1 INTRODUCTION

Degree program name: Construction Management

1.1 Requirements

1.1.1 INSTITUTION AND DEGREE PROGRAM ELIGIBILITY

1.1.1.1 Institution History

Indiana State University has a rich heritage and its growth and development are mirrored in the progress of higher education in the State of Indiana. The original enabling Act creating Indiana State Normal School was passed by the Special Session of the 1865 General Assembly. The responsibility for establishing and operating the school was delegated to a four-member board of trustees appointed by the Governor (subject to confirmation by the State Senate) plus the State Superintendent of Public Instruction serving as an ex-officio member.

The original purpose of the institution, as designated by the General Assembly, "shall be the preparation of teachers for teaching in the common schools of Indiana." The Normal School opened on January 6, 1870, with 21 students in attendance. The faculty consisted of President W. A. Jones and four professors. Only two floors of the building were finished, and there was only "the most necessary furniture and absolutely no equipment." There was no "semblance of a laboratory, not a map, not a piece of apparatus of any description." From this humble beginning, Indiana State has grown and developed into the University which we now know.

During the first thirty years of its operation, most of the students attending Indiana State Normal School were not high school graduates. In 1907, a high school diploma was made a requirement for all teaching certificates in Indiana. Since 1908, graduation from a commissioned high school or the equivalent has been required for admission to Indiana State.

In 1907, a college course was established in the Normal School, and the first bachelor's degrees were awarded to five students in 1908. In 1924, all courses in the Normal School, except non-prepared courses, were raised to the college level and were accepted to apply on the bachelor's degree.

As a part of the growth of higher education in the State, Indiana State Normal, Eastern Division, was established in 1918 in Muncie, Indiana. In 1929, the Eastern Division became Ball State Teachers College. After Ball State (now Ball State University) became an autonomous institution, both colleges remained under the jurisdiction of the same board of trustees.

A "graduate school" was established in 1927, and the first master's degrees were awarded to five students in 1928. In 1929, the General Assembly changed the name of the institution to Indiana State Teachers College, and the board of trustees was named the State Teachers College Board. Board membership and the method of appointment remained unchanged from the provision in the 1865 statute. The change in name at this time reflected the evolving role and growth of the institution.

In 1946, Indiana State Teachers College entered into a cooperative program with the Indiana University School of Education for the Ed.D. degree, and two of the three years of study toward this degree could be completed at Indiana State University. In 1959, the University awarded its first Advanced Degrees in Education (Ed.A.), which subsequently was titled the Educational Specialist Degree (Ed.S.).

The Doctor of Philosophy degree in Technology Management was approved by the Commission of Higher Education with its first graduate in May, 2000. This degree offers a concentration in Construction Management.

The school became Indiana State College by an act of the 1961 General Assembly and, for the first time since the creation of Ball State, had a separate board of trustees. The size of the board was increased from four to six members, and the Superintendent of Public Instruction was to serve as an ex-officio member. Three statutory stipulations were placed on the composition of the board: (1) at least one member of the board had to be a woman, (2) at least one member of the board had to be a resident of Vigo County, and (3) two of the six members had to be nominated by the University Alumni Council and those so chosen for nomination to the Governor had to have completed a prescribed course of study at Indiana State. Board members are appointed for four-year terms but are eligible for reappointment. The 1971 General Assembly removed the State Superintendent from the Board and gave the Governor authority to appoint an additional trustee to fill the position (Senate Enrolled Action. 249, effective March 5, 1971). Senate Enrolled Action No. 10 of the Acts of 1975 provided for the appointment of a student trustee and Senate Enrolled Action No. 111 of the Actions of 1976 provided an additional trustee and stipulated that "at least one member of the board shall be a resident of Vanderburgh County." Thus, there are now nine appointed trustees, two of whom are nominated by the Alumni Council and one nominated by a search and screen committee consisting of one representative of the governor and at least four students chosen by the elected student government representatives.

Academic reorganization and broadened study opportunities resulted in the establishment of the School of Education in 1960, School of Graduate Studies in 1961, College of Arts and Sciences in 1962, School of Nursing in 1962, School of Business in 1964, and the School of Health, Physical Education, and Recreation in 1965. The University's own doctoral study program was started in 1965, and the first doctoral degrees were conferred in June 1967. The School of Technology was established in 1967. A number of research and service centers were established during the period 1960 to the present. These are described in appropriate portions of the University catalogs.

Throughout the growth of Indiana State -- whose centennial was observed in 1970 -- the institutional integrity has been maintained by the Indiana General Assembly. In every name change, all powers, rights, duties, and obligations of the preceding Board of Trustees were transferred to its successor. The continuity of the Trustees has been maintained as the presentation of specific duties bestowed by law indicates.

Since its establishment, the University has had eleven presidents and one acting president with the sitting president, Daniel J. Bradley, 2009 to present.

1.1.1.2   *Describe the time of degree program operation and graduate rates by semester*

The first Bachelor of Science Degree in Construction Technology was awarded in December, 1976. The University's academic program inventory indicates a beginning date for the BS in Construction Management to be 1980. The program changed its title to more accurately reflect what was happening in industry.

The six-year graduation rates for full-time entering freshmen who had declared a Construction Management major at entry are:

Graduation Rates for Construction Management	
Fall 2004 cohort	43%
Fall 2005 cohort	43%
Fall 2006 cohort	40%
Fall 2007 cohort	61%
Fall 2008 cohort	43%
Fall 2009 cohort	33%

The number of graduates of the CM Program since August 2010 are listed below:

Number of CM Graduates by Semester	
Term	Graduates
August 2010	2

December 2010	5
May 2011	13
August 2011	7
December 2011	11
May 2012	16
August 2012	10
December 2012	12
May 2013	9
August 2013	5
December 2013	7
May 2014	15
August 2014	4
December 2014	8
May 2015	9
August 2015	5
December 2015	10
May 2016	14
August 2016	2
December 2016	6

1.1.1.3   Describe the major emphasis of the degree program:

The Program emphasizes commercial, vertical construction. The CM Program has one unique course in Government contracting.

1.1.1.4   Who is the designated administrator responsible for the leadership and management functions of the degree program (include title and rank):

Lee A. Ellingson, Program Coordinator (Associate Professor)

2   GOVERNANCE AND ADMINISTRATION

2.1   Requirements

2.1.1   ADMINISTRATION

2.1.1.1   Institutional Organizational Structure

2.1.1.1.1   Describe the organizational structure of the educational institution. Be sure to provide a basis for establishing authority and responsibility, utilizing resources, and achieving the degree program's mission, goals, and objectives.

The link for the University organization chart is:

https://www.indstate.edu/sites/default/files/media/Documents/PDF/organizational-chart.pdf.

2.1.1.1.2   Describe the degree program and its relationship to the overall organizational structure of the institution. Note how this is documented, defined, and publicly made accessible.

The Construction Management Program resides within the Built Environment (BE) Department. Other undergraduate programs in the Department are Safety Management, Interior Architectural Design, and a new program: Architectural Engineering Technology. The Safety Management Program also sponsors a masters degree in Safety Management. The BE Department is one of five within the College of Technology (COT). The COT is one of seven colleges within the University. All units in the University can be found in the following link:

http://www.indstate.edu

Click on the Menu link in the upper right corner and then click on Admissions.

2.1.1.2   Educational Unit Organizational Structure and Leadership

The Built Environment Department is presided over by the Chair, Dr. Andrew Payne. Each program has a coordinator who is responsible for working with the Chair to provide leadership and management for the programs.

2.1.1.2.1   Describe the qualifications of the administrator that heads the degree program.

Lee A. Ellingson is a full-time, tenured, associate professor. He has 20 years of industry experience as a registered architect in the state of Texas and Washington, DC. He received a PhD in Architecture (Construction Science) in 1997 at Texas A&M University. He has been teaching in the construction program at ISU for 19 years and has been the program coordinator for 15 years. He is active in the ACCE and ASC. A curriculum vita is provided in the appropriate folder on the flash drive.

2.1.1.2.2   Describe the administrator's authority to accomplish the mission, goals, and objectives of program:

The program coordinator serves under the direct supervision of the chair of the Built Environment Department and has his unqualified support.

2.1.1.2.3   Explain how the organizational structure of the educational unit is designed to encourage communication, coordination, and interaction between administrative officers, faculty, and students involved with the degree program, other disciplines, and other educational institutions.

In fall 2013, a new suite of offices was renovated for the Department of the Built Environment. The Department Chair, administrative assistant, student workers, and faculty are located here. The Department of the Built Environment house the following programs: Construction Management, Safety Management, and Interior Architectural Design. The purpose of the renovation was to centralize personnel to facilitate and encourage interaction among all personnel in the Department. The Department is housed in the College of Technology. The College of Technology is housed in two adjacent buildings physically connected with a "skywalk". This allows and encourages all departments in the College to interact with each other without going outdoors. All construction courses and laboratories are located in the College of Technology so students can easily interact with the faculty. A student lounge is located adjacent to the Department to further encourage student/faculty interaction. Bulletin boards are located in the student lounge for each program. Opportunities for employment and scholarships are posted here. In addition, the Construction Program posts photographs of student activities.

In addition to centralized facilities, all programs in the BE Department serve under the direction of the Department Chair. The Department has regular meeting where everyone in the Department is encouraged to participate. Meeting minutes are available for review. All curriculum changes within the Department must be discussed and approved at the Department before moving on to the College. Cooperation between faculty and programs is highly encouraged.

2.1.1.2.4   Detail how the educational unit and leadership structure is defined and publicly accessible.

The dean of the College of Technology serves under the Provost; the chair of the Built Environment serves under the dean; the program coordinator of the Construction Management Program serves under the chair of the Built Environment Department.

In the atrium of the Myers Technology building a large board is posted that lists all departments and programs in the College. In addition, there is a directory board with all faculty listed with their room numbers. Public information about The College of Technology, Built Environment Department, and Construction Management Program can be found at the following links:

http://www.indstate.edu/technology/

http://www.indstate.edu/technology/be

http://www.indstate.edu/technology/cnst

Additional information can be found in the Undergraduate Catalog.

2.1.1.3   Educational Unit Autonomy and Governance

Detail how the educational unit is a distinct and identifiable entity within the educational institution.

The University promotes every degree program. See the Undergraduate Catalog at:

https://catalog.indstate.edu

The University maintains two web sites for the Construction Management Program. One is maintained by University staff at:

http://www.indstate.edu/academics/undergraduate/majors/construction-management

The other is maintained by College of Technology staff at:

http://www.indstate.edu/technology/cnst

The University promotes all programs and degrees with dedicated staff and resources.

2.1.1.4   Faculty Participation

2.1.1.4.1   Explain how the faculty participates in the educational unit's governance and administration in accordance with the educational institution's guidelines.

The Chair of the Built Environment Department schedules regular department meetings. All faculty in the Department attend and participate. Meeting minutes are kept and distributed. The chair has an open-door policy and is readily available. The University provides specific policies for faculty governance. The Handbook can be located at:

https://www.indstate.edu/handbook

2.1.1.4.2   Explain how the faculty participate in degree program maintenance and administration in accordance with the educational institution's guidelines.

The Construction Management Program meets approximately 8 times each semester to discuss and vote on important issues. The program coordinator distributes an agenda before each meeting and takes meeting minutes. The proposed minutes are distributed electronically and voted on at the next meeting. The program coordinator has an open-door policy and is readily available.

