DEPARTMENT OF TECHNOLOGY

B.S. DEGREE IN CONSTRUCTION MANAGEMENT

ACADEMIC QUALITY PLANNING PROCESS & OUTCOME ASSESSMENT

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LAST REVISED/ APPROVED BY FACULTY: NOVEMBER, 2026
LAST APPROVED BY ADVISORY BOARD: NOVEMBER, 2026

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Academic Quality Planning Process & Outcome Assessment
B.S. Degree: Construction Management
Illinois State University

The academic Quality Improvement Plan (QIP) for the Construction Management (CM) program is comprised of three integrated elements: (a) S**trategic Plan**, (b) **Assessment Plan**, and (c) **Assessment Implementation Plan**. The plan is designed to comply with Illinois State University (ISU) requirements and the American Council for Construction Education *Document 103 Standards and Criteria for Accreditation of Postsecondary Construction Education Degree Program*, specifically Section 9 Academic Quality Planning Process and Outcome Assessment (See Appendix I). The QIP is posted on the ISU University Assessment Services webpage at http://assessment.illinoisstate.edu/program/cast/ and on ISU TEC webpage at https://tec.illinoisstate.edu/academics/construction-management/. The annual performance results are published in the Department of Technology Annual Assessment Report available on the departmental website at http://tec.illinoisstate.edu/about/.

CM Program Mission

Our mission is to be a "first choice" provider and center for construction education.

CM Program Strategic Plan Overview

The CM Strategic Plan is aligned with *–Excellence by Design: 2024 - 2030*, which is the ISU strategic plan, and the goals of the Department of Technology and College of Applied Science and Technology. The four Program Goals that comprise the Strategic Plan are the foundation of our annual Plan of Work (PoW), a management document designed to assure that the resources are in place and effectively deployed for the successful operation of the CM Program. The Program Goals provide direction for operational actions to maintain adequate resources and a contemporary curriculum aligned with industry needs. The goals that comprise the Strategic Plan are reviewed annually by faculty as part of the PoW process and shared with the Industry Advisory Board for input and validation.

At the beginning of each academic year, activities for attaining the Program Goals are identified and assigned to faculty. The implementation status of the PoW is subsequently reviewed at most CM faculty meetings. As such, the Strategic Plan as operationalized through the PoW, is constantly reviewed to assess the internal and external factors that influence the operation of the Program. Further, the Strategic Plan, PoW, and Annual PoW Report are shared with the IAB and other constituents to maintain a broad understanding of the directions and needs of the construction industry.

An assessment of the Strategic Plan (*Goals Report and Plan of Work)* is developed by the CM Program Coordinator in conjunction with the faculty and submitted to the Department of Technology Chair annually at the beginning of the academic year. The submission includes the *Plan of Work* for the coming year as well as a summary *Goals Report* on work completed during the previous academic year. The follow-up assessment of program goal data flows first to the Chairperson or Assistant Chairperson, who is responsible for documenting and reporting the results in the Department of Technology Annual Assessment Report. As appropriate, results may be further disseminated to the CM faculty and/or Advisory Committees for further action aimed at program improvement. An example of the annual assessment of the CM Strategic Plan and *Goals Report* is presented in Appendix IX.

CM Program Strategic Plan and Program Goals

1. *Student Learning Outcomes*: Continually improve the curriculum and provide students with high quality educational experiences that will develop technical and managerial knowledge and skills necessary for successful leadership roles in the building construction industry.

   The following Student Learning Outcomes (SLOs) support this Program Goal and will be elaborated upon subsequently in the assessment implementation section. Course learning objectives support each SLOs and are indicated accordingly in the syllabus. Further, syllabi are presented in a consistent format as per the University Curriculum Committee template as adapted by CM Faculty (See Appendix II for an example syllabus format).

   Upon completion of the CM Program, students will be able to:

   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 methods, materials, and equipment used to construct projects.
   8) Apply electronic-based technology to manage the construction process.
   9) Apply basic surveying techniques for construction layout and control.
   10) Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.
   11) Understand construction accounting and cost control.
   12) Understand construction quality assurance and control.
   13) Understand construction project control processes.
   14) Understand the legal implications of contract, common, and regulatory law to manage a construction project.
   15) Understand the basic principles of sustainable construction.
   16) Understand the basic principles of structural behavior.
   17) Understand the basic principles of mechanical, electrical and plumbing systems.

   Performance Indicators:

   - Average ISU CM student scores in direct assessment in the CM courses will be greater than or equal to 70% for the appropriate SLO category.
   - On the senior exit survey, CM graduate responses will average greater than or equal to 3.5 on a 5-point scale thereby indicating that students were well prepared in that skill or knowledge area.
   - On employer survey, responses will be greater than or equal to 70% for the appropriate SLO category thereby indicating that graduates are well prepared in that skill or knowledge area.

2. *Recruitment and Retention*: Recruit and graduate a diverse, high-quality cohort of individuals into the program to support the construction industry in economic development in Illinois and throughout the United States.

Performance Indicators

- Entering transfer students will have a minimum GPA of 2.5.
- CM program will hold recruitment events (open houses and tours)
- Retention and graduation rates for CM students will be consistent with ISU averages.

Appendix III presents an ***Academic Program Profile*** for CM. The profile is a statistical summary of admission demographics, enrollment, student performance, and other pertinent data compiled by the University Assessment Service and distributed annually to each program.

3. *Professional Development*: Provide students with educational experiences necessary skills to successfully function in professional leadership roles in the construction industry and provide service to the construction industry through applied research, consulting/workshops, and participation in professional organization.

   Performance Indicators

   - Maintain active student chapters of professional organizations that provide opportunities for student leadership and model professional leadership. Benchmark: Sponsoring at least 10 speaker and/or field trip events each semester.
   - Field a minimum of three student teams annually in the construction competitions sponsored by professional organizations (e.g., ASC, ACI, MCAA).
   - At a minimum, each tenured or tenure-track faculty member will annually contribute one professional presentation and/or publication.
   - Each faculty will maintain participation and leadership in at least one appropriate organization, board, or committee relevant to construction interests in the community, state, and/or nation.
   - Encourage and reimburse students for OSHA 30-hour certification.

4. *Internal and External Funding Support* – Through a combination of internal and external resources, maintain the funding necessary to support CM Program activities.

   Performance Indicators

   -
   - Number of CM Industry Partnership program partners contributing at least $2,000 annually.
   - Number of internal CM scholarships awarded each year, as the scholarship-endowment yield.
   - Number of alumni/industry fundraising events held per year. Benchmark ≥ 1

Assessment Plan and Student Learning Outcomes

The student learning outcomes (SLOs) have been consistent for many years and were developed to align with the ACCE core content requirements. The 17 SLOs are listed under Program Goal #1 of the Strategic Plan. The SLOs are supported by course level learning objectives. The following measures are used to assess the SLOs:

1. Direct Assessment

1) **Student's work in related CM courses** (such as student's work for a class term project, class/homework assignment, test and quiz) is evaluated as a direct measure of all of the 17 SLOs. The table in the next page shows which SLO is directly measured in which CM or CM related course. Data will be collected by Student Learning Outcome (SLO) assessment committee. All full-time CM faculty members will serve as member of SLO assessment committee. Following are the specific roles of SLO assessment committee members:
    - Review assessment plan
    - Collect direct assessment data
    - Analyze data
    - Make suggestion for improvement
    - Attend ACCE mid-year conferences to keep updated with accreditation requirements

2. Indirect Assessment

1) An **Employer Survey** seeks data on how well graduates performed in terms of intended learning outcomes. Employer feedback is solicited annually and aggregated. Appendix IV presents an example of the employer follow-up survey.
2) The **Senior Exit Survey** solicits both quantitative and qualitative feedback about the extent to which learning outcomes were achieved. An example of the Senior Exit Survey is presented in Appendix V.
3) The University Assessment Services conducts the annual survey of **Alumni** one-year and five-years from graduation. This survey solicits graduate perceptions as to his/her success at achieving each of the CM SLOs as well as data regarding other institutional concerns. A sample of the survey questions related to learning outcomes is included in Appendix VI.

The data from these four measures is compiled by the CM Coordinator into a dashboard matrix that summarizes student progress toward achievement of the SLOs. The results are assessed by comparing average performance against the identified benchmarks. The matrix may include comments regarding the analysis and a plan for improvement if necessary. The dashboard and associated action plans are reviewed by the faculty and the Industry Advisory Board (IAB) and published on the Department webpage (https://tec.illinoisstate.edu/about/). Appendix VIII presents an example of the Annual Assessment Results Dashboard.

