health, one-half unit of physical education, one unit of history and appreciation of visual or performing arts and five units of electives. If you have not completed the Pre-College Curriculum, you will be required to remediate deficiencies.

VI. Program Enrollment

a. Current undergraduate construction management enrollment: 120 Students

b. Current graduate construction management enrollment: 24 Students

VII. Future Changes

a. SLOs will be changed to the ACCE standard for academic year 2014/2015. Listed below are new SLOs:

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 estimate

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 as an effective member of multi-disciplinary team.

10) Apply electronic-based technology to manage the construction process.

11) Apply basic surveying techniques for construction layout.

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 plumbing systems.

21) Students will use critical thinking.