2.1.1.5   Contribution to the Institution

Detail how the educational unit and degree program contributes to the mission of the institution.

INDIANA STATE UNIVERSITY MISSION STATEMENT

> Indiana State University combines a tradition of strong undergraduate and graduate education with a focus on community and public service. We integrate teaching, research, and creative activity in an engaging, challenging, and supportive learning environment to prepare productive citizens for Indiana and the world.

CM Mission Statement: The mission of the Construction Management Program at Indiana State University is to provide the knowledge, skills, and values to enable graduates to become leaders in the construction industry and responsible members of society.

INDIANA STATE UNIVERSITY VISION STATEMENT

Inspired by a share commitment to improving our communities, Indiana State University will be known nationally for academic, cultural, and research opportunities designed to ensure the success of its people and their work.

INDIANA STATE UNIVERSITY VALUE STATEMENT

- We demonstrate integrity through honesty, civility, and fairness.

- We value high standards for learning, teaching, and inquiry.

- We foster personal growth within an environment in which every individual matters.

- We uphold the responsibility of university citizenship.

- We provide a well-rounded education that integrates professional preparation and study in the arts and sciences with co-curricular involvement.

- We embrace the diversity of individuals, ideas, and expressions.

- We exercise stewardship of our global community.

COLLEGE OF TECHNOLOGY MISSION STATEMENT

The College of Technology will provide exemplary undergraduate and graduate programs, generate solutions and knowledge through research, and serve the technology needs of the State, the nation, and the international community.

The Construction Management (CM) Program contributes to the University mission of community engagement by getting students involved with charitable activities for local people and institutions. The Construction Club and Sigma Lambda Chi routinely provide charitable services. ISU has won awards for its sustained excellence in community service. The course on construction ethics requires eight hours of community engagement for all students in the course.

2.1.2 INSTITUTIONAL SUPPORT

2.1.2.1 *Explain how the institution provides sufficient resources to enable the program to achieve its missions, goals and objectives.*

2.1.2.1.1 *Program Budget and Financial Support*

ISU is a public university and its main resources are state funds and tuition revenues. The university allocates its funds to each college following a formula that considers the number of faculty, staff, graduate assistants, and student workers with their salaries and benefits, number of students, student credit hours generated, equipment and supplies including labs, travel funds for professional development, etc. The College of Technology dean then allocates funds to each department. The department money is used for programs and faculty based on identified needs. The department has been very accommodating with equipment acquisition and update requests. An on-going departmental process allows the programs to prioritize requested funds to purchase, or upgrade equipment, supplemental teaching materials and lab supplies. In addition to monies distributed by the department chair, student lab fees are also available for specified needs unique to each course. Outside of the annual department and program budgets the university occasionally offers one-time funds for equipment needs.

2.1.2.2 *Detail how the educational unit and/or the degree program administrator(s) is empowered by the educational institution with sufficient resources and time to accomplish that program's mission goals and objectives.*

2.1.2.2.1 *Staffing*

The BE Department has one administrative assistant who has been a staff member at ISU for 4.5 years. The administrative assistant is shared between all programs within the department and is directed by the department chair. The administrative assistant's duties include being the initial contact person for students and persons needing to meet with faculty, managing the department budget, placing orders for approved purchases including equipment and supplies, documenting department meeting minutes and curriculum revisions, and much more.

Over the past 5 years the department has received funds and tuition waivers equal to 2.5 graduate assistants or 50 hours of work per week, total. Graduate assistant duties vary per student but may include assisting faculty with grading, teaching lecture courses, leading lab courses, and general program administrative tasks.

2.1.2.2.2   Faculty Hiring and Retention

The BE Department has a standing Personnel Committee that meets every semester to review faculty portfolios and make recommendations to the Chair. The Chair meets with the faculty member being reviewed and discusses what the Chair is recommending and adds suggestions for improvement. The Chair then forwards his recommendation to the Dean. The dean of the college recommends to the provost the hiring of tenure-track faculty and authorizes hiring of adjunct instructors based on demonstrated need for maintaining adequate size of faculty and quality of the program.

Each tenured/tenure-track faculty member is evaluated in terms of teaching, scholarship, and service. The dean often meets with faculty individually after their annual review to offer his advice on how to prepare tenure & promotion portfolios. The administration also supports program faculty to apply for both internal and external funding.

The BE Department also maintains a Retention Committee that meets as needed.

2.1.2.2.3   Support for Faculty Hiring and Retention

Support for faculty professional development predominately comes in the form of travel funds. The faculty members are encouraged to make presentations at the professional meetings and/or attend professional workshops. The university's Office of Information Technology also organizes various types of workshops for faculty development. Grants are available through the Center for Community Engagement, the Center for Global Engagement, the Fulbright Program and others. In addition to travel grants, the BE Department has $2800 in the base budget for travel, which is distributed on an as-needed basis. Extended Education funds are also available for training and travel that is intended to improve online courses.

2.1.2.3   Demonstrate how the Institution provides status and recognition comparable to that of other programs of similar size and function within the Institution.

The University web site (under Academics) features all colleges, departments, and degree programs fairly and equitably. Even with budget reductions from the State, the University administration has allowed the CM Program to hire and retain enough faculty to meet necessary workloads. In fact, the Office of the Provost maintains a pool of money used to support programs that that have demonstrated a potential for growth.

3   CURRICULUM

3.1   Requirements

3.1.1   DEGREE PROGRAMS

3.1.1.1   Compare the teaching philosophy and purpose of the Degree Program, the Educational Unit, and the Institution.

3.1.1.1.1   The University

Newly appointed faculty members are expected to attend new faculty professional development sessions. Eligible faculty members are required to participate in any mandatory benefits as described in the University Handbook, Section 500 (Employment).

Members of the faculty of Indiana State University are expected to abide by established policies for the operation of the University and the conduct of its instructional programs, to participate in and contribute to the development and improvement of educational services within the scope of the mission of the University, to perform assigned duties to the best of their ability, and to be concerned about the educational welfare and achievement of students. Each faculty member should continuously endeavor to improve scholarly attainments, to participate in appropriate organized professional activities and, through research and teaching, to contribute to the expansion of knowledge and the advancement of learning. Personal conduct and relationships with students and colleagues should conform to accepted ethics.

The benchmarks of any great university are directly related to high standards of academic endeavor by both teachers and students. Truth and honesty are recognized as fundamental to a university community. The University expects both students and faculty to adhere to and foster the ideals for which the University was founded.

Indiana State University subscribes to AAUP guidelines for academic freedom and faculty duties and responsibilities. Faculty members are expected to conduct themselves in accordance with these guidelines.

3.1.1.1.2   Built Environment Department

BE Mission Statement: The Department of the Built Environment is dedicated to being an international leader in preparing professionals in responsibly planning, designing, constructing, and managing the built environment by emphasizing interdisciplinary collaboration.

3.1.1.1.3   Construction Management Program

The CM Program promotes a personal and informal approach to teaching. Construction faculty try to get to know their students by interacting in the classroom, lab activities, advising, and extra-curricular activities such a student clubs and competitions. The success of this approach is documented by the student comments in the Senior Survey. Personal knowledge of each student allows faculty to advise employers which students will be good fits for their company.

3.1.1.2   Describe how the degree program curriculum is related to the needs of society and the construction profession.

Industry and the Department of Labor both assert a growing need for construction managers. Construction Management as a profession began approximately in the 1960s and has continued to grow. Notwithstanding economic swings, a large population needs infrastructure, both private and public. The CM Program at ISU takes pride in graduating students with a useful degree. The degree will help industry fill needs for managers and students to find gainful employment.

3.1.1.3   List the semester hours required for the degree: 120 semester hours (credits)

3.1.2   GENERAL EDUCATION

3.1.2.1   Communications

List the courses and course descriptions along with corresponding semester hours associated with the Communication Core Subject Area.

ISU requires students to take 9-12 credit hours of communication courses as follows:

ENG 101 – Freshman Writing I (3 credits)

> Writing expository and argumentative essays based on personal experience and readings.

> Freshmen with SAT verbal scores below 510 or ACT English usage scores below 20 must take this course during their first semester and English 105 the semester after successfully completing this course.

ENG 105 – Freshman Writing II (3 credits)

> Writing documented papers synthesizing information from several different sources, with emphasis on reading and writing as processes of discovery in thinking critically.

COMM 101 – Introduction to Public Communication (3 credits)

> This course introduces the theory and practice of communication in public contexts including individual, small group, and interpersonal practices.

ENG 305 – Advanced Expository Writing (3 credits)

> Writing reports, proposals, reviews, and papers in styles appropriate to various professional and academic activities, with emphasis on discovering arguments and arranging material.

> OR ENG 305T – Technical Writing (3 credits)

> Writing in conventions, formats, and styles applicable to internal, world-of-work settings.

> OR HRD 340 – Writing for the Workplace (3 credits)

> An advanced course in professional writing, with specific emphasis on forms of writing that are common in the workplace.

3.1.2.2   Mathematics

List the courses and course descriptions along with corresponding semester hours associated with the Communication Core Subject Area.

The CM Program requires students to take 8 credit hours of mathematics as follows:

MATH 112 – Trigonometry (2 credits)

Angles, right triangles and general triangles, trigonometric functions, graphs of trigonometric functions, inverse trigonometric functions, identities, and applications.

MATH 115 – College Algebra (3 credits)

Functions including polynomial, rational, exponential, and logarithmic and their graphs including translations, reflections, and symmetry. Systems of equations.

MATH 241 – Principles of Statistics (3 credits)

A course for non-mathematics majors and minors. Graphical and numerical representation of data, probability, sampling, statistical inference, correlation, and regression.

OR SFTY 341 – Applied Probability and Statistics for Engineering and Technology (3 credits)

This course covers topics in probability theory and statistics applied in engineering and technology. The course starts with random variable, continuous/discrete probability distributions, followed by variety of statistical analysis methods for decision making in safety, engineering and technology such as different Hypothesis Tests, ANOVA, Categorical Data Analysis, and Design of Experiments.

3.1.2.3   Physical Science

List the courses and course descriptions along with corresponding semester hours associated with the Communication Core Subject Area.

The CM Program requires students to take any two of the following courses (including laboratories) for a total of 8 credits:

PHYS 105 – General Physics I (3 credits)

An algebra-based introduction to physics with applications to other scientific disciplines. Topics include vectors, Newton's laws of motion in one and two dimensions, work and energy, momentum and collisions, and wave motion.

PHYS 105L – General Physics Laboratory (1 credit)

The laboratory component of PHYS 105. Students will enroll in a 2-hour laboratory class.

CHEM 105 – General Chemistry I (3 credits)

Topics include atomic structure, physical properties of gases, nomenclature, molecular bonding and geometry, mass relationships in chemical equations, and thermochemistry.

CHEM 105L – General Chemistry I Laboratory (1 credit)

A weekly three-hour series of experiments designed to illustrate lecture topics from 105 and to develop laboratory techniques.

ENVI 110 – Introduction to Environmental Sciences (3 credits)

An introductory class that focuses on using the scientific method to understand the impacts of human activities on natural processes, both physical and biological. Topics are based on the important environmental issues facing the world today, and are presented through the use of recent news stories and case studies.