	Learning Outcome	Related Course	Direct Assessment	Indirect Assessment	
			Students Work Assessment	Employer Survey	Senior Exit Survey
			- Data collection every semester - Data analysis annually		
			>= 70%	>= 70% "meets expections" or above	>= 3.5 on 5 pt. scale
1	Create **written communications** appropriate to the construction discipline.	TEC 217, 222, 224, 229, 292, 326, 394	TEC 394	X	X
2	Create **oral presentations** appropriate to the construction discipline.	TEC 222, 223, 292, 394	TEC 394	X	X
3	Create a construction project **safety** plan.	TEC 121, 224, 292, 394, HSC 272	HSC 272	X	X
4	Create construction project **cost estimates**.	TEC 123, 229, 394	TEC 229	X	X
5	Create construction project **schedules**.	TEC 325, 394	TEC 325	X	X
6	Analyze professional decisions based on **ethical principles**.	TEC 120, 123, 223, 226, 229, 325, 326, 327, 394	TEC 120, 123	X	X
7	Analyze **methods, materials, and equipment** used to construct projects.	TEC 120, 121, 223, 224, 292, 325, 327, 394	TEC 224, 292	X	X
8	Apply **electronic-based technology** to manage the construction process.	TEC 117, 217, 223, 229, 325, 326, 394	TEC 217	X	X
9	Apply basic **surveying techniques** for construction layout and control.	TEC 223	TEC 223	X	X
10	Understand different methods of **project delivery** and the roles and responsibilities of all constituencies involved in the design and construction process.	TEC 123, 226, 394	TEC 226, 229	X	X
11	Understand construction **accounting and cost control**.	TEC 326	TEC 326	X	X
12	Understand construction **quality** assurance and control.	TEC 292, 394	TEC 292	X	X
13	Understand construction project **control processes**.	TEC 224, 326, 325, 394	TEC 325	X	X
14	Understand the **legal implications of contract**, common, and regulatory law to manage a construction project.	TEC 120, 226, 394	TEC 226	X	X
15	Understand the basic principles of **sustainable construction**.	TEC 120, 121, 292, 329, 394	TEC 329	X	X
16	Understand the basic principles of **structural behavior**.	TEC 292, 327, 394	TEC 327	X	X
17	Understand the basic principles of **mechanical, electrical and special** systems.	TEC 222, 394	TEC 222	X	X

Assessment Implementation Plan

Assessment data on learning outcomes receives oversight in the following ways. Specific learning outcome assessment data initially go to the Program Coordinator who is responsible for (a) documenting and reporting the results, (b) evaluating if the results conform to performance indicators, and (c) deciding, in conjunction with program faculty and IAB as appropriate, whatever corrective action needs to be taken. Corrective actions are documented in the learning outcomes assessment dashboard and published in the department's Annual Assessment Results.

Implementation of the assessment plan for the CM program and the department is managed in a systematic manner. The Assistant Chair is responsible for the assessment implementation and utilizes the assistance of clerical staff to gather and report the data, which is saved on the faculty share. From here, program coordinators can access, evaluate, and report the data in the dashboard format. An **Annual Assessment Calendar** is used to coordinate assessment processes (See Appendix VII). The Assistant Chairperson provides oversight at all steps of the process and is responsible for documenting and reporting the results in the Department of Technology Annual Assessment Report. After each annual cycle, the assessment plan is reviewed and updated as needed.

Appendix I

American Council for Construction Education
Document 103

Standards and Criteria for the Accreditation of Construction Education Programs

SECTION NINE: ACADEMIC QUALITY PLANNING PROCESS AND OUTCOME ASSESSMENT
STANDARD 9: Conduct a systematic process of gathering, interpreting, and evaluating information that requires taking actions as part of an academic quality planning process and outcome assessment.

To meet this standard, the Degree Program shall present proof of the development, existence, and use of:

- A Strategic Plan for the Educational Unit;
- An Assessment Implementation Plan that includes the four segments of:
  - Assessment of the ACCE SLOs using the appropriate mix of direct and indirect measurements,
  - Assessment of the Degree Program Objectives,
  - Data gathering,
  - Data interpretation; and
- A Determination of Achievement of SLOs and Degree Program Objectives that describes actions taken to maintain or improve performance of SLOs and Degree Program Objectives.

9. Requirements

While ACCE recognizes the obligation of Degree Programs to use assessment terminology congruent with their Institutions, it is necessary for ACCE Visiting Teams to have a consistent understanding of terminology used in the assessment process. With that purpose in mind, the ACCE will use the definitions in the Introduction Section as the preferred terminology in its assessment documentation.

If the Degree Program cannot use this terminology because of institutional constraints, they shall provide a glossary of compatible terminology at the beginning of Section 9 in the Self-Evaluation Study.

9.1. Continuous Improvement

The Quality Improvement Plan (QIP) serves as the basis for the continuous improvement of the Degree Program. It shall have three major components:

- Strategic Plan for the Educational Unit,
- Degree Program Assessment Implementation Plan, and
- Determination of Achievement of SLOs and Degree Program Objectives.

These documents shall be included in the Self-Evaluation Study and made available for Visiting Teams to review.

9.2. Educational Unit Strategic Plan

9.2.1. The Educational Unit shall have a comprehensive Strategic Plan that describes the systematic and sustained effort to enable the Degree Program to fulfill its mission.

9.2.2. The Strategic Plan shall review the internal status of the Degree Program resources as well as the external factors that influence the operation of the Degree Program.

9.2.3. The Strategic Plan shall be updated periodically and represent the collective input from all Degree Program constituencies.

9.3. Degree Program Assessment Implementation Plan

The Degree Program shall produce an assessment implementation plan that is based on such tools as the results of surveys of graduates, employers of the graduates, and Industry Advisory Committee members; exit interviews; comprehensive exams; capstone projects; or other systematically structured information.

The mission, goals, and objectives shall reflect both short-range and long-range considerations and shall be clear as to the educational and institutional results expected.

At a minimum, the Degree Program Assessment Implementation Plan shall include the following:

9.3.1. Mission Statement of the Degree Program.

The Mission Statement expresses the underlying purposes and values of the Degree Program.

9.3.2. Degree Program Objectives.

The Degree Program Objectives shall be clearly defined and stated in a manner that permits an assessment of achievement.

9.3.3. Assessment Tools

These tools shall measure achievement of Degree Program Objectives and SLOs. All data from these tools shall be collected annually or collected across multiple years leading up to a complete assessment cycle; however, there must be a plan indicating what data is collected in each year. ACCE SLOs (Section 3.4) (Section 3.2 for Master's Degree) shall be regularly evaluated and reviewed with the appropriate participation of faculty, Industry Advisory Committee, and other pertinent parties.

9.3.4. Performance Criteria.

There must be at least one performance criteria for each assessment tool to achieve the Degree Program Objectives and SLOs.

9.3.5. Methodology.

The Degree Program shall comprehensively describe the methods used for data collection, the frequency of data collection, the assessment process, the evaluation process, and how it takes the results of assessment evaluation into consideration for Program improvement and development. A complete assessment cycle shall be performed at least once every three years. A complete assessment cycle is defined as data collection, data analysis, selection of appropriate actions (if needed), and review of the effect of such action (if applicable) in the assessment of SLOs and Program Objectives.

9.4. Determination of Achievement of Student Learning Outcomes and Degree Program Objectives

To determine student achievement of SLOs listed in Section 3.4 (or Section 3.2 for Master's Degree), the Degree Program shall:

9.4.1. Provide a summary report containing the following information for each SLO (e.g., direct and indirect) and Degree Program Objective:

- Methods of assessment,
- Current evaluation of the results,
- Last reported evaluation of the results,
- Resulting corrective actions,
- Follow-up of the impact of actions taken on student performance including the dates of each follow-up, and
- Description of any revisions made to Degree Program assessment tools (if applicable).

9.4.2. Evaluate each SLO by a minimum of two assessment methods, at least one of which must be direct. Provide a table identifying the specific assessment methods used for each SLO and the location the assessment is made (e.g., the course or activity) so each assessment can be easily located.

- If student teams or group projects are used for assessment, there must also be a process in this team/group environment to assess individual student learning.
- If an SLO direct assessment measure is an examination in a course with mixed enrollment, all non-construction majors shall be excluded from the assessment data collection.

9.4.3. Produce evidence in the form of assessment tools, associated grading rubrics, and one example of graded student work to:

- Demonstrate applicability of assessment content to the specified SLO.
- Demonstrate adequacy of the assessment tool in evaluating individual student's ability to meet each SLO at or above the required minimum level of Bloom's Taxonomy (e.g., Understand, Apply, etc.). Programs using third-party certifications shall provide comprehensive results for each SLO where such assessment is applied.
- The determination of achievement shall be documented in a systemic manner.