ENVI 110L – Environmental Sciences: Human and Environmental Change Laboratory (1 credit)

A laboratory that illustrates the concepts of environmental science as presented in GEOL 110.

ENVI 170 – Earth Science (3 credits)

Studies of the origin and classification of rocks and minerals, the interior of the Earth, volcanism, diastrophism, basic stratigraphic principles, topographic, and geologic maps.

ENVI 170L – Earth Science Laboratory (1 credit)

A two-hour per week laboratory in earth sciences that closely parallels the material in Geology 170. Laboratory sessions focus on practical applications of earth science principles through hands-on experiences to solve earth and environmental problems.

3.1.3 BUSINESS AND MANAGEMENT

3.1.3.1   List the courses and course descriptions along with the corresponding semester hours that are fundamental to the Core Subject Matter of Business and Management. These courses are intended as foundational knowledge for construction business practices.

The CM Program requires students to take 12 credit hours of Business and Management courses as listed below:

ECON 100 – Basic Economics (3 credits)

A brief overview of basic economic principles, with emphasis on the market system and its relevance to current economic issues and policies. The course is designed to introduce economics to those students who will not be taking principles of economics (200 and 201). Also offered as 100I with increased emphasis on international economics. ECON 100 does not count towards the Economics Major or Minor.

MGT 301 – Survey of Management (3 credits)

A survey of the management process, the basic principles and concepts of internal organization and management, designed for nonbusiness majors.

OR TMGT 492 – Industrial Supervision (3 credits)

The role of supervision functions in industry with emphasis upon principles and practices of human behavior and human relations within the industrial environment.

ACCT 200 – Survey of Accounting (3 credits)

Principles of financial and managerial accounting for students in technology, social sciences, health, and other applied areas. Emphasis on role of accounting in organizational decisions.

BUS 263 – Legal Environment and Business (3 credits)

An introduction to topics of interest to business persons, including product liability and consumer protection, workers' rights and protection, organization and regulation of business ethics, and the judicial system.

3.1.3.2   Explain how these topics are taught as separate and distinct from the topics contained in the construction business and management topics found in 3.1.4.

The courses listed above are offered and taught by separate colleges. ECON 100 is in the College of Arts and Sciences; MGT 301, ACCT 200, and BUS 263 are offered in the College of Business; TMGT 492 is an exception; it is taught in the Technology Management Program in the AETM Department in the College of Technology. None of these courses are taught by construction faculty.

3.1.4 CONSTRUCTION

3.1.4.1   List the courses and course descriptions along with corresponding Core Subject Area and are used to address the construction-specific Student Learning Outcomes listed in section 3.1.5.

The CM Program requires students to take 53 credit hours of construction courses as listed below:

CNST 100 – Introduction to Construction Management (1 credit)

This course is designed to provide the foundation in both technical skills and written and verbal communications for future construction managers.

CNST 101 – Ethics and Construction (3 credits)

A brief introduction to the philosophy of ethics and how it applies to the construction industry.

CNST 106 – Architectural Graphics (3 credits)

An introduction to architectural graphics and construction documents. Students will learn how to read and interpret working drawings and create a simple drawing using CAD.

CNST 111 – Construction Materials, Methods, and Equipment (3 credits)

A review of the properties, sizes and uses of materials; an analysis of the sequence of construction; and an introduction to construction equipment.

CNST 111L – Soils Laboratory (1 credit)

The purpose of this course is to introduce students to the nature of soils and to illustrate how soils influence construction operations.

CNST 201 – Construction Contract Documents and Project Delivery (3 credits)

Working drawings, project manual, and project delivery. Examines relationships and responsibilities of all parties to a construction contract.

CNST 213 – Environmental and Mechanical Systems for Buildings (3 credits)

Building climate control, heat loss and heat gain calculations, sanitary, and water systems.

CNST 214 – Plan Interpretation and Quantity Take-Off (3 credits)

Interpretation of working drawings and quantity take-off for commercial and residential construction projects.

CNST 304 – Construction Scheduling (3 credits)

A study of the planning and scheduling practices of the construction industry.

CNST 306 – Commercial Design and Construction (3 credits)

A review of the various systems that are required for a complete and functional commercial building including interface issues, sustainability, codes and standards.

CNST 314 – Estimating and Bid Preparation (3 credits)

Estimating construction costs and preparation of bid documents.

CNST 318 – Statics and Strength of Materials (3 credits)

Analysis of static forces in construction materials, and application of this knowledge to the design of structural components and systems.

CNST 330 – Construction Accounting, Finance, and Safety (3 credits)

This course focuses on what makes construction accounting and financial management different from other business sectors. This includes forecasting cash flow requirements, payment processes, time value of money, and capital equipment depreciation. An analysis of OSHA regulations as they pertain to the construction industry is also included.

CNST 351 – Professional Internship (2 credits)

Coordinated work experience in the construction industry. The work experience must be pre-approved by the instructor and verified by the student's supervisor. Students are required to document the experience with the University Career Center.

CNST 418 – Design of Temporary Structures (3 credits)

An introduction to the materials, methods, and techniques associated with temporary structures used in various construction operations such as concrete formwork, scaffolding, falsework, and shoring.

CNST 420 – Construction Surveying (3 credits)

Basic surveying, use of instruments, recording and computing data, site layout, and earthwork.

CNST 450 – Construction Project Management (3 credits)

Planning, scheduling, and managing construction projects. Course includes roles, responsibilities, administrative procedures, cost control, documentation, quality control, and computer applications.

CNST 480 – Construction Capstone (3 credits)

Simulation of a general contracting construction company obtaining work through the estimating, bidding, scheduling, cash flow projections process using plans and specifications. The use of current construction software will be used during the class.

CNST 485 – Government Construction Contracting (2 credits)

Basic principles of the federal construction contracting process

ECT 369 – Electrical Construction (3 credits)

Theory and practice in electrical construction, both domestic and commercial. Topics include National Electric Codes and Standards, Blueprint specifications, wiring practices, switching, lighting, remote control, motors, transformers, power factors, overload and grounding in single phase and three-phase installations in single family dwellings, multiple family dwellings, industrial locations, hazardous locations, and electrical estimating.

3.1.4.2 *Explain how the curriculum covers both office and field activities (include the effective management of personnel, materials, equipment, costs, and time).*

The following courses cover both office and field management of the resources listed above:

CNST 100 – Introduction to Construction Management

This course introduces students to most aspects of planning and control.

CNST 106 – Architectural Graphics

This course introduces students to BIM and how BIM can be used as a management tool as well as a design tool. Clash detection can help constructors avoid costly conflicts in the field.

CNST 111 – Construction Materials, Methods, and Equipment

This course introduces students to materials, methods, and equipment they will be using in the field. CMs must understand these assets in order to manage them.

CNST 111L – Soils Laboratory

Understanding the classifications and properties of various soil types is essential for CMs to know when they can use their own judgement or hire a professional consultant. Understanding soil classifications is also important to conform to OSHA regulations in trenching and foundations.

CNST 201 – Construction Contract Documents and Project Delivery

How a project is delivered determines the contractual relationships between all the parties. Contracts define the roles and responsibilities of all parties. Personnel management depends upon knowing this.

CNST 304 – Construction Scheduling

Construction scheduling addresses planning and monitoring of activities, personnel, costs, and time. Scheduling is an extension of job planning and logic. Scheduling allows resource leveling and identifying and monitoring critical activities. Students learn how to assign costs to activities.

CNST 314 – Estimating and Bid Preparation

Estimating is primarily an office activity. However, the project budget is an important part of the project plan. Monitoring costs in the field will depend on it.

CNST 330 – Construction Accounting, Finance, and Safety

Accurate and timely feedback is essential to controlling and managing a construction project. CNST 330 addresses integrated project management, which combines time and money. Time cards and reports allow the CM to update financial accounts to compare progress with the original plan.

CNST 351 – Professional Internship

The CM Program does not use this course for learning outcomes because the experiences are so diverse and unpredictable. However, the field experience of the students is an invaluable part of their education. They learn firsthand how their coursework applies to future employment. Nothing replaces direct experience.

CNST 418 – Design of Temporary Structures

Most contracts explicitly state that construction methods are determined by the constructor. Numerous temporary structures may be required such as forms, falsework, shoring, etc. CMs need to know what they are capable of doing and when it is necessary to use registered engineers or consultants. Some companies such as DOKA can provide the materials and design of all formwork. Should this be done in house or outsourced?

CNST 420 – Construction Surveying

The ability to use modern surveying equipment is essential for our students. Accurately locating and staking the foundation formwork is often done by the CM. Expensive surveyors are not always needed. Accurately locating anchor bolts is another important skill.

CNST 450 – Construction Project Management

This course directly addresses office and field management of personnel, materials, equipment, costs and time. The course integrates what students have learned from other courses.

CNST 480 – Construction Capstone

Even more than CNST 450, this course requires students to integrate what they have learned about office and field management by applying this knowledge to a particular project.

CNST 485 – Government Construction Contracting

The U.S. Government spends much money on building, renovating, and maintaining facilities. This course shows students how government contracting is different form private contracting and even how to procure this work. This course helps to make the ISU CM Program different from other programs.

ECT 369 – Electrical Construction

The electrical contract can be a large and important contract on any construction project. This course is taught by a specialist in electrical construction in another program. It focuses on meeting requirements of the national electrical code. Some of our students will execute electrical work, especially on smaller projects. They need to know how to work safely and legally.

3.1.4.3 Explain how the topics address the student's upcoming role as a member of a multi-disciplinary team, project risk, and alternate approaches to the Owner-Designer-Constructor team.

CNST 201 – Construction Contract Documents

Construction Contracts, course defines the roles, responsibilities, and relationships of all the parties involved in the execution of project. The course overviews the process controls followed independently and collectively along with consequences to be implemented for non-compliance.

In CNST 201 Students are instructed on what the construction of a facility is and what the requirements and expectations will be of them as a member of a multi-disciplinary team to make the execution of a project successful. Some of the topics presented in the course content are that the construction of a facility is the culmination of the collective ideas, talents, and services of a diverse group of individuals that comprise the multi-disciplinary team. For the most part multi-disciplinary teams can be categorized into four basic teams: owner team, design team, contractor team, and supplier team. Emphasizing the importance of each member's understanding of their basic responsibilities, maintain positive communication, and effectively communicating during each stage of a projects' life-cycle.

In CNST 201 Consideration of project risk management is included throughout the topic discussion of documentation and contracts the types of risk good and bad and how to minimize, accept, or transfer risk is discussed as it relates to the various methods of construction technique from design build to federally funded projects. The construction-related risks as to who will accept what risk as it relates to contractual issues are defined in the contractual agreement document. The topics include who assumes the majority of financial risks depending on how the project is funded for example firm fix price transfers financial risk of staying on budget to the contractor. But risk as it relates to the contractor's responsibility in accordance with the contract documents, includes work of the project, including project coordination, complying with project quality provisions, submittal procedures, execution of the work, contract closeout procedures, and compliance with warranty provisions.