To determine the achievement of Degree Program Objectives, the Degree Program shall:

9.4.4. Evaluate each Degree Program Objective with at least one direct measure.

9.4.5. Provide evidence to demonstrate the applicability of the assessment to the specified Degree Program Objective.

Appendix II

University Curriculum Committee Syllabus Template
As Adapted by CM Faculty

TEC 120 Introduction to Building Construction
Course Syllabus – Spring 2017
Last Revised: January 9, 2017

Course: TEC 120
Section Number: 001
Class Days/ Times: Tuesday & Thursday 9:35 – 10:50 a.m.
Classroom: TUR 172
Course Credits: 3

Instructor: Dr. Rick Boser
Office: TUR 215 N
Office Hours: 9:30 -11:00A Monday & Wednesday
Telephone: 309.438.3767
Email: raboser@ilstu.edu

Course Description
Introduction to the principles, practices, and materials used in residential and commercial construction.

Why Should You Care About Construction Material and Methods?
You live in a built environment. Through the activities of this course, you will get a better understanding of how buildings go together and why they are built the way they are. I love observing construction sites to see how the design and materials selected by the architect will be transformed into reality through the efforts of the building contractors. And it changes all the time as new materials, methods, and equipment enter the industry. Building is not static and you must continue to learn. For construction management (CM) majors, this is a foundation course. You will continuously refer back to this fundamental content as you learn how to estimate, schedule, and manage projects. CM minors with IED, RE, or Tech Ed majors will find the content broadens your understanding of your major area and hence expands career opportunities. For non-majors or minors taking this course as an elective, my goal is to give you a better understanding of the built environment that may yield dividends in the future as you become a home owner or assist in business related construction. I hope that by the end of the semester you will develop a deep appreciation for the wonderful world of construction.

TEC 120 Student Learning Outcomes
Upon completing this course the student will be able to:
1. Demonstrate an understanding of how building science principles impact the selection of construction materials and methods.
2. Apply sustainable design principles to the selection of construction materials and methods and thereby reduce consumption of non-renewable resources, minimize waste, and create healthy, productive environments.
3. Identify the composition, units of measurement, standard designations, sizes, and grades for building products typically used in light-frame and commercial building construction.
4. Summarize the benefits and limitations of the construction materials and methods used in the different phases of construction from the foundation to the completion of building enclosure.
5. Identify equipment used to install typical construction materials.
6. Explain how the building design is impacted by building codes and regulations.
7. Recognize ethical situations that may arise in the construction industry and ways to avoid or mitigate those situations.

Construction Management Program Goals
The following 17 Student Learning Outcomes (SLOs) are mandated by the *American Council of Construction Education* (ACCE) for accredited Bachelor Degree programs in construction. These 17 SLOs have also been adopted as the learning outcomes for the ISU CM program. The primary SLOs are bolded. Supporting SLOs, if any, are underlined.

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 methods, materials, and equipment used to construct projects.**
8. Apply electronic-based technology to manage the construction process.
9. Apply basic surveying techniques for construction layout and control.
10. Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.
11. Understand construction accounting and cost control.
12. Understand construction quality assurance and control.
13. Understand construction project control processes.
14. Understand the legal implications of contract, common, and regulatory law to manage a construction project.
15. **Understand the basic principles of sustainable construction.**
16. Understand the basic principles of structural behavior.
17. Understand the basic principles of mechanical, electrical and special systems.

Required Text
Allen, E. (2014), *Fundamentals of building construction: Materials and methods (6th ed.)* New York, Wiley

Course Materials Needed Every Day
Textbook, pen/pencil, and laptop, tablet, smartphone, or calculator. The textbook will be used regularly as an in-class resource. A laptop or tablet will be useful for construction observation activities and to access Canvas materials.

Attendance
The ISU Undergraduate Catalog states that attendance regulation is based on two principles. First, students are expected to attend class regularly; and second, students are primarily responsible to the instructor in matters pertaining to class attendance. Every student will be held responsible for class attendance and successful completion of academic work. Attendance regulations are intended to encourage student maturity and are based on the assumption that academic success is the student's primary goal in college. Regular attendance is closely correlated with academic success!

Content Outline: (A **detailed course schedule** may be found on Canvas under the Syllabus tab.)

Building Science and Energy (web links) • Sustainability & green building: What are the issues? • Assessing sustainable buildings • Heat, air & moisture control • Perfect Wall / Enclosure • Embedded energy & LCA	**Design Constraints and Regulation (Ch. 1)** • Zoning & Building codes • Occupational Safety and Health • Other legal constraints • Information resources (UL, ASTM, ANSI) • Construction Standards Institute (CSI)
Foundations (Ch. 2) • Foundation loads and settlement	**Wood Products (Ch. 3)** • Trees and Lumber

• Soils, excavation, slope support • Types of foundations • Underpinning and retaining walls • Waterproofing and drainage	• Manufactured wood products • Characteristics of wood • Wood treatment • Fasteners
Light Frame (Ch. 5) • Balloon and platform framing • Frame components and layout of floors, walls, stairs and roofs • Building codes • Energy efficiency & alternative methods	**Exterior Finish Systems (Ch. 6, 16-21)** • Light frame & commercial cladding • Roofing • Windows & Siding • Exterior finishes
Interior Finishes (Ch. 7, 22, 23, 24) • Sequence of int. fin. Operations • Thermal insulation and vapor barriers • Walls and partitions • Ceiling finishes • Flooring and ceramic tile • Stairs	**Masonry (Ch. 8, 9, 10)** • Bricks • Concrete masonry units • Stone • Mortar • Load bearing masonry • Waterproofing
Steel Frame Construction (Ch. 11, 12) • Steel manufacturing • Steel nomenclature • Details of steel framing • Bracing and reinforcement • Fireproofing of steel framing	**Concrete Construction (Ch. 13 - 15)** • Cement and concrete • Formwork and reinforcement • Placing concrete • Prestressed reinforcement • Precast concrete systems
Roofing (Ch. 16) • Low-slope roofs • Steep-slope roofs • Roofs and building codes	**Glass, Glazing , & Doors (Ch. 17, 18)** • Types of glazing materials • Glass and energy • Windows & Doors
Cladding Systems (Ch. 19 - 21) • Design requirements • Approaches to water-tightness • Masonry & concrete cladding • Metal & glass cladding systems • Sealants • Testing	

Attendance Management

To encourage success and make the best use of everyone's time, an attendance sheet will be circulated during each class. Attendance may be considered in determining student's final grade. There will be no make-up of quizzes, tests, or in-class assignments unless prior arrangements have been made. In addition, some Canvas quizzes may require previous class attendance and require a password announced in-class. Links to campus policies regarding bereavement, volunteer service during civil emergencies, and extracurricular activities can be found on the Dean of Students webpage at http://deanofstudents.illinoisstate.edu/. For little pep talk on the value of class attendance, see http://www.collegeparents.org/members/resources/articles/are-there-secrets-college-success.

Learning Activities

Oddly, quizzes, assignments and tests are not provided because instructors are cruel or unreasonable, but rather to promote learning and provide feedback on your performance so that you know where to focus your efforts in the future. Under the syllabus tab in Canvas, you will find a detailed course schedule so that you can

plan ahead. Assignments will come with performance rubrics and guidance on how to tackle the activity. On the first day of class, I'll solicit your input on ways that you think will help you learn.

Online quizzes (200 pts): The purpose of homework (quizzes) is to provide learners with the background terminology and concepts to prime class discussion and activities in order to utilize class time for more advanced treatment of the topic. Your first exposure to most of the course content will be through reading the textbook and other online resources. Class resources include a series of PowerPoint slides that will NOT normally be presented in class. The PPTs are provided to supplement the textbook and class activities. Quiz questions, or a close variant, will be used on the examinations. Tentative quiz dates are listed on Canvas learning module and course schedule; however, note that dates may be revised to align with course pacing (10 quizzes @ 20 points each).

Energy points (50 pts): Shameless stolen from the Khan Academy, Energy Points will be awarded for successful participating in selected class activities. Evidence of participation my include simply signing in on the attendance sheet or may require submission of individual or group activity results. To assist you in contributing to discussion, you may also be asked to investigate and bring to class printed copies of resources/media regarding a specific topic (5 activities @ 10 points each). Note that you must be in attendance to earn energy points.

Construction Observation (50 pts): Learning activities will comprise the observation and documentation of real-world building construction projects from webcams provided by OxBlue. Working individually or in assigned groups, you will observe construction activities to understand the materials, methods, equipment, sequencing, and timelines of construction projects. Specific observation topics will be linked to the textbook, grading rubric, and/or other resources for guidance. The goal of these observations is to develop a holistic understanding of the what, why, and how of material selection and installation methods. Note that the "why" may include structural, sustainability, and building science benefits and limitations of the various materials and methods. (5 observations @ 10 points each).

Midterm and Final Examinations (200 pts total / 100 pts each) will be cumulative and cover content from the textbook, PPTs, and class activities. Note that the quiz questions, or close variants, will be utilized on the examinations. The final examination schedule will be posted by the Registrar about mid-semester.

Extra-Credit Assignments: To allow for the odd forgotten quiz or assignment, hungry dog, or slept in and missed the energy points, there will be an opportunity to earn up to **25 extra-credit points**.