It is also discussed in CNST 201 that the priority of the project is what drives the selection of the delivery method used. Common construction project delivery methods are discussed in details as they relate to responsibilities time, money, and risk. Although the Owner-Designer-Constructor team is good for simple projects students learn that there are alternative methods for complexed and unique projects. For larger projects an integrated project approach is discussed the integrated project delivery method may be used for complexed projects. The team consists of owner A/E and builder. There is one contract with shared risk and rewards. For unique projects such as those that arise out of a public or governmental need, alternative delivery procedures may be required. Rapid developments in technology are resulting in a growing need for first time construction of facilities or services. The contractor input during the design phase is crucial for the success of these types of projects. The requirements of first time construction may include complexed scheduling, phasing, or coordination. Some R&D facilities may require starting operations as soon as possible and allowing partial occupancy. These types of complexed and technical work environments are usually managed under alternative delivery methods.

3.1.4.4 *Explain how the coursework examines the various roles and responsibilities of project participants throughout a project's life cycle and the creative ways that project teams can be assembled.*

CNST 201 – Construction Contract Documents

Construction Contracts examines that though team building, partnering, and quality assurance contract execution is improved because of striving for common goals. The course continues to explore the roles manufactures, suppliers, subcontractors, and community officials plays in successfully starting, completing and managing a project.

In CNST 201 Student coursework includes the examination of each particular type project delivery method in detail. Each delivery method is presented and discussed individually and includes: the description of the delivery system, the individual team members, team member's individual role and responsibilities the variation in structuring of members, the different relationships that can exist within a project team depending on how it is assembled, and how team participants roles may change throughout the project life cycle

3.1.4.5 *Explain how the construction topics provide an appropriate combination of breadth and depth in current construction industry practice.*

The CM courses and topics address the twenty Student Learning Outcomes developed by the ACCE. These outcomes were developed with consultation and input with industry leaders and construction faculty and administrators. Moreover, all CM faculty at ISU have extensive experience in the design-construct industry, which allows them to incorporate into their courses years of experience and research.

Construction faculty all have extensive experience in industry that informs the information in their courses. For instance, The CM Program offers a course on Government Contracting, which is offered by someone with extensive experience in that area.

3.1.4.6 *Explain how these topics develop skills, which will facilitate advancement of the individual in the construction profession.*

The CM Program focuses on vertical, commercial construction. A course in government contracting provides specialized knowledge about how to get and manage government work. Otherwise, the Program provides a general background of knowledge and skills that will help all graduates to succeed in their careers. A comprehensive background is what graduates need because it allows them to understand what everyone on the project team does. The basic skills taught by the CM Program are transferable to other sectors such as highway and industrial. It is necessary to understand the industry as a whole for graduates to rise in the ranks of their company. Students are introduced to the importance of continuing education.

3.1.4.7 *Explain how the construction courses are presented in a manner that encourages problem definition and solution, creativity, communication, evaluation, and continuous learning.*

CNST 101 – Ethics and Construction

In this course, students are given a case study from the AIC *Program on Construction Ethics*. They are required to:

1. Identify the ethical dilemma and the person who has the dilemma.

2. Make a claim about what that person should do.

3. Explain why that claim is ethical.

4. Identify an ethical theory that supports the claim.

5. Identify complications and objections and offer a response.

This assignment requires them to define a problem and offer a solution. It requires critical evaluation and creativity. Critical thinking is a high level of learning in Bloom's Taxonomy.

They develop their communication skills by addressing the requirements above in an essay format, responding to classmates in online discussion forums, and evaluating the ethical claims of classmates.

They must research the roles and responsibilities of participants in the construction industry and post their research in an online WIKI. This research teaches them continuous learning skills.

CNST 106 – Architectural Graphics

Students are presented with a problem or a set of exercises to do almost every class period. Students are divided into teams and given case studies with real problems. Building codes are discussed and code violations are presented to challenge the student's ability to solve those problems.

CNST 111L – Soils Laboratory

In this course, students are required to perform lab experiments on a number of representative soils samples to determine moisture content, plasticity index, sieve analysis, and standard proctor compaction test. Students are required to submit lab reports for the experiments performed in class. Critical thinking skills are necessary while performing the experiments and writing the reports. They have to analyze potential factors that can alter the outcomes. The students have to work in groups to develop their communication skills and ability to work with others.

CNST 213 – Environmental and Mechanical Systems

In this course, students are required to use a psychrometric chart to solve problems involving moisture, heat, and air. Then, they are required to use this knowledge to evaluate whether a vapor retarder is necessary in a given wall assembly. This is creative problem solving.

CNST 314 – Estimating and Bid Preparation

Estimating and Bid Preparation it is emphasized that there is no one correct answer (price) for a project. This instills critical thinking on the students' part. To provide a competent answer collaboration with various sources must happen in order to be competitive. Students gain an understanding that as the industry changes so must there their approach to stay competitive in it.

CNST 318 – Statics and Strength of Materials

Students are required to calculate various forces applied to structures and components. Students use practical applications of geometry, trigonometry, and physics to analyze and understand the forces applied to structures.

CNST 330 – Construction Accounting, Finance, and Safety

In this course, students are required to solve problems involving construction finance. Problems involve

1. The time value of money

2. Net worth, assets, and liabilities

3. Analyzing company financial data such as return on equity and return on revenue.

In the safety part of the course, students are required to analyze a construction project job site and identify safety risks. Then they are required to propose creative solutions by creating a project specific safety plan. This involves problem definition, solution, and creativity.

CNST 418 – Design of Temporary Structures

Students build on the skills learned in CNST 318 to understand how forces acting on the permanent structure affect the temporary structures used to support the building during its construction. Students learn techniques for analyzing various types of temporary structures such as concrete formwork, falsework, scaffolding, shoring, etc. to understand how these systems are used in the construction industry to ensure that these systems are used for their intended purpose and are adequately supported.

CNST 420 – Construction Surveying

Students are required to use trigonometry to perform traverse computations for boundary surveys, control surveys, etc. Students are required to use surveying equipment to lay out structures, create topographic surveys, and confirm as-built conditions. Working in groups helps students learn communication and interpersonal skills.

3.1.4.8   *Demonstrate how the knowledge, understanding, and skills gained from prerequisite courses shall be integrated and utilized in subsequent courses (tables, flow charts, etc.)*

The CM Program has reduced the number of prerequisite courses to a minimum to facilitate students scheduling their courses. Many of the construction courses are only offered once a year. Flexibility with scheduling is important if students are to graduate in four years. A table listing all prerequisites follows:

Course	Prerequisite to:
CNST 111	CNST 201
CNST 201	CNST 450, 480
CNST 214	CNST 304, 314
CNST 304	CNST 450, 480
CNST 314	CNST 450, 480
CNST 318	CNST 418

CNST 201

This is the construction documents course. Students also learn about project delivery and different contracts. Knowledge of materials, methods, and equipment is fundamental to the construction industry. Students need to know some fundamentals before learning about contracting those fundamentals.

CNST 450 and 480

Construction Project Management and the capstone course are comprehensive courses that require knowledge of construction contracts and project delivery. Contracts define the roles and responsibilities of all the parties. This is fundamental to managing any project.

Construction scheduling and estimating are important components of project management. The capstone course requires students to use all that they have learned in other courses, especially scheduling and estimating.

CNST 304 and 314

Construction scheduling covers cost loading and resource leveling. Students need to know about estimating and quantity take-offs to fully appreciate these tasks. CNST 314 is estimating and bid preparation. Students need to know how to take off quantities before assembling and submitting a bid.

CNST 418

Design of Temporary Structures requires some knowledge of Statics and Strength of Materials. Some calculations are required in CNST 418.

3.1.4.9   *Explain how the curriculum content and technology reflects the contemporary industry requirements.*

The Construction Program uses the latest version of all software applications required in construction courses. On-Center Software offers Quick Bid and On-Screen Take Off that is widely used by many construction companies. The same can be said for MC2 Ice estimations software. RS Means books are used for contemporary construction costs. Excel is also used in the estimating classes. Many companies use Excel for estimating, RFIs, and submittals.

Curriculum content that reflects today's technology requirements as it relates to construction equipment is introduced to students by a providing them an opportunity to explore and report on new developments in the unmanned construction equipment capabilities and applications.

In CNST 450 the curriculum content that reflects today's technology requirements include students investigating and comparing the software mobile apps available to construction managers. There are more than 200 construction project management programs on the market that support systems for general contractors, subcontractors, building owners and construction managers, to simple solutions for the solo construction manager.

Students working in teams on real projects present a final presentation demonstrating how they would manage a construction project through the entire project life cycle that includes but is not limited to the following functionality in construction project management

- Common Features of Construction Project Management Software

- Benefits and Potential Issues

- Market Trends to Understand

- Functionality Included in Project Management Applications

- Example of how managers can deliver more projects on-time and on-budget.

- Bid solicitation, procurement, online plan rooms,

- Leadership in Energy & Environmental Design (LEED) tracking and photo and UAV management

- What construction project management software is designed to do for the core project management system for examples:

document control module for change orders, submittals, transmittals and requests for information (RFIs)

Budgeting, cost control

Critical path method (CPM) scheduling and punch list management.

Students planning to work in construction benefit from encountering construction apps in the classroom by becoming familiar with the technical workings of industry apps, becoming familiar with the technical workings of industry apps, learn in which fields an app can help them work more efficiently. Students will have the opportunity to identify fields and apps still needing technological improvement. The intent is to make it easier for them to fit into a company that uses mobile construction solutions and provide them an opportunity to bring a wealth of know-how to companies who don't use construction apps yet, but would like to.

3.1.4.10   Demonstrate how the semester hours counted in the core subject area of construction are addressed in the construction-specific Student Learning Outcomes listed in section 3.1.5.

Table 3.1.1 Summary of Category Semester Hour Requirement—Bachelor Degree

Core Area	ACCE Min Semester Hours	Degree Program
3.1.2 General Education	21	49
3.1.2.1 Communications	6	12
3.1.2.2 Mathematics: Greater than algebra and trigonometry	3	3
3.1.2.3 Physical Science: Analytic physical science	6	8
3.1.3 Business and Management	12	12
Total combined 3.1.2 and 3.1.3	33	33
Total External to the Program	33	33
3.1.4 Construction	50	53
Other	37	6
Total Semester Credit Hours	120	120

3.1.5 STUDENT LEARNING OUTCOMES

Summarize the evidence used to show that graduates from your program have met the ACCE student learning outcomes listed in Document 103:

3.1.5.1   Student Learning Outcomes applicable to a 4-year degree program

Validate how a graduate from your degree program is 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 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 a member of a multidisciplinary team.
10. Apply electronic-based technology to manage the construction process.
11. Apply basic surveying techniques for construction layout and control.
12. Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.
13. Understand construction risk management.
14. Understand construction accounting and cost control.
15. Understand construction quality assurance and control.
16. Understand construction project control processes.
17. Understand the legal implications of contract, common, and regulatory law to manage a construction project.
18. Understand the basic principles of sustainable construction.
19. Understand the basic principles of structural behavior.
20. Understand the basic principles of mechanical, electrical and piping systems.

Refer to 3.1.5.3.1 below and the Assessment folder on the flash drive.

3.1.5.2   Student Learning Outcomes applicable to a 2-year Degree program: Not Applicable

3.1.5.3   Determination of Achievement of Student Learning Outcomes

3.1.5.3.1   [A] Identify the assessment methods used to evaluate each Student Learning Outcome.

The CM Program uses the following methods of assessment:

Direct:

- Assignments, presentations, reports, field books, homework, and tests from construction courses.
- Senior Exit Exam (new)

Indirect:

- Advisory Board Focus Group

- Senior Survey

- Alumni Survey

The CM faculty along with the Department Chair assess five learning outcomes each semester per a designated rollout, so all twenty learning outcomes are assessed every two years. Grade statistics, assignment instructions (if appropriate), and an example of student work for each course section in the rollout are provided. The average grade is compared with the assessment metric. If the assessment metric is not met, faculty discuss ways and means to improve the result. Results are documented in meeting minutes and inserted into the ACCE Learning Outcome binders. The binders are organized by the following tabs:

- Assessment Plan

- Learning Outcomes

- Course Syllabus

- Student Work

- Assessment Data (Grade statistics)

At the end of each academic year, the CM Program Coordinator submits a report to the University Outcomes Assessment Coordinator who reviews and evaluates the report. The report includes:

- Learning outcomes assessed that year

- Discoveries

- Improvements

- Look ahead schedule.

3.1.5.3.2   [B] Identify the individual courses where each of the Student Learning Outcomes have been included and provide evidence those outcomes have been incorporated in the curriculum of the course.

	Courses / Learning Outcomes	CNST 100	CNST 101	CNST 106	CNST 111	CNST 111L	CNST 201	CNST 213	CNST 214	CNST 304	CNST 306	CNST 314	CNST 318	CNST 330	CNST 351	CNST 418	CNST 420	CNST 450	CNST 480	CNST 485	ECT 369
	Learning Outcomes Map																				
1	Create written communications appropriate to the construction discipline					I								P			D		D		
2	Create oral presentations appropriate to the construction discipline				I													P	D		
3	Create a construction project safety plan													D					D		
4	Create construction project cost estimates	I									D								D		
5	Create construction project schedules	I								D									D		
6	Analyze professional decisions based on ethical principles	1	D															P			
7	Analyze construction documents for planning and management of construction processes						P	I	P			P								D	
8	Analyze methods, materials, and equipment used to construct projects	I			D						P					P					
9	Apply construction management skills as an effective member of a multi-disciplinary team																		D		
10	Apply electronic-based technology to manage the construction process			I				P	P			P							D		
11	Apply basic surveying techniques for construction layout and control																D				
12	Understand different methods for project delivery and the roles and responsibilities of all constituencies involved in the design and construction process	I	I				D														
13	Understand construction risk management																	P		D	
14	Understand construction accounting and cost control									I				D							
15	Understand construction quality assurance and control					I	I												D		
16	Understand construction project control processes						I			P				D							
17	Understand the legal implications of contract, common, and regulatory law to manage a construction project						I					P								D	
18	Understand the basic principles of sustainable construction						I					P									
19	Understand the basic principles of structural behavior											I			P	D					
20	Understand the basic principles of mechanical, electrical and plumbing systems							I													I
	I = Introduce P = Practice D = Demonstrate																				

Evidence that the outcomes have been incorporated in the designated courses can be found in the ACCE Learning Outcome binders.

3.1.5.3.3   [C] Identify the individual courses where each of the Student Learning Outcomes have been assessed and provide evidence those outcomes have been included in the formal assessment of the course.

The Curriculum Map given above identifies which outcomes are assessed in which courses. The Curriculum Plan provides more information such as what assignments or artifacts will be assessed in the courses (see Appendix). The Assessment Rollout indicates when (by semester) each learning outcome will be assessed. These three documents are provided in the Appendix or as attachments. The plan is to include these documents in a Drop Box folder for the visiting team to access.

3.1.5.3.4   [D] Provide evidence that the results obtained from the formal assessment of the Student Learning Outcomes have been included as part of the construction unit's quality improvement plan.

Goal 1 of the QIP is: Assess Student Learning; Goal 1.1 is the Student Exit Exam; Goal 1.2 is the Senior Survey; Meeting minutes will be available that document direct assessment.

3.1.5.3.5   [E] Provide an index, cross-tab, curriculum map, or other form of summary clearly relating Course Learning Outcomes to Program Learning Outcomes and, further, to the Student Learning Outcomes.

Refer to 3.1.5.3.3 C above and the Appendix.

3.1.5.3.6   [F] Provide course designation, number, catalog description, and complete syllabus.

Please refer to the Course Syllabi folder on the flash drive.

3.1.5.3.7   [G] Demonstrate the standardization and consistency of the syllabi for all courses within the degree program.

A department-wide syllabus template is included in the Appendix. All construction course syllabi follow this template.

3.1.5.3.8   [H] Provide a syllabus for each course used to support the Student Learning Outcomes that includes the Course Learning Outcomes in relations to the Student Learning Outcomes, instructional methods, a topical outline, the method of assessment, and performance criteria.

A syllabus for each course is included in the Appendix and in the ACCE outcome binders. The ACCE Student Learning Outcomes are highlighted in the course objectives in each syllabus in the ACCE binders. The performance criteria statement is: The average of student grade for the assignment/test/quiz must be 75/100 or better.

3.1.5.3.9   [I] Provide copies of textbooks, laboratory manuals, course notes, handouts, and reference materials related to the Student Learning Outcomes.

All supplemental material will be provided for the visiting team.

3.1.5.3.10   [J] Produce a record of any contact the students may have with research, community service, internship or similar professional experiences if it relates to the Student Learning Outcomes.

We were informed by the last visiting team that the internship course could not be used for outcomes assessment because we could not control what the students accomplished or learned. Student journals and reports from internship experiences are available upon request. Please note the Curriculum Map indicates no Student Learning Outcomes for CNST 351, Professional Internship.

3.1.5.3.11   [K] Provide a report of the methods of assessment for each Student Learning Outcome, and the most recent evaluation of the results, resulting actions, and a follow-up of these actions on student performance including the dates of each of these.

Available upon request.

3.1.5.3.12   [L] Produce evidence in the form of representative student work on course materials and assessments or third-party certifications to prove students' ability to meet each Student Learning Outcome.

In the ACCE binders, examples of student work is provided. Evidence is provided by a printout of the grade statistics for all students in the class. The grade statistics are calculated by Blackboard. The average grade is then compared to the performance criteria given above.

3.2   Course Delivered by Alternative Forms of Delivery

The ISU Construction Management Program offers an online CM degree; however, the CM Program makes no claims that the online program is accredited. The CM Program plans to expedite the accreditation of the online program.

3.3   Multiple Campus Degree Program Delivery

All courses are offered only at the ISU campus.

3.4   Dual or Second Degrees

The CM Program only articulates with other construction programs that are also accredited by the ACCE, including two-year programs.

4   FACULTY AND STAFF

4.1   Requirements

4.1.1 FACULTY QUALIFICATIONS

4.1.1.1   Describe the academic qualifications, professional experience, and scholarly/creative activities of the faculty and provide curricula vitae for all faculty members in the program in Appendix A. If applicable, describe the regional accreditation organization's requirements for faculty assignment and how the program complies with them.

Please refer to the Faculty Resumes folder on the flash drive.

Faculty Roles and Qualifications
   a. Instructors (excluding for this requirement teaching assistants enrolled in a graduate program and supervised by faculty) possess an academic degree relevant to what they are teaching and at least one level above the level at which they teach, except in programs for terminal degrees or when equivalent experience is established. In terminal degree programs, faculty members possess the same level of degree. When faculty members are employed based on equivalent experience, the institution defines a minimum threshold of experience and an evaluation process that is used in the appointment process.
   b. Instructors teaching at the doctoral level have a record of recognized scholarship, creative endeavor, or achievement in practice commensurate with doctoral expectations.
   c. Faculty participate substantially in:
      a. oversight of the curriculum—its development and implementation, academic substance, currency, and relevance for internal and external constituencies;
      b. assurance of consistency in the level and quality of instruction and in the expectations of student performance;
      c. establishment of the academic qualifications for instructional personnel;
      d. analysis of data and appropriate action on assessment of student learning and program completion.

Lee A. Ellingson, Program Coordinator	
Highest Degree Awarded	PhD in Architecture, 1997
Rank	Associate Professor
Academic Appointment	Tenured
Full-Time or Part-Time	Full-Time
Years of Experience	Industry: 20 Teaching: 20 This Institution: 19
Professional Registration or Certification	Architect, Indiana, Number 19900012
Professional Activity	Associated Schools of Construction, American Council of Construction Education

William Baker	
Highest Degree Awarded	PhD
Rank	Assistant Professor
Academic Appointment	Tenure-Track

Full-Time or Part-Time	Full-Time
Years of Experience	Industry: 23 Teaching: 10 This Institution: 4
Professional Registration or Certification	Acquisition Professional, Level III
Professional Activity	Associated Schools of Construction

Daniel Bawinkel

Highest Degree Awarded	Masters in Construction Management
Rank	Instructor
Academic Appointment	3-Year Contract
Full-Time or Part-Time	Full-Time
Years of Experience	Industry: 9 Teaching: 14 This Institution: 1
Professional Registration or Certification	OSHA 30
Professional Activity	ASC / ACCE

Donald McNabb

Highest Degree Awarded	Masters Degree
Rank	Senior Instructor
Academic Appointment	3-Year Contract
Full-Time or Part-Time	Full-Time
Years of Experience	Industry: 19 Teaching: 21 This Institution: 17
Professional Registration or Certification	OSHA Trainer 501 and 503
Professional Activity	NAHB / AIC

Brent MacDonald	
Highest Degree Awarded	Masters of Business Administration
Rank	Senior Instructor
Academic Appointment	3-Year Contract
Full-Time or Part-Time	Full-Time
Years of Experience	Industry: 9 Teaching: 1.5 This Institution: 1.5
Professional Registration or Certification	
Professional Activity	ASC / ACCE

4.1.1.2 Describe the process of how faculty are assigned teaching responsibilities, including how they have demonstrated expertise and adequate background in the areas assigned.

Assigning teaching responsibilities is a collaborative affair. Construction faculty, the program director, and department chair examine the skill sets of available faculty and assign teaching responsibilities to the most appropriate person.

Faculty demonstrate expertise and background by their teaching experience and industry experience.

Faculty experience and expertise is fully documented in the resumes or curricula vitae attached to this report.

4.1.1.3 Evaluation of faculty competence shall recognize appropriate professional experience as being equally as important as formal educational background.

All faculty members of the CM Program have extensive industry experience. This is required of all new hires. We believe this is necessary for professional programs such as construction.

4.1.2   FACULTY SIZE

4.1.2.1 List the teaching, administrative, research, and other assignments for each faculty member for the past academic year. Include course, list type (lecture, online, lab, etc., number of lecture hours, number of laboratory hours, number of separate preparations, class size, and availability of teaching assistants. Also include faculty member's counseling activities, administrative activities, committee assignments, extension or continuing education commitments, and research activities.