These points may be accrued by participating in CMSA activities (see details at end of syllabus) OR by completing one or more extra-credit activity. Details for extra-credit activities will be announced in class and posted on Canvas.

Grade Scale - Total Points 500: A >= 450; B >= 400; C >= 350; D >= 300; F < 300.

Grading Notes

1. The instructor reserves the right to include unannounced quizzes and graded classroom activities to encourage active reading of assigned materials and participation. These activities will be part of the "energy points."
2. Assignments are to be submitted online or as specified on the DUE date. The instructor is under no obligation to accept late assignments or provide make-up grading activities.
3. Course grade percentages for activities may be changed to reflect the emphasis of the course, but only with consent of the majority students.

4. Incomplete "I" grades are reserved for students who have serious life crisis in the final weeks of the semester and are therefore unable to complete the required assignments or projects.
5. All midterm and final examination materials will be collected and retained by the instructor.

When Taking a Test Through Canvas, Students Should:

- Only use a desktop or laptop, not a mobile device (like a smartphone or a tablet).
- Open only one window and one browser. Students should be looking at only the testing screen and not be clicking modules, resources & materials, or any other tools in Canvas while taking a test.
- **Save the answers as often** as possible. If the questions are all displayed on one page, the "save" button will be at the bottom of the page. Students should periodically click "save" and then scroll back up to answer the questions. Canvas timeouts after 60 minutes!
- Not log in to Canvas from multiple tabs, multiple browsers or multiple devices (for example, a computer and a mobile device).
- Not use the browser's back and forward buttons.
- Wait for a **confirmation number**. After clicking "submit for grading," wait for the submission screen that includes the confirmation number. If you close Canvas before seeing this screen, your test may not be recorded.
- **Getting Help:** Student help requests should contact the University's Technology Support Center at Helpdesk.IllinoisState.edu or (309)438-4357.

You can link to this information at: http://ctlt.illinoisstate.edu/technology/Canvas/testing/

Academic Integrity

Students are expected to be honest in all academic work. A student's placement of his or her name on any academic exercise shall be regarded as assurance that the work is the result of the student's own thought, effort, and study. Academic dishonesty is considered an offense to the department and university. Cases will be handled consistent with university policy, which specifies that faculty members are to report all instances of academic dishonesty to the Dean of Students staff. Also, consistent with university policy, faculty members retain authority to determine grade penalties in cases of academic dishonesty. In this course, at a minimum, academic dishonest will result in a failing grade for the assignment and the incident will be reported to the Dean of Students. Other consequences may include additional grade penalties or failure of the course. For additional information, see the link to the Code of Student Conduct at http://deanofstudents.illinoisstate.edu/conflict/conduct/code/academic.php.

Classroom Behavior / Comportment
In order to maintain a positive and professional atmosphere and to minimize distractions, I request that you refrain from eating/drinking, putting your feet on the tables, reading newspapers or other material not pertaining to the course. Students creating distractions that interfere with the class or the learning of others will be asked to leave. Non-registered visitors are not allowed at class sessions. The use of tobacco products or alcohol in any form is not permitted. Telephones, pagers, headphones, and other electronic devices that distract students must be turned off during classes.

Disabilities Concerns
Any student needing to arrange a reasonable accommodation for a documented disability should contact Disability Concerns at 350 Fell Hall, 309-438-5853, www.disabilityconcerns.ilstu.edu.

General Education
General Education provides students with a broad, common foundation of study upon which to build an undergraduate education. The program develops skills of oral and written communication, logical and scientific reasoning, computer usage, and quantitative analysis. Courses in general education explore ways of knowing in the various disciplines through examination of significant historical, social, cultural, and scientific issues.

Student Counseling Services:
Life at college can get very complicated. Students sometimes feel overwhelmed, lost, experience anxiety or depression, struggle with relationship difficulties or diminished self-esteem. However, many of these issues can be effectively addressed with a little help. Student Counseling Services (SCS) helps students cope with difficult emotions and life stressors. Student Counseling Services is staffed by experienced, professional psychologists and counselors, who are attuned to the needs of college students. The services are FREE and completely confidential. Find out more at http://counseling.illinoisstate.edu/ or by calling (309) 438-3655.

How To Earn Good Grades and Learn Something Too!
- Attend class regularly.
- Attend class regularly.
- Come to class prepared - read text and/or other reference material in advance.
- Regularly observe a construction project (often one near campus) to understand the (a) sequence of work, and (b) materials, methods, and equipment used?
- Ask questions when you don't understand - if you don't get it, others probably don't either - so you will not be wasting class time by asking questions.
- Use a questioning approach to reading - read the questions and terms at the end of the chapter first so that you are mentally prepared to receive information in the chapter.
- Use a questioning approach when listening in class. Don't write extensive notes; instead try to grasp the main ideas and how the concepts are related to each other.
- PowerPoint slides and other visual materials are provided on Canvas. Review in advance and note content that may not be clear to you.
- Do the homework assignments - not only will you learn the material, but you'll earn grade points! Besides, where do you think exam questions come from?
- Read the syllabus - course contract - to see what is required of you and when.
- Attend CMSA events to reinforce course content (more below).

CMSA Membership & Participation
Students are encouraged to become active participants in the ISU Construction Management Student Association (CMSA). The CMSA is organized to promote participation in professional construction organizations such as the Associated General Contractors, Mechanical Contractors Association of America, National Association of Home Builders, National Electrical Contractors Association, and U.S. Green Building Council. Students MAY earn 15 to 25 points (5 events @ 5 points each) for attending CMSA meetings, field trips, and community service activities. Earning extra-credit points for CMSA is good insurance for a missed online quiz or in-class energy point activity.

To qualify for the bonus grades students MUST:
a. Be in "good standing" i.e. a PAID member of CMSA by the end of the 2nd month of the semester,
b. Attend three (3) or more CMSA sponsored events as verified by the CMSA attendance sheet.

The earned bonus points may be applied to only ONE CM course per semester -- your choice or CM faculty will select the course where the bonus points will give you the most benefit. CMSA bonus credit can NOT be used to raise your grade from an F to a D or a D to a C.

Benefits of membership in student professional organizations include:
- Scholarships that are ONLY available to student chapter members (AGC, NAHB, MCAA, NAHB, NECA)
- Guest speaker and field trip events
- Chance to network with construction professionals – this is becoming critical for internships and job opportunities.
- Attend national job fairs
- Participate in construction management competitions and travel opportunities
- Attend conferences and seminars
- Social activities

Please remember to SIGN the attendance sheet at each CMSA event. CMSA meetings/event dates will typically be announced in class. Event dates are distributed to all CM students via email listserv and usually on the video display outside of Turner Hall 120. Field trips are scheduled periodically, typically on Fridays, with details announced in-class, by email.

END of Syllabus

Appendix III

Example

Academic Program Profile

Undergraduate Program Measures

in Construction Management (52.2001)

ILLINOIS STATE UNIVERSITY
Illinois' first public university.

Monthly Academic Program Summary
Construction Management BS

This report summarizes point-in-time data for this academic program and compares them to university measures. The data collected is near real time, and includes students in this primary major in the term.

Oct 21, 2026

Student Statistics

Student Statistics
What details are known about currently enrolled students?

Academic Load	Program Students	Avg GPA	ISU Students	Avg ISU GPA
Full Time	326	3.16	18163	3.19
Part Time	12	3.39	4336	3.10

Program Migration
How many students have transferred in or out of this program since the beginning of the term?

Term Start	Added	Left
319	16	4

Class Standing
How many students are in each academic level?

Level	Program Students
Freshman (0-29)	58
Sophomore (30-59)	62
Junior (60-89)	71
Senior (>89)	101
Post-Bacc	1

Average Credit Hours
How do students in this program compare to the University average credit hours?

Program Students	ISU Students
14.62	13.81

Academic Rigor
What is the average difficulty of schedule?

Program Students	ISU Students
3.25	3.11

1 - Easiest, 5 - most Difficult

Advisor Contact
How many advising appointments exist to advise for students in this program this term?

Advising Department	Program Students
Department of Technology	108
University College	42
University Housing Services	5
Honors Program	3
College of Business	4

Total Program Appt	Total ISU Appt
210	16,056

Counts begin August 1 for fall and January 1 for spring semesters.

CS Advising Holds
How many holds exist in Campus Solutions for students in this program this term?

Author	Total Count
DeptSchool	24
Records	1
THD	1
UCollege	37

Counts begin August 1 for fall and January 1 for spring semesters.

University Withdrawals
How many students have withdrawn from ISU this term?

Program	Program %
4	1.19%

Institutional Compare

ISU	ISU %
284	0.01%

Course Withdrawals
How many courses have been dropped this term by students in this program?

Program Students	Courses	Student Percent	Course Percent
28	34	7.8%	1.4%

Institutional Compare

ISU Students	Course	Student Percent	Grade Percent
1,197	1670	3.2%	1.0%

Program Requirements

Program Requirements
What are the requirements for all sequences in this program?

Description	Minimum Units	Minimum Courses #	Req Gtc Core Req
Major in Construction Management	63	9	2

Requirement Completion Rates - Current
How are students performing in terms of completing degree requirements?

Program

Level	% Hours	% Courses
Freshman (0-29)	15%	0%
Sophomore (30-59)	30%	0%
Junior (60-89)	60%	13%
Senior (>90)	82%	0%
Post-Bacc	82%	0%

ISU

Level	% Hours	% Courses
Freshman	15%	14%
Sophomore	28%	40%
Junior	62%	64%
Senior	82%	81%
Post-Bacc	82%	85%

Enrollment Patterns

Repeated Courses
Over the last four years, what top 5 courses have resulted in repeated/multiple enrollments?

Course	Total Enrolled	Repeats	Count of 1	Count of 2	Count of 3	Count of 4
MAT 108	362	30	11	3	1	0
TEC 120	334	17	10	1	0	0
ACC 121	171	11	4	2	1	0
MAT 120	204	10	8	1	0	0
PSY 110	267	10	7	0	1	0

Course Overrides
How many course overrides have been granted to currently enrolled students during their lifetime at ISU? This data does not represent all override requests submitted; only overrides entered into Campus Solutions.

Status	Program
Not Used	243
Registered then dropped	18
Used	368
Used to gain waitlist	3

Status	ISU
Not Used	16,162
Registered then dropped	3,152
Used	43,991
Used to gain waitlist	93

Petition for Graduation
Petitions are categorized when submitted. Which graduation requirements have been altered by petitions in the last 4 years?

Override Desc	Count
Construction Management	437

Course Withdraw History - 2 Yr
Over the last two years, what top 5 courses resulted in a withdraw for students?

Program	Count
MAT 108	62
ACC 121	51
MAT 120	41
MAT 121	9
MAT 116	8

ISU	Count
MAT 121	456
ACC 121	426
MAT 120	371
MAT 113	368
MAT 116	336

Course Withdraw History - 4Yr
Over the last four years, what top 5 courses resulted in a withdraw for students?

Program	Count
MAT 108	75
ACC 121	51
MAT 120	34
TEC 120	18
PSY 110	16

ISU	Count
ACC 121	660
MAT 120	766
MAT 121	574
MAT 113	556
MAT 116	517

Enrollment Length

Longevity Tracking
How long have current students attended Illinois State?

	FTIC	Readmit	Transfer	Still Here
Admitted in Fall Semester 2025	58	2	22	58
Admitted in Summer Semester 2025	1		0	0
Admitted in Spring Semester 2025	7		10	11
Admitted in Fall Semester 2024	58		24	63
Admitted in Summer Semester 2024	1		1	2
Admitted in Spring Semester 2024	1		4	5
Admitted in Fall Semester 2023	41		28	64
Admitted in Spring Semester 2023	1	1		2
Admitted in Fall Semester 2022	30	1	4	35
Admitted in Summer Semester 2022			1	1
Admitted in Spring Semester 2022	1			1
Admitted in Fall Semester 2021	12			12
Admitted in Fall Semester 2021	1			1

For information regarding annual student outcomes, please visit the PRPA Data Center.

Appendix IV

Department of Technology
Employer Survey Policies & Procedures
Last Revised: 2016

Excerpted for Construction Management Program

Rationale
Employer surveys are required to maintain accreditations and for continuous improvement as recommended by University Assessment Services. The data collected is confidential and will only be used in aggregate for assessment reports and program improvement decisions by faculty and industry advisory boards. Your support is greatly appreciated.

Guidelines
Frequency of Data Collection
Annually, degree program representatives identify and interview 3 – 5 employers with knowledge of the job performance of alumni who have graduated *within the past 3 years* (more time elapsed may not capture recent program performance and so may not be as useful for program improvement). Data is compiled and aggregated in 3-year segments for reporting in learning outcomes reports.

June 30th: 3 – 5 survey forms for the academic year are forwarded to the Assistant Chair. Aggregated data is stored on the faculty share & SkyDrive server for use in learning outcomes reports.

Collection Method
Surveys will be conducted by personal interview or email. Each degree program will have a unique script catered for specific learning outcomes. One form will be used for each firm surveyed; though more than one graduate may work for the firm. The number of graduates will be reported as the "n" value.

Forms
- Employer Survey: Construction Management
- Employer Survey Results Reporting: Construction Management

Employer Survey
B.S. in Construction Management

Illinois State University
Department of Technology

Date:

Employer:
Employer Representative & Title:
Number of program graduates hired within the past three years:

Confidentiality statement: *All information from interviews will be reported in aggregate and not linked to any individual or company. This information is intended to help with our continuous improvement efforts.*

Explanation of interview questions: *Our program curriculum and facilities are informed by several desired learning outcomes. Our interest is in understanding your perceptions as to how well prepared program graduates are positioned for success in the workplace with regard to these learning outcomes. For each outcome, please rate the overall performance of graduates as "meets expectations" or "below expectations," and provide any insight into of the performance of our graduates within the context of your work environment. Please remember that you are not rating a specific employee, but rather graduates collectively from the* **Construction Management *program*** *during the past 3-years.*

Construction Management Learning Outcomes	Employer Rating	Employer Comments
1. Create written communications appropriate to the construction discipline.	☐ meets expectations ☐ below expectations ☐ N/A	
2. Create oral presentations appropriate to the construction discipline.	☐ meets expectations ☐ below expectations ☐ N/A	
3. Create a construction project safety plan.	☐ meets expectations ☐ below expectations ☐ N/A	
4. Create construction project cost estimates.	☐ meets expectations ☐ below expectations ☐ N/A	
5. Create construction project schedules.	☐ meets expectations ☐ below expectations ☐ N/A	
6. Analyze professional decisions based on ethical principles.	☐ meets expectations ☐ below expectations ☐ N/A	
7. Analyze methods, materials, and equipment used to construct projects.	☐ meets expectations ☐ below expectations ☐ N/A	
8. Apply electronic-based technology to manage the construction process.	☐ meets expectations ☐ below expectations ☐ N/A	
9. Apply basic surveying techniques for construction layout and control.	☐ meets expectations ☐ below expectations	

	☐ N/A	
10. Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.	☐ meets expectations ☐ below expectations ☐ N/A	
11. Understand construction accounting and cost control.	☐ meets expectations ☐ below expectations ☐ N/A	
12. Understand construction quality assurance and control.	☐ meets expectations ☐ below expectations ☐ N/A	
13. Understand construction project control processes.	☐ meets expectations ☐ below expectations ☐ N/A	
14. Understand the legal implications of contract, common, and regulatory law to manage a construction project.	☐ meets expectations ☐ below expectations ☐ N/A	
15. Understand the basic principles of sustainable construction.	☐ meets expectations ☐ below expectations ☐ N/A	
16. Understand the basic principles of structural behavior.	☐ meets expectations ☐ below expectations ☐ N/A	
17. Understand the basic principles of mechanical, electrical and special systems.	☐ meets expectations ☐ below expectations ☐ N/A	

Employer Survey Results Reporting: Construction Management Month/Year:

Illinois State University
Department of Technology
Employers surveyed:
Total number of program graduates included:

Construction Management Learning Outcomes	Aggregate Employer Ratings (add # of graduates: i.e. 3 employers with 7 graduates meet expectations)	Aggregate Employer Comments
1. Create written communications appropriate to the construction discipline.	☐ meets expectations ☐ below expectations ☐ N/A	
2. Create oral presentations appropriate to the construction discipline.	☐ meets expectations ☐ below expectations ☐ N/A	
3. Create a construction project safety plan**.**	☐ meets expectations ☐ below expectations ☐ N/A	
4. Create construction project cost estimates.	☐ meets expectations ☐ below expectations ☐ N/A	
5. Create construction project schedules.	☐ meets expectations ☐ below expectations ☐ N/A	
6. Analyze professional decisions based on ethical principles.	☐ meets expectations ☐ below expectations ☐ N/A	
7. Analyze methods, materials, and equipment used to construct projects.	☐ meets expectations ☐ below expectations ☐ N/A	
8. Apply electronic-based technology to manage the construction process.	☐ meets expectations ☐ below expectations ☐ N/A	
9. Apply basic surveying techniques for construction layout and control.	☐ meets expectations ☐ below expectations ☐ N/A	
10. Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.	☐ meets expectations ☐ below expectations ☐ N/A	
11. Understand construction accounting and cost control.	☐ meets expectations ☐ below expectations ☐ N/A	
12. Understand construction quality assurance and control.	☐ meets expectations ☐ below expectations ☐ N/A	

13. Understand construction project control processes.	☐ meets expectations ☐ below expectations ☐ N/A	
14. Understand the legal implications of contract, common, and regulatory law to manage a construction project.	☐ meets expectations ☐ below expectations ☐ N/A	
15. Understand the basic principles of sustainable construction.	☐ meets expectations ☐ below expectations ☐ N/A	
16. Understand the basic principles of structural behavior.	☐ meets expectations ☐ below expectations ☐ N/A	
17. Understand the basic principles of mechanical, electrical and special systems.	☐ meets expectations ☐ below expectations ☐ N/A	

Appendix V

Example of CM Senior Exit Survey

Department Questions

Department of Technology Senior Exit Survey

As part of our continuous quality improvement process, we would like to know your perception of how well we have performed as a department and as an academic degree program.