Fall 2016

Ellingson

	No.	Section	CRN	Credits	Enrollment	SCH	Title
CNST	101	001	52215	3			Ethics in Construction
CNST	101	301	51878	3			Ethics in Construction (online)
CNST	213	001	52436	3			Environmental Control Systems
CNST	213	301	52437	3			Environmental Control Systems

	No.	Section	CRN	Credits	Enrollment	SCH	Title
CNST	351	001	51998	2			Professional Internship
				3			Release time to coordinate the CM Program
Total				17			

McNabb

	No.	Section	CRN	Credits	Enrollment	SCH	Title
CNST	100	001	53455	1			Introduction to Construction Management
CNST	100	301	53473	1			Introduction to Construction Management
CNST	106	001	50811	3			Architectural Graphics
CNST	106	002	52204	3			Architectural Graphics
CNST	106	003	54137	3			Architectural Graphics
CNST	106	301	52214	3			Architectural Graphics
CNST	490	001	53939	3			Special Topics
Total				14			

Baker

	No.	Section	CRN	Credits	Enrollment	SCH	Title
CNST	111	001	52645	3			Materials, Methods and Equipment
CNST	304	001	50813	3			Construction Scheduling
CNST	304	301	52982	3			Construction Scheduling
CNST	485	001	51842	2			Government Contracting
				3			Release time for online program
Total				14			

MacDonald

	No.	Section	CRN	Credits	Enrollment	SCH	Title
CNST	111L	401	52644	1			Soils Lab
CNST	111L	402	53430	1			Soils Lab
CNST	111L	301	52961	1			Soils Lab
CNST	318	401	51846	3			Statics and Strength of Materials
CNST	318	301	53435	3			Statics and Strength of Materials
CNST	420	001	51965	3			Surveying
				3			Release time for managing lab
Total				15			

Bawinkel

	No.	Section	CRN	Credits	Enrollment	SCH	Title
CNST	201	001	50921	3			Construction Contract Documents
CNST	201	002	53432	3			Construction Contract Documents
CNST	314	001	50814	3			Estimating and Bid Preparation
CNST	314	301	53434	3			Estimating and Bid Preparation
				3			Release time to prepare courses
Total				15			

Adjuncts: Stephen Baldwin

	No.	Section	CRN	Credits	Enrollment	SCH	Title
CNST	201	301	52973	3			Construction Contract Documents

	No.	Section	CRN	Credits	Enrollment	SCH	Title
CNST	201	302	54183	3			Construction Contract Documents
Total				6			

PhD Fellow: Ignatius Chukwu

	No.	Section	CRN	Credits	Enrollment	SCH	Title
CNST	111	301	52960	3			Materials, Methods & Equipment
CNST	111	302	54181	3			Materials, Methods & Equipment
Total				6			

Spring 2017

Ellingson

	No.	Section	CRN	Credits	Enrollment	SCH	Title
CNST	306	001	10881	2			Commercial Design and construction
CNST	306	301	12712	2			Commercial Design and Construction
CNST	330	001	11450	3			Finance and Safety
CNST	330	301	13489	3			Finance and Safety
COT	351	001	12289	2			Professional Internship
				3			Release time to coordinate the CM Program
Total				15			

McNabb

	No.	Section	CRN	Credits	Enrollment	SCH	Title
CNST	106	301	13977	3			Architectural Graphics
CNST	206	001	13519	3			Residential Design and Construction
CNST	214	001	10880	3			Plan Interpretation and Quantity Takeoff
CNST	214	002	12491	3			Plan Interpretation and Quantity Takeoff
CNST	214	301	12711	3			Plan Interpretation and Quantity Takeoff
CNST	480	001	11696	3			Construction Capstone
Total				18			

Bawinkel

	No.	Section	CRN	Credits	Enrollment	SCH	Title
IAD	360	401	12832	3			Sustainable Practices
CNST	201	001	13974	3			Construction Contract Documents
CNST	201	301	13975	3			Construction Contract Documents
CNST	201	302	13976	3			Construction Contract Documents
				3			Release time for online advising and CNST 480
				15			

Baker

	No.	Section	CRN	Credits	Enrollment	SCH	Title
CNST	111	001	10879	3			Materials, Methods, and Equipment
CNST	111	002	12296	3			Materials, Methods, and Equipment
CNST	111	301	12473	3			Materials, Methods, and Equipment

	No.	Section	CRN	Credits	Enrollment	SCH	Title
CNST	450	001	10882	3			Construction Project Management
				3			Release time for advising online students
Total				15			

MacDonald

	No.	Section	CRN	Credits	Enrollment	SCH	Title
CNST	111L	001	12243	1			Soils Lab
CNST	111L	002	12565	1			Soils Lab
CNST	111L	301	12532	1			Soils Lab
CNST	111L	401	11449	1			Soils Lab
CNST	418	001	12564	3			Design of Temporary Structures
CNST	420	001	13520	2			Construction Surveying
				3			Release time for managing lab
Total				12			

PhD Fellow: Ignatius Chukwa

	No.	Section	CRN	Credits	Enrollment	SCH	Title
CNST	101	301	12710	3			Ethics and Construction
Total				6			

4.1.2.2   Describe the process used to determine when new or additional faculty members are needed and how other responsibilities and services are used in the determination of faculty needs.

ISU requires proposed course schedules to be submitted one year in advance. The coordinator for each program in the BE Department works with the Department Chair and administrative assistant to plan workloads and classrooms before the due date. If more faculty are needed, the Chair requests funding from the Dean or other offices on campus to hire adjuncts on a temporary basis. If permanent faculty are needed, the Chair asks the Dean and Provost for a new faculty hire. Because the CM program is robust and growing, the administration has been supportive of the program's needs. A new hire was approved for academic year 2016-2017. Release time for program coordination, advising, or lab management is considered when reviewing teaching loads and needs.

4.1.2.3   Compare the program's faculty size to that of comparable academic programs within the institution, including number of faculty members, number of courses offered, number of students enrolled, and type of instruction.

Please refer to 7.1.1.1

4.1.3   FACULTY WORKLOAD

4.1.3.1   Describe the process by which the faculty workload is distributed.

Refer to 4.1.1.2 above. Construction faculty and the Department Chair work together to schedule workloads and faculty assignments to meet University, Department, and Program requirements. Teaching and industry experience is considered when courses are assigned. If possible, faculty members are allowed to "own" a course to minimize the number course preparations.

The University Handbook states the following:

The normal teaching load will be 12 semester credit hours of course work per semester or 24 semester credit hours per academic year (or equivalent).

310.1.1.1 Overload. In emergency situations, full-time tenured or tenure-track faculty members may agree to teach a course or a section of a course in addition to the regular teaching schedule. Pay for such extra teaching responsibility is based upon an established overload teaching pay rate approved by the ISU Board of Trustees and available from the Provost and Vice President for Academic Affairs Office.

310.1.1.2 Per Semester Credit Hour Limit. Teaching assignments shall not exceed 16 semester credit hours per semester or 12 semester credit hours in a summer.

310.1.1.3 Release Time. A faculty member may be released from part or all of the teaching load for research or other professional activities. It is the responsibility of the department chairperson and the academic dean to equate such special assignments to the normal teaching load.

310.1.1.4 Time for Teaching Assignment. Regular full-time teaching faculty are expected to be available for assignment at any hour between 8 a.m. (7:30 a.m. during summer sessions) and the close of the academic day and also expected to be available for assignment each of the five (5) days of the academic week (Monday through Friday) and on Saturday when mutually agreed to by the department chairperson and the faculty member involved.

310.1.1.5 Preferential Schedule. Any preferential assignment schedule arranged for a faculty member by or with the consent of the department chairperson and the academic dean may be superseded by bona fide needs of the University or the department when space or time limitations necessitate changes.

310.1.1.6 Class Meeting Times. All regularly-scheduled classes of the University are to meet according to the time schedule published in the official schedule of classes. Exceptions to class meeting times may be arranged with the approval of the department chairperson and unanimous concurrence of the students in the class.

4.1.3.2   Describe how number of lecture hours, number of laboratory hours, number of separate preparations, class size, availability of teaching assistants, counseling and advising activities, administrative activities, committee assignments, extension or continuing education commitments, and research activities are considered when assigning workload.

Please refer to 4.1.2.2 and 4.1.3.1 above.

4.1.4   ADMINISTRATIVE AND TECHNICAL STAFF SUPPORT

4.1.4.1   List the administrative and technical support for the program, then list the current support staff of the construction educational unit and their assignments. Include clerical staff, technicians, and non-teaching graduate assistants. Indicate the percentage of full-time employment.

The CM Program shares administrative and technical support with other programs in the Department.

Department Administrative Assistant: One Full-time; 100%

The BE Department has one administrative assistant who has been a staff member at ISU for 3.5 years. The administrative assistant is shared between all programs within the department and is directed by the department chair. The administrative assistant's duties include being the initial contact person for students and persons needing to meet with faculty, managing the department budget, placing orders for approved purchases including equipment and supplies, documenting department meeting minutes and curriculum revisions, and much more.

Department Graduate Assistants: Four part-time; 50%

Department Student Workers: Three or Four part-time; 25-50%

The ISU Office of Information Technology (OIT) provides technical support for the computer laboratory and all faculty and staff computers. OIT is very supportive of the Program and will install specialized applications as requested. Computers are typically updated every three years.

Distance Learning provides trained staff to assist faculty with curriculum design and Blackboard management as needed.

4.1.4.2   Compare the program's support to that of educational units of similar size and function within the institution.

Please refer to 7.1.1.1

4.1.5   EMPLOYMENT POLICIES

4.1.5.1   Provide construction faculty salaries and comparable faculty salaries within like educational units within the institution for the current year. Data that would reveal individual salaries may be omitted and provided directly to the visiting team. Indicate the average 9-month salaries by rank. Convert all 12-month salaries to 9-month salaries. Indicate the conversion factor from 12-month to 9-month salaries.

Data will be provided to the visiting team upon request.

4.1.5.2   Define the educational institution's faculty evaluation cycle.

ISU recognizes five ranks for teaching with the following criteria:

Instructor. Documented evidence of adequacy in teaching or librarianship is required; documented evidence of adequacy in research, scholarship, or creative activity and/or of service is required, if such activities were stipulated as expectations of the Instructor. Faculty members are to demonstrate continuous professional growth in teaching and other required areas.

Senior Instructor. Documented evidence of highly effective teaching or librarianship and evidence of continuous professional growth in teaching are required; evidence of achievement in research, scholarship, or creative activity and/or of service is required, if such activities were expectations of the Instructor.

Assistant Professor. Documented evidence of adequacy in teaching or librarianship; of potential for achievement in research, scholarship, or creative activity; and of service appropriate to the mission of the faculty member's academic unit are required. Faculty members are to demonstrate continuous professional growth in teaching or librarianship; research, scholarship, or creativity; and service.

Associate Professor. Documented evidence of effective teaching or librarianship; a record of research, scholarship, or creative activity which has earned professional recognition at the national or regional level; and evidence of effective service to the University and to either the community or the profession are required.

Professor. Documented evidence of sustained effective teaching or librarianship; of a record of substantial accomplishment in research, scholarship, or creativity which has led to professional recognition at the national level; and of active, substantive service to some combination of the University, the community and the profession is required.

The evaluation cycle for tenure-track faculty is as follows:

First year. During the first year of the probationary period at Indiana State University, faculty members shall be notified of their reappointment or non-reappointment by written statement from the University President or the Provost and Vice President for Academic Affairs, no later than March 1.

Second year. During the second year of the probationary period, notice of reappointment or nonreappointment shall be given no later than December 15.

Third, Fourth, and Fifth Year. Starting with the third year of the probationary period, notice of reappointment or non-reappointment shall be given at least twelve (12) months before the expiration of the appointment.

The evaluation cycle for instructors is annual according to the criteria given above.