This brief survey has two parts: (a) ratings of general perceptions about the department and its quality, and (b) ratings on how well you achieved the intended learning outcomes for your major. Anticipated time to complete the survey is about 10 minutes.

Thank you very much for your feedback on the quality of the Department of Technology and its
programs of study!

This section includes ratings of your perception about the quality of the Department of Technology

	Excellent	Good	Neutral	Fair	Poor
Overall, the quality of instruction in my TEC courses was:	○	○	○	○	○
TEC faculty expertise in their subject matter areas was:	○	○	○	○	○
Overall, the laboratory quality of my TEC courses (machines, devices, computers, software) was:	○	○	○	○	○

	Excellent	Good	Neutral	Fair	Poor
Timeliness of the TEC Advisement Office responses to my inquiries was:	○	○	○	○	○
My TEC advisor's knowledge of my academic plan was:	○	○	○	○	○

Career Options

	Very Useful	Useful	Neutral	Useless	Very Useless
I rate the usefulness of my TEC major in expanding my career options as:	○	○	○	○	○

Recommendation of the Department of Technology

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I would recommend TEC to a friend or family member.	○	○	○	○	○

Would you care to share any additional comments about your experiences with the Dept of Technology?

Construction Management

Please indicate how well your degree program prepared you to perform each of the following.

	Strongly Agree	Agree	Neutral	Disagree	Str Dis
I am able to create written communications appropriate to the construction discipline.	○	○	○	○	
I am able to create oral presentations appropriate to the construction discipline.	○	○	○	○	
I am able to create a construction project safety plan.	○	○	○	○	
I am able to create construction project cost estimates.	○	○	○	○	
I am able to create construction project schedules.	○	○	○	○	
I am able to analyze professional decisions based on ethical principles.	○	○	○	○	
I am able to analyze methods, materials, and equipment used to construct projects.	○	○	○	○	
I am able to apply electronic-based technology to manage the construction process.	○	○	○	○	
I am able to apply basic surveying techniques for construction layout and control.	○	○	○	○	
I am able to understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.	○	○	○	○	
I am able to understand construction accounting and cost control.	○	○	○	○	
I am able to understand construction quality assurance and control.	○	○	○	○	
I am able to understand construction project control processes.	○	○	○	○	
I am able to understand the legal implications of contract, common, and regulatory law to manage a construction project.	○	○	○	○	
I am able to understand the basic principles of sustainable construction.	○	○	○	○	
I am able to understand the basic principles of structural behavior.	○	○	○	○	

	Strongly Agree	Agree	Neutral	Disagree	Str Dis
I am able to understand the basic principles of mechanical, electrical and piping systems.	○	○	○	○	

Please provide any feedback about the instruction and your learning related to your degree program.

Career Information

Who or what influenced you in deciding to pursue your degree program at ISU?

At what stage are you in finding a position in your major field?

	Accepted an offer	Have a tentative offer	Interviewing	Have not started searching
Job Search	○	○	○	○

If you are actively searching for a job or have landed a position, what has been most helpful so far: (you may answer more than one)

	ISU Career Services	ISU Career Fairs	eRecruiting	TEC Faculty Employer Contacts	My Own Searchers (website, personal contacts, etc.)
Help in job search	☐	☐	☐	☐	☐

If you have secured a position, please provide the name of the employer:

If you have secured a position, what is the title of your position?

What is the salary range for your position?

- ○ less than $10,000
- ○ $10,000 - $19,999
- ○ $20,000 - $29,999
- ○ $30,000 - $39,999
- ○ $40,000 - $49,999
- ○ $50,000 - $59,999
- ○ $60,000 - $69,999
- ○ $70,000 - $79,999
- ○ Over $80,000

If you have secured a position, in what area of the construction industry is your

position?

- ○ Commercial
- ○ Residential
- ○ Heavy/Civil
- ○ Mechanical
- ○ Electrical
- ○ Plumbing
- ○ Industrial
- ○ _____ Other, please specify

In what state are you going to work for a project?

- ○ Illinois
- ○ Indiana
- ○ Wisconsin
- ○ Iowa
- ○ Missouri
- ○ Kentucky
- ○ _____ Other (Please provide)

Powered by Qualtrics

Appendix VI

Example of ISU Alumni Survey of Student Learning Outcomes

2011 Construction Management

Page 1

1. Please indicate how well the CM sequence prepared you to perform each skill.

	Well above average	Above average	Average	Below average	Well below average	N/A
Apply the fundamentals of business and management including accounting, finance, economics, business regulation, and contract law.	○	○	○	○	○	○
Apply knowledge of construction materials and methods including products, systems, and interface issues related to job site organization and the selection of assembly techniques and equipment.	○	○	○	○	○	○
Interpret construction documents (blueprints and specifications) in order to perform such activities as quantity take-offs, cost estimates, quality control, and site layout.	○	○	○	○	○	○
Demonstrate knowledge of design fundamentals in order to communicate with design professionals (architects and engineers), contribute to the planning phase of design-build projects, and solve practical construction problems.	○	○	○	○	○	○

Page 2

2. Please indicate how well the CM sequence prepared you to perform each skill.

	Well above average	Above average	Average	Below average	Well below average	N/A
Interpret OSHA and other appropriate safety standards and	○	○	○	○	○	○

develop/execute a construction safety plan that conforms to mandatory procedures, training, and record-keeping requirements.						
Prepare a project bid that includes quantity takeoffs, labor and equipment productivity factors, pricing based on historical costs, and overhead and profit.						
Develop, and be able to revise, an effective project plan and schedule that includes network diagramming, critical path, and resource allocation.						
Demonstrate an understanding of the concepts, roles, responsibilities, and procedures of project management and as applied to ethics, project delivery systems, administrative systems and procedures, cost and time control, site analysis, value engineering, job site and office documentation, quality control philosophies and practices.						
Utilize industry-accepted software for project management, planning and scheduling, estimating, and design.						

Appendix VII

Annual Assessment & Reporting Calendar

Last Updated August 2013

Date	Activity	Accountable
As appropriate by course schedule	IDEA student ratings of instruction (November and April).	Secretary
As appropriate	Share assessment data with program and/or program advisory committees	Program Coordinator
As appropriate	Faculty Retreat - Review annual assessment data and establish improvement priorities.	Chair
April	Conduct TEC Senior Student Exit Survey	Advisor
April	Organize follow-up survey of employers (minimum 3-year cycle)	Asst Chair & Secretary
April	Mail pre-survey letter to alumni.	Secretary
June	TEC Senior Student Exit Survey results and Employer Survey results distributed to faculty.	Advisor, Asst. Chair
June/July	Survey minimum of three employers	Coordinator
August	Alumni data distributed to coordinators	Asst. Chair
August	Coordinators meeting to discuss new assessment data and review assessment process	Asst. Chair
September 15	Program Coordinators submit the annual *Learning Outcomes Report*	Program Coordinator
September 15	Program Coordinators submit the annual *Program Goals Report and Plan of Work*	Program Coordinator
September/October	Organize and conduct scheduled Peer Teaching Observations.	Asst. Chair
November 1	Post annual TEC Assessment Report on TEC website	Asst. Chair
December 1	Department of Technology Annual Report and Consolidated Annual Budget Report	Chair

Appendix VIII

Example Annual Assessment Results Dashboard

Summary Assessment Report (2025 – 26)

	Construction Management Learning Outcomes The graduate will be able to:	Direct Measurements Students' Work in CM Courses Overall Score	Courses	Indirect Measurements Employer Survey[2] (n=15, no of graduates hired=34) *Meet Expectation/ Below Expectation/ N/A*		Senior Survey[3] (n=33, Fall 2025/ Spr 2026)	**Planned Curricular Actions for Improvement (2026-2027)**
1	Create **written communications** appropriate to the construction discipline.	91.7%	TEC 394 (n = 47)	13/0/2	100%	4.23	No action at this time. Objective and self-report measures all positive.
2	Create **oral presentations** appropriate to the construction discipline.	92.7%	TEC 394 (n =47)	13/0/2	100%	4.23	No action at this time. Objective and self-report measures all positive.
3	Create a construction project **safety** plan.	83.5%	HSC 272 (n = 66)	9/1/5	90%	4.23	No action at this time. Objective and self-report measures all positive.
4	Create construction project **cost estimates**.	90.8%	TEC 229 (n =51)	11/2/1	85%	4.26	No action at this time. Objective and self-report measures all positive.
5	Create construction project **schedules**.	85.7%	TEC 325 (n =58)	11/1/3	92%	4.29	No action at this time. Objective and self-report measures all positive.
6	Analyze professional decisions based on **ethical principles**.	83.1%	TEC 120 (n = 99); TEC 123 (n = 71)	9/2/4	82%	4.39	No action at this time. Objective and self-report measures all positive.
7	Analyze **methods, materials, and equipment** used to construct projects.	90.9%	TEC 224 (n =73); TEC 292 (n =23)	12/1/2	92%	4.42	No action at this time. Objective and self-report measures all positive.

8	Apply **electronic-based technology** to manage the construction process.	92.8%	TEC 217 (n =75)	13/0/2	100%	4.26	No action at this time. Objective and self-report measures all positive.
9	Apply basic **surveying techniques** for construction layout and control.	86.4%	TEC 223 (n =81)	7/2/6	78%	4.16	No action at this time. Objective and self-report measures all positive.
10	Understand different **methods of project delivery** and the roles and responsibilities of all constituencies involved in the design and construction process.	78.1%	TEC 226 (n =77); TEC 229 (n =25)	11/2/2	85%	4.35	No action at this time. Objective and self-report measures all positive.
11	Understand construction **accounting and cost control**.	81.5%	TEC 326 (n =63)	12/1/2	92%	4.26	No action at this time. Objective and self-report measures all positive.
12	Understand construction **quality** assurance and control.	88.1%	TEC 292 (n =68)	11/2/2	85%	4.29	No action at this time. Objective and self-report measures all positive.
13	Understand construction **project control** processes.	82.5%	TEC 325 (n =57)	12/0/3	100%	4.35	No action at this time. Objective and self-report measures all positive.
14	Understand the **legal implications of contract, common, and regulatory law** to manage a construction project.	74.6%	TEC 226 (n =61)	9/1/5	90%	4.35	No action at this time. Objective and self-report measures all positive.
15	Understand the basic principles of **sustainable construction**.	91.7%	TEC 329 (n =80)	13/0/2	100%	4.32	No action at this time. Objective and self-report measures all positive.
16	Understand the basic principles of **structural behavior**.	82.2%	TEC 327 (n = 39)	9/1/5	90%	4.26	No action at this time. Objective and self-report measures all positive.
17	Understand the basic principles of **mechanical, electrical and piping systems**.	87.3%	TEC 222 (n =38)	10/3/2	77%	4.32	No action at this time. Objective and self-report measures all positive.

Notes

1. Performance criteria for Direct Assessment and Employer Survey (Benchmark ≥ 70%)
2. Performance criteria for Senior Survey (Benchmark ≥ 3.5 on 5-point scale; 5 well above average, 4 is above average, 3 is average, 2 is below average, 1 is well below average)
3. Trigger for action ≥ 2 criteria below benchmark
4. Measure below benchmark is highlighted in red color

Appendix IX

Construction Management (CM) Mission, Strategic Plan, and Goals Report

Department of Technology
Construction Management (CM) Program

CM Program Mission, Strategic Plan, and Goals Report

Mission: *Our mission is to be a "first choice" provider and center for construction education.*

Strategic Plan: Report on Plan of Work and Goals Report (2025-2026)

CM Goals	Goal Alignment	Strategies	Plan of Work for 2025-2026	Report on Plan of Work 2025-2026 (November 2026)
2. ***Student Learning Outcomes***: Continually improve the curriculum and provide students with high quality educational experiences that will develop technical and managerial knowledge and skills necessary for successful leadership roles in the construction industry.	[Excellence by Design 2024–2030] 1. Cultivate a Culture of Success and Belonging a) Champion Student Success. b) Nurture Equity, Diversity, Access and Belonging. 2. Foster a Culture of Responsible Stewardship a) Improve Efficiencies Across Campus [CAST 2024-2029] I. Foster Student Success. 1. Engage students in applied teaching and learning experiences	a. Continuously improve the CM learning experiences for students and link program content closely to industry. b. Maintain an effective advisory board focused on continuous program improvement. c. Encourage all graduating seniors to acquire industry credentials such as OSHA 30 hours training. d. Continuously improve the curriculum in	a. Incorporate new construction paradigms, technologies, and methods into existing courses (Faculty): Use CORE donation funds for enhancing CM lab facilities. b. Conduct employer and senior surveys (Solanki). c. Provide research and unconventional learning opportunities to complement traditional education (Faculty). d. Arrange project tours and guest lectures (Faculty). e. Continue to evolve the Advisory Board to reflect the industry on a National and global scale representing industry insight that can guide the CM program to mold students best prepared to meet the challenges of today and adapt to	a. All 17 Students Learning Outcomes were directly assessed in various CM courses. The direct assessment results were incorporated in CM learning outcomes assessment. (Faculty). b. Both the employer survey (15 responses) and senior exit survey (33 responses) were administered/analyzed, and the result was incorporated in the CM learning outcome assessment (Solanki) c. The Advisory Board includes members from diverse backgrounds including regional/national contractors and representatives from different trades/sectors in the construction industry. Included three new advisory board members, namely, Blake Hillary from DR

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	and experiential opportunities. 6. Invest in facilities to provide outstanding learning spaces and experiences. II. Support an Inclusive Culture of Belonging in the College. 1. Continue to diversify and promote equity and inclusion. [TEC 2026-2031] 1. Provide state-of-the-art applied learning environments for students.	alignment with ACCE standards. e. Encourage faculty and industry board members to attend professional meetings and accreditation visits to learn the latest in industry and academia	the ever changing industry as they face the innovations of the future (Faculty). f. Explore new innovative curriculum, adaptable to the quick and dramatic changes in the industry and the revised ACCE outcomes for incorporation into next catalog (Faculty). g. Actively participate in ACCE meetings, committee/ accreditation activities. Faculty members attend ACCE meetings for accreditation training (Faculty).	Horton, Andrew Paxson from Bluff City Materials, and Max Dirker from O'Shea Builders. (Faculty) d. Attended ACCE meeting in Cincinnati, OH in July 2026 and also served ACCE scholarship and professional development committees. Prepared SES for ACCE reaccreditation visit. (Solanki)
5. ***Recruitment and Retention***: Recruit and graduate a diverse, high-quality cohort of individuals into the program to support the construction industry in economic development in Illinois and throughout the United States.	[Excellence by Design 2024–2030] 1. Cultivate a Culture of Success and Belonging a) Champion Student Success. b) Nurture Equity, Diversity, Access and Belonging. 2. Foster a Culture of Responsible Stewardship b) Advance Strategic Enrollment Management Methods [CAST 2024-2029] I. Foster Student Success. 1. Strategically grow enrollment through	a. Host career fairs and other promotional events. b. Promptly distribute job and internship opportunity announcements to students. c. Collaborate with other majors and RSO's.	a. Maintain community colleges articulation agreements (Solanki). b. Host two Construction Management career fairs during the year (Fall and Spring semesters), (Jacobs & Solanki) and provide opportunities for employers to visit throughout the year (Faculty). c. Distribute information on jobs, internships, scholarship, and CMSA activities in a timely fashion (Faculty). d. Connect employers and alumni in CM fields and share job related information with students. (Faculty) e. Recruit and graduate a diverse, high-quality cohort to support the construction industry. (Faculty)	a. Evaluated course syllabi/content of transfer students and updated community colleges-articulation agreements as needed (Solanki). b. Career fairs were hosted both in Fall 2025 and Spring 2026 with 58 (Fall) and 44 (Spring) employers and around 172 (Fall) and 107 (Spring) students. (Jacobs and Solanki). Additionally, industry forums were offered for employers to present about the company and openings, during the career fair days. c. Distributed information on jobs, internships, scholarship, and CMSA activities in a timely fashion through class announcement, email, and Facebook (Faculty). d. CM faculty and student ambassadors participated in recruitment events