5   STUDENT POLICIES

5.1   Requirements

5.1.1   ACADEMIC POLICIES

5.1.1.1   Describe the existing written policies indicating required courses and acceptable elective courses that meet degree program objectives and the Student Learning Outcomes.

The CM degree requirements are listed in the Undergraduate Catalog at the link below:

https://catalog.indstate.edu/preview_program.php?catoid=32&poid=4941&returnto=869

The CM Four-year degree plan (beginning fall 2016) is given below:

First Year 1st Semester				First Year 2nd Semester			
CNST	101	Ethics in Construction (ESR)	3	CNST	111	Construction Materials, Methods & Equipment	3
CNST	106	Architectural Graphics	3	CNST	111L	Soils Laboratory	1
MATH	115	College Algebra	3			Communication	3
ENG	101	Freshman Writing I	3	ENG	105	Freshman Writing II	3
		Non-Native Language	3			Non-Native Language	3
CNST	100	Introduction to Construction Mgt.	1			Health and Wellness	3
		Total Credit Hours	16			Total Credit Hours	16
Second Year 1st Semester				Second Year 2nd Semester			
CNST	201	Construction Contract Documents	3			Fine and Performing Arts	3

CNST	213	Environmental Control Systems	3	CNST	214	Plan Interpretation & Quantity Takeoff	3
BUS	263	Legal Environment and Business	3	ACCT	200	Survey of Accounting	3
ECON	100	Basic Economics (SBS)	3			PHYS 105/L or CHEM 105/L or ENVI 110/L or ENVI 170/L	4
MATH	112	Trigonometry	2	MATH SFTY	241 341	Principles of Statistics OR Applied Probability and Statistics	3
		Total Credit Hours	14			Total Credit Hours	16

Third Year 1st Semester				Third Year 2nd Semester			
CNST	304	Construction Scheduling	3	CNST	330	Const Accounting, Finance, & Safety	3
CNST	314	Estimating & Bid Preparation	3	ECT	369	Electrical Construction	3
CNST	318	Statics & Strength of Materials	3	CNST	306	Commercial Design & Construction	2
		Literary Studies	3			PHYS 105/L or CHEM 105/L or ENVI 110/L or ENVI 170/L	4
		Historical Studies	3			English Composition (Jr) or HRD 340	3
		Total Credit Hours	15			Total Credit Hours	15

Fourth Year 1st Semester				Fourth Year 2nd Semester			
		Upper-Div Integrated Elective (UDIE)	3	CNST	418	Design of Temporary Structures	3
CNST	420	Construction Surveying	3	CNST	450	Construction Project Management	3
CNST	485	Government Contracting	2	CNST	480	Construction Capstone	3
MGT TMGT	301 492	Survey of Management OR Industrial Supervision	3			Upper-Div Integrated Elective (UDIE)	3
CNST	351	Professional Internship	2			Global Perspectives & Cultural Diversity	3
		Total Credit Hours	13			Total Credit Hours	15

*5.1.1.2   Describe how these policies are developed with input from faculty, student and other
            stakeholders of the degree program.*

Official policies are approved by the Board of Trustees and faculty governance.

The CM Program has four important stakeholders omitting students and parents:

1. The State of Indiana
2. Indiana State University (Provost's Office)
3. The American Council of Construction Education (ACCE)
4. The CM Advisory Board

The CM Program Coordinator proposes a curriculum that meets the requirements of all of the stakeholders listed above to the construction faculty and Department Chair. After a consensus is reached, the proposal enters the curriculum approval system. ISU now uses an online application for this approval process called *Curriculog*. All curriculum revisions must be approved at the program level, department level, college level, the Office of Registration and Records, and the Provost's office. *Curriculog* facilitates this process. All faculty on campus are allowed to participate in the process since a curriculum revision might affect other programs directly or indirectly.

5.1.2   TEACHING QUALITY

*5.1.2.1   Explain the process which exists in the degree program for ensuring quality of teaching by full-
            time and part-time faculty that is consistent with the degree program's mission and objectives.*

As described above in 4.1.4.1, Extended Learning provides instructional designers to assist faculty with course design and delivery.

The Department Personnel Committee reviews each faculty member in the Department and forwards the reviews to the Chair who contributes his own review. Anonymous, student course reviews are considered by the Personnel Committee.

The construction faculty have begun a peer-review process whereby each faculty member presents his courses to the Program faculty and department chair as it is delivered in Blackboard. This provides an opportunity for construction faculty to learn from each other and provide suggestions for improvement.

Select courses are reviewed by all construction faculty and the department chair every semester with respect to Student Learning Outcomes. This allows another opportunity for collaboration and improvement. This review process is documented in program meeting minutes.

*5.1.2.2   Describe the systematic assessment mechanism with clear metrics that is in place for evaluating
            the quality of teaching within the degree program.*

All construction faculty are reviewed annually by the Department Personnel Committee and Department Chair according to the criteria (metrics) given in 4.1.5.2 above. In addition, construction courses are periodically reviewed by construction faculty and Department Chair for quality and assessment. Instructional design specialists in the Extended Learning unit are used by faculty to conform to "Quality Matters" standards. These standards are written to ensure quality course deliver online.

5.1.3   ADMISSIONS AND ENROLLMENT

*5.1.3.1   Demonstrate how the admission process for students enrolling in the degree program reflects
            students' potential for success in both academic studies and professional practice.*

Students admitted into Indiana State University and the Construction Management program must have completed the Indiana Core 40 high school curriculum (or equivalent) with a grade point average of 2.5 on a 4.0 scale. Indiana high school graduates must have passed both the mathematics and English sections of ISTEP or receive an official waiver from their high school. In addition, students must submit their ACT or SAT scores. For additional information on admission requirements go to: http://cms.indstate.edu/admissions/applications-us/freshman.

5.1.3.2   Describe how the admission process for the degree program reflects institution-wide policies as well as the program's mission, goals, and objectives, including the admission of internal and external transfer students.

The Statewide Transfer General Education Core (STGEC) was developed by the public institutions of higher education in Indiana in response to Senate Enrolled Act 182 (2012). It enables a student who satisfactorily completes an approved program of general education in any one of the approved institutions to transfer that course work to any other state educational institution as a block of 30 credit hours towards the general education core requirements. The STGEC applies to all students matriculating at a public institution of higher education in Indiana in the fall of 2013 and after. Requirements for completion of the STGEC vary by campus and institution. A student must fulfill the STGEC requirements of the school at which a student is enrolled, with a minimum of 30 credit hours, and with an STGEC GPA no lower than 2.0.For additional information on transfers go to: http://cms.indstate.edu/admissions/applications-us/transfer and http://catalog.indstate.edu/content.php?catoid=24&navoid=608&hl=grading&returnto=search#tran_cred

5.1.4   RECRUITMENT AND COMPOSITION

5.1.4.1   Describe the degree program's aspirations regarding student composition and how the program's recruitment and retention mechanisms support those aspirations.

The CM Program aspires to recruit a diverse student population. The College of Technology has a Diversity Plan that can be seen at:

https://www.indstate.edu/technology/diversity-plan

The CM Program works with Dr. Joshua Powers, the Associate Vice-President for Student Success:

- Dr. Joshua Powers III
- Stalker Hall 215
- Joshua.powers@indstate.edu
- 812-237-8378

The ISU Center for Student Success offers the following programs and services:

- Tutoring
- Supplemental instruction
- Student Support Services
- Disability services
- Programs and services for 21sr Century Scholars, Students who were the first in their family to go to college, athletes, and LEAP students.

5.1.4.2   Explain how the degree program's recruitment is directed towards individuals with high academic achievement and community involvement as well as those with defined career goals in construction.

Bev Bitzegaio heads the office of Career Advocates in the College of Technology. One of her assignments is to recruit for the College. She has her own office with three or four student workers. She maintains the College web site, coordinates recruitment events such as Tech Connections, and works closely with the Career Center. Her contact information follows:

- TA 215
- Bev.Bitzegaio@indstate.edu
- isu-tca@mail.indstate.edu
- 812-237-8615

The Office of Admissions maintains an active Welcome Center:

https://www.indstate.edu/admissions

The Office of Admissions arranges campus visits, which includes an interview with construction faculty.

5.1.4.3   *Compare the recruitment and publicity of the degree program to other programs in the institution.*

All academic programs at ISU are promoted on the ISU web site:

http://www.indstate.edu

The Construction Management program has two sites within the ISU umbrella. The first can be found at:

http://www.indstate.edu/academics/undergraduate/majors/construction-management

The second is maintained by the College of Technology and can be found at:

http://www.indstate.edu/technology/web-revisions

5.1.5   ACADEMIC ADVISING AND MENTORING

5.1.5.1   *Describe the current academic advising process available to students in the degree program. Explain how this advising process includes competent, continuous and consistent advising to the students in the degree program.*

Students in the Construction Management major are advised during their Freshman year by University College advisors. Students who have successfully completed 30 hours of course work and transfer students are then advised in the College of Technology. The College of Technology maintains an Office of Student Services with full-time staff. Advisors in Student Services are full-time advisors so they are good at what they do. One advisor specializes in serving construction students. Another advisor specializes in transfer students. Students are advised at least one time per semester, and all advising records for students are housed in "MySam," a degree auditing tool that gives a semester-by semester plan of study, advising notes, etc. All CM students are assigned to a CM instructor who can access their records in "MySam". However, most CM students use Student Services for academic advising and course scheduling. CM faculty maintain an open-door policy and will assist students with whatever issues they may have such as professional advice and employment. Students with fewer than 60 credit hours must receive a PIN from their advisor before they can register for classes.

Beginning fall 2016, CM students have receive academic advising for their last here semesters from construction faculty.

5.1.5.2   *Explain how students are well informed about and have adequate access to placement services and opportunities that are or may be available to them.*

The majority of career guidance is also given by the faculty advisor; however, the university also houses a career center on campus that assists with resume development, interviewing skills, job fairs, etc. For additional information on advising and the career center go to:
http://catalog.indstate.edu/content.php?catoid=24&navoid=608&hl=grading&returnto=search#acad_advi and
http://catalog.indstate.edu/content.php?catoid=24&navoid=608&hl=grading&returnto=search#Career_Center

The University hosts a Career Fair every semester in the Hullman Center.

On November 30, the Career Center and the Construction Management Program co-hosted a construction career fair.

Job opportunities are often posted on the CM bulletin board in the student lounge.

5.1.6   COURSE SCHEDULING

5.1.6.1   *Describe how courses within the degree program are offered in formats and times to ensure appropriate student access to them and timely completion of degree program requirements. In the table below list the required construction courses in the degree program with the number of sections and average enrollment for the most recent academic year.*

Table 5.1.6 Required Construction Courses – Sections and Enrollments

Required Courses		Number of Sections			Average Enrollment
Course No.	Title	Fall	Spring	Summer	
100	Introduction to Construction Management	1	0	0	28
101	Ethics and Construction	1	0	0	32
106	Architectural Graphics	3	0	0	19
111	Construction Materials, Methods, and Equipment	1	2	0	28
111L	Soils Lab	2	3	0	16
201	Construction Contract Documents	2	0	1	22
213	Environmental and Mechanical Systems for Buildings	1	0	0	28
214	Plan Interpretation and Quantity Takeoff	0	2	0	22
304	Construction Scheduling	1	0	0	23
306	Commercial Design and Construction	0	1	0	23
314	Estimating and Bid Preparation	1	0	0	24
318	Statics and Strength of Materials	1	0	0	23
330	Construction Accounting, Finance and Safety	0	1	0	19
351	Professional Internship	1	1	1	24 (summer)
418	Design of Temporary Structures	0	1	0	20
420	Construction Surveying	1	1	0	20
450	Construction Project Management	0	1	0	20
480	Construction Capstone	0	1	0	20
485	Government Contracting	1	0	0	24
ECT 369	Electrical Construction	1	1	0	18

5.1.7   STUDENT PLACEMENT

5.1.7.1   Describe how the degree program or institution provides a student placement service that can effectively assist students in entering the job market.