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	a focus on student recruitment and retention. 5. Connect with industry and community partners to provide civic engagement and experiential and career opportunities for students and to keep curricula in line with leading science and technology practices [TEC 2026-2031] 2. Promote a culture of respect and inclusion among faculty, staff, and students.		f. Conduct a study on how AI influences the construction industry and how the CM education can support future industry leaders. (Xie/Solanki)	throughout the year, attending a total of five Open Houses and five Redbird Days in 2025–26. Retention data showed that 90 students (56 FTIC, 34 transfer) entered the CM program in Fall 2025, of whom 78 (47 FTIC, 31 transfer) were retained in the CM program in Fall 2026, for an overall retention rate of 86.7% (83.9% FTIC, 91.2% transfer). A total of 61 students (16 in fall 2025, 42 in spring 2026, and 3 in summer 2026) graduated from the CM program in 2025–26. The retention rate is consistently higher than the average retention rate of ISU (81.4% FTIC, 90% transfer) and CAST (80.7% FTIC, 85% transfer). (Faculty) e. Presented AI study entitled "Integrating Artificial Intelligence and Social Network Systems to Enhance Contracting Efficiency" study at 2026 International Conference on Artificial Intelligence and Social Network Systems (ICAISNS 2026), January 9-11, 2026, Hangzhou, China. (Xie/Solanki)
3. ***Professional Development***: Provide students with educational experiences necessary skills to successfully function in professional	[Excellence by Design 2024–2030] 2. Foster a Culture of Responsible Stewardship d) Expand Our Commitment to a	a. Maintain active student chapters that promote high levels of student interaction with industry. b. Tenure-Track/ Tenured faculty	a. Facilitate student-led organizations and activities [CMSA] • CMSA Meetings – Monday monthly • CMSA Executive Board Meetings - monthly.	a. Student-led organizations and activities were facilitated. A total of 320–332 students attended CMSA events in 2025–26, including 11 guest speakers invited during meetings and 5 field trips/jobsite tours. Students participated in the ASC Region 3, NECA, NRCA,

CM Goals	Goal Alignment	Strategies	Plan of Work for 2025-2026	Report on Plan of Work 2025-2026 (November 2026)
leadership roles in the construction industry and provide service to the construction industry through applied research, consulting/workshops, and participation in professional organization.	Culture of Sustainability 3. Elevate Our Institutional Excellence a) Increase the Impact of Our Scholarly and Creative Productivity b) Meet the Needs and Aspirations of Today's Learners [CAST 2024-2029] I. Support an Inclusive Culture of Belonging in the College. 3. Expand professional development opportunities dedicated to diversity, equity, inclusion, access, and belonging. IV. Advance Engagement with External Stakeholders. 4. Pursue and support applied research initiatives with external partners. [TEC 2026-2031] 3. Support and recognize faculty, staff and student excellence.	contribute at least 2 professional presentations and/or publications (including books, book chapters) annually. c. Provide industry workshops as appropriate (e.g. ASC, MCA, Laborers, Green Building training, etc.).	• CMSA field trips – 1or 2 per year • MCAA and NECA meetings for travel & competition work • MCAA Education Conference • ASC Region 3 Conference and Student Competition (Commercial/ /Preconstruction), Downers Grove, IL. • NECA student competition • NRCA student competition • NAHB student competition • Reimburse students for OSHA 30-hour certification b. Conduct applied research and professional development opportunities (CM Faculty). c. Connect with professional associations by attending their meetings (CM Faculty).	MCAA, and NAHB student competitions and/or attended the WiMI, MEP, and safety conferences during 2025–26 (56 student participants) and 31 students were reimbursed for OSHA 30-hour certification. (CM Faculty) • AGC Convention, March 24 – 26, 2026, Orlando, Florida (5 students) • ASC Region 3 Competition: Commercial, and Preconstruction Division, October 22 – 25, 2025, Downers Grove, IL (6 students participated in Commercial and 6 students participated in Preconstruction teams) • MCAA Student Competition, March 15 – 19, 2026, Phoenix, Arizona (8 student participated) • MCAA – WiMi (Women in the Mechanical Industry) Conference,, June 8 – 10, 2026, Coronado, California (1 student scholarship recipient) • NECA Student Competition, September 12 – 15, 2025, Chicago, Illinois (8 students participated) • NAHB Student Competition, February 16 – 17, 2026, Orlando, Florida. Interest in this competition made it necessary to send 12 students, 2 teams of 6 students each. Supporting the students' interest in expanding their knowledge of the residential industry. • National Roofing Contractors Association (NRCA) student competition, January 19 – 23, 2026,

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				Las Vegas, Nevada (6 students participated) • Following field trips were organized by CMSA: **FA 25** I-57 & I-74 Interchange Project - William Charles Construction Collin Pleuss – Project Manager – ISU CM Grad Doris Kelley Christopher Extension Center (U of I Campus) Broeren Russo Builders, Inc Bryan Carper – Senior Project Manager – ISU CM Alum **SP 26** Hollywood Casino - Aurora, IL Power Construction Grant Wingle - Executive Superintendent – ISU CM Alum Lake Social Club – Chicago, IL Bulley & Andrews Kyle Pakus – Field Engineer, Joe Murray – QA/QC Manager – ISU CM Alum Bally's Casino Project - Chicago, IL Gilbane Carson Stilp – Project Engineer - ISU CM Alum b. Maintained active membership and service roles in professional organizations including ASC, ASCE, ACI, MCAA, NECA, DBIA, ASEE,

CM Goals	Goal Alignment	Strategies	Plan of Work for 2025-2026	Report on Plan of Work 2025-2026 (November 2026)
				AIC, and TRB, and produced professional presentations and publications, as documented in the faculty section. (CM Faculty). • 6 refereed journal articles, 20 refereed conference proceedings, 7 oral presentations, and10 poster presentations
4. ***Internal and External Funding Support***: Through a combination of internal and external resources, maintain the funding necessary to support CM Program activities.	[Excellence by Design 2024–2030] 4. Expand Mutually Beneficial Partnerships b) Enhance a Culture of Philanthropy c) Target External Engagement [CAST 2024-2029] IV. Advance Engagement with External Stakeholders. 1. Enhance communication and collaboration with internal and external constituencies. 2. Engage with CAST alumni and friends to increase support for programs and projects tied to strategic priorities. [TEC 2026-2031] 4. Enhance the effectiveness of the department by	a. Promote and maintain multiple ways for industry to connect with and support the program.	a. Evolve CM Annual Industry Partnership program. (Faculty). b. Host the CMSA Golf Outing on the last Friday of April to maintain personal connections with CM alumni and industry leaders with proceeds to support the CM endowments (Jacobs). c. Monitor and promote CM Scholarships, both at the TEC website and other regular and ongoing scholarships (Faculty) d. Maintain ISU CM Alumni group on Facebook to keep alumni engaged and share job openings for experienced candidates (Jacobs). e. Maintain the funding necessary to support CM Program activities through internal and external resources (CM Faculty)	a. CM Industry Partnership had 17 partners (≥$2,000) and 73 partners (<$2,000) for 2025-26 (Faculty). b. Hosted the CMSA Golf Outing the last Friday of April to maintain personal connections with CM alumni and industry leaders with proceeds to support the CM endowments (Jacobs). a. CM Golf Outing SP26 4/24/26 – Weibring Golf Club, Over 36 teams with 135 players were able to attend b. CMSA Golf Outing FA25 10/3/25 – Weibring Golf Club, 9 teams with 35 players were able to attend c. Monitored and promoted CM Scholarships through e-mails, TEC website, student-shared drive and during classes. (Faculty) d. Maintained ISU CM Alumni group on Facebook to keep alumni engaged and share job openings for experienced candidates. CM program Facebook is updated regularly for successful interacting

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	strengthening stakeholder engagement.			with Alums and current students. (Faculty). e. Received AEF funding for an Ouster LiDAR ($10,950) (Hu). For the TEC 292 and TEC 224 labs, funds bought a CERAMBOT Tong concrete 3D printer ($19,800) to bring emerging technology into the materials course (Hu). Also, bought an NVIDIA Jetson AGX Orin 64GB edge computer for reality capture and immersive lab teaching ($1,999), and a Hypershell X Pro wearable exoskeleton ($1,099) to lower injury risk when moving heavy cement and sand bags during lab prep (Hu). Received Testo 420 air flow capture hood ($2,660) for TEC 222 and TEC 324 (Jacobs). f. For the OFH lab, funds paid for a cantilever rack add-on for storing lumber, pipe and materials longer than 8 ft ($895) and two 30-inch industrial drum fans for airflow in hot, humid weather ($268.98), for a total of $1,163.98 (Williams). Also, bought control dampers ($450) (Jacobs). g. CM students received strong internal scholarship support: nine CM-specific scholarships were awarded to nine CM students — the Charles Ed Francis, Construction Management Endowment (two recipients), Wayne Zook, Robert C. Monninger, Central Illinois Builders' Industry Advancement Foundation, James D. Loughlin Memorial, Mark

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				Sprague & Don Cavins, and Weis Builders scholarships — and four additional Department of Technology department-wide scholarships (Joe E. Talkington, Legacy, Claude Bell, and Melvin & Kathy Wheeler) were awarded to CM students, for a total of 13 scholarship awards to 11 distinct CM students. Across all seven Department of Technology programs, the department awarded over $75,000 in scholarships. h. External scholarships: Drilon Ballazhi received CORE construction scholarship, Klarissa Cotto received a scholarship to attend the MCAA WiMi (Women in the Mechanical Industry) Conference, Aiden Anderson received Weis Builders Endowed Scholarship