The College of Technology Construction Management program and the outreach and student engagement office work closely with the ISU Career Center to provide many resources and opportunities for construction management students to prepare for and secure future employment. Students are encouraged to attend a variety of career development workshops and to work closely with a professional career counselor on building a strong resume, networking, job search strategies, interviewing skills, and other professional skills. Opportunities for internships, co-ops, and employment are disseminated via a robust campus-wide database called Sycamore Career Link. In addition, students are connected to employers throughout the academic year through campus visits, industry field trips, a bi-annual networking event called TECH Connections and a bi-annual Career Fair.

5.1.7.2   Provide the job titles and construction sector (residential, commercial, etc.) for all graduates in the most recent year. Provide the number of students where data is not available, who are not employed in the construction sector, and who have continued their education.

Graduate	Sector	Job Title	Graduation Date
Chad Peterson			August 2016
Timothy Prince	Commercial (Hunt Group)	Project Safety Manager	August 2016

Jonathan Davison			December 2016
Tyler Evans	Commercial (Weddle Bros.)	Project Engineer	December 2016
Jonathan Flodder	Commercial (Lithko)		December 2016
Zachary Polgar	Commercial		December 2016
Marcus Ramirez	Commercial (Hensel Phelps)	Project Engineer	December 2016
Clifford Smith-Finks			December 2016
Leslie Steigmeyer	Mechanical (Freitag-Weinhardt)	Project Engineer	December 2016
Luyao Tan	Graduate School (ISU)		December 2016
Fredy Yanes Godoy	Commercial (Hensel-Phelps)	Project Engineer	December 2016
Tyler Murphy	Commercial (Blakely's Corp.)		May 2017
Josh Wilson	Residential (NS Restoration)		May 2017
Austin Wetnight	Wabash Valley Asphalt	Project Engineer	May 2017
David Myers	Commercial (LeRan Investors)		May 2017
Douglas Lane	Commercial (Hensel-Phelps)	Project Engineer	May 2017
Dalton Rowe	Residential (Signature)	Project Engineer	May 2017
Tyler Corenflos	Commercial (Thompson-Thrift)		May 2017
Christopher Clements	Commercial (Lithko)		May 2017
Jesse Grass	Residential (Circle M Const.)		May 2017
Cody Lausman	Commercial (Lithko)		May 2017
Justin Webb	Horizontal (Milestone)		May 2017
Ned OBrien	Commercial (Schomber & Sch.)		May 2017
Joe Lemley	Commercial (Pepper)	Project Engineer	May 2017

5.1.8 EXTRACURRICULAR ACTIVITIES

5.1.8.1 Describe how students are encouraged to participate in activities that complement their academic studies, including students that are pursuing their education via alternative delivery methods.

The Construction Club is open to any students in the Design Build Department. Participation is voluntary; therefore, it varies year to year. Typical activities include:

- Attend the local homebuilder's association dinners
- Volunteer with Servants at Work (SAWS) to design and build handicapped ramps
- Sponsor a resume, cover letter, and scholarship workshop
- Work with Big Brothers/Big Sisters
- Volunteer for Habitat for Humanity
- Construct and sell corn-hole boards

The Construction Club typically meets every other week.

Sigma Lambda Chi (SLC) is the honorary society for construction. It is necessarily smaller than the Construction Club. The biggest activities for SLC are to enter a team into one of the ASC Region 3 competitions in the fall and raise money for scholarships by hosting a golf outing in the spring. SLC typically meets every other week.

5.1.8.2 List specific industry-based professional and trade organizations that students in the degree program are involved with.

Students will occasionally attend dinners/business meetings of the Home Builders Association.

5.1.8.3 State the extent of participation by students in extracurricular activities.

Please see 5.1.8.1 above.

5.1.9 STUDENT FEEDBACK

5.1.9.1 Describe how the degree program's assessment process systematically uses student feedback as input in the continuous improvement process.

Seniors are required to submit a Senior Exit Survey which asks their opinion (using a Likert scale) about what they learned about the Student Learning outcomes. The Survey has been administered in the Senior Seminar course. Beginning in 2016, the Survey will be administered in the Capstone course.

5.1.10 FINANCIAL AID AND SCHOLARSHIPS

5.1.10.1 Explain the mechanism by which the educational unit or institution keeps students informed about the availability of financial aid and scholarships.

The CM Program regularly receives notices of scholarships available to students in the program. The Department administrative assistant keeps copies of the scholarship forms at the front desk. The assistant frequently emails all students in the Program about the available scholarships. Construction faculty routinely announce the opportunities in their classes and encourage students to apply. Scholarship opportunities are frequently posted on the CM bulletin board in the student lounge.

Beginning in spring 2017, a graduate assistant has been assigned the responsibility of creating and maintaining a database of scholarships available to construction students. This database will be made available to all interested students.

5.1.10.2 Describe how the educational unit or institution has published criteria for the allocation of financial aid and scholarships.

The following information is sent to all students annually:

The Higher Education Opportunity Act of 2008 (HEOA) requires postsecondary institutions participating in federal student aid to distribute or make available certain disclosures to current and prospective students, employees, and the public.

It can be very challenging for the public to find and use information about an institution. Thus, individuals often rely heavily on the Internet to obtain information about higher education institutions.

The Consumer Information page on the Financial Aid Office's website is where Indiana State University discloses data about our institution. Some of the data available includes:

Information about financial assistance available to current and prospective students

Institutional Cost of Attendance

Post-graduation Employment data

Indiana State's policy on e-mail as the official means of communication for all student-related business

Annual Security Report

Health risks of alcohol use

For more information, please visit the Consumer Information webpage.

In addition, our website, www.indstate.edu/finaid houses up-to-date information on the application process, eligibility criteria, and even a cost calculator (called the net price calculator). The calculator allows students to submit a profile based on income, test scores, GPA, home state etc, and it generates an estimated financial aid award letter based on the criteria provided. It is available within one click of our homepage at www.indstate.edu.

6   PHYSICAL RESOURCES

6.1   Requirements

6.1.1   OFFICES, CLASSROOMS AND LABORATORY SPACES

6.1.1.1   *Classrooms*

6.1.1.1.1   [A] List the classrooms used for courses taught by the construction educational unit. Indicate the seating capacity, furnishings (i.e., fixed seats, tablet arm chairs), and environmental problems (i.e., lighting, cooling, noise, sun control).

Table 6.1.1.1 Classrooms Used for Construction Courses

Building	Room Number	Area	Capacity	Furnishings	Environmental Problems
TA	118	1186	40	Fixed tables and movable seats. Sympodium. Projector and microphone.	None
TA	225	1078	32	Tablet arm chairs. Projector. Microphone. Sympodium.	None

6.1.1.1.2   [B] Discuss whether the space is shared with other academic units and who controls the assignment of the space.

The department maintains control of priority scheduling of all classrooms designated to the Built Environment (TA 118, 220, 225, 238). However, the university has the right to add courses to certain spaces (TA 118 & 225) if the room is underutilized or unused after the initial scheduling is complete. Classrooms TA 220 & 238 are for department use only. As such, other programs may schedule courses in these spaces with priority being: SFTY has TA 220, and IAD has TA 238.

6.1.1.2   Laboratories

6.1.1.2.1   [A] List the laboratories used for courses taught by the construction unit. Briefly describe the space, including furnishings and equipment. List the construction courses that use the space on a scheduled basis.

Table 6.1.1.2 Laboratories Used for Construction Courses

Building	Room Number	Area	Name	Description	Courses
TA	124	3472	Construction Lab	Open work area with concrete floor and overhead door. Equipped with various tools and equipment. Storeroom and adjacent classroom. Sink and countertop. Conference table.	None
TA	237	1967	Computer Lab	Classroom-type space with computer tables and chairs. Drafting tables. Printers. Sympodium. Flat files.	Accoustics

6.1.1.2.2   [B] Discuss whether the space is shared with other academic units and who controls the assignment of the space.

The department maintains control of all labs designated to the Built Environment (TA 124, 221, 237, 246) and are for department use only. As such, other programs may schedule courses in these spaces with priority being: CNST has TA124 & 237, SFTY has TA221, and IAD has TA246.

6.1.1.3   Offices

6.1.1.3.1   [A] List the faculty and staff offices.

Table 6.1.1.3 Faculty and Staff Offices

Building	Room Number	Area	Occupant	Furnishings
TA	200	140	Judy Johnson	Desk/computer/printer/chairs
TA	201	95	Student Workers	2 desks/2 computers/ 3 chairs
TA	202	95	Donald McNabb	Desk/computer/chairs/shelves
TA	203	95	Work Room	Cabintes/sink/copier/table

TA	204	95	Brent MacDonald	Desk/computer/chairs/shelves
TA	205	95	Dan Bawinkel	Desk/computer/chairs/shelves
TA	207	95	William Baker	Desk/computer/chairs/shelves
TA	208	130	Conference Room	Table/10 chairs/monitor/white brd.
TA	214	95	Lee Ellingson	Desk/computer/cradenza/shelves/printer
TA	217	115	Andrew Payne	Desk/computer/cradenza/shelves/printer
TA	218	65	Files	Cabinets and shelves

6.1.2   LIBRARY RESOURCES

6.1.2.1   Indicate how books, periodicals, and other reference materials may be obtained by the construction program (i.e., central library, departmental library, interlibrary loan program, internet, intranet, etc.).

The College of Technology has a liaison assigned to it from the library. The library liaison and the elected College of Technology representative are responsible for coordinating library materials requests from the college's faculty.

6.1.2.2   Describe where the books and periodicals related to construction are located (e.g., central library, departmental library, electronic holdings, etc.).

Cunningham Memorial Library is the information resource center at Indiana State University. The Library provides access to over 1,739 books and journals related to civil engineering. The libGuide Construction Technology (http://libguides.indstate.edu/construction) identifies the major research tools and facilitates the student's access to them.

6.1.2.3   Describe how the budget for the purchase of library materials for the construction program is established and how new acquisitions are selected.

The library materials budget for the College of Technology purchases is based on a formula factoring in size of the student body, the level of the degree programs offered and the number of faculty. For the academic year 2016-2017, the budget for the College of Technology is $46,878.78.

6.1.2.4   Identify the courses taught by the construction program that make use of library reference materials and discuss utilization.

CNST 101, Ethics and Construction

In this course, students are required to research the roles and responsibilities of team members in the design-construction industry. They are encouraged to use the library, but other sources are allowed.

CNST 304, Construction Scheduling

Two textbooks are required for the course. They are available in electronic format on the library web site.

CNST 314, Estimating and bid Preparation

Students are required to read two article from *Engineering News Record*.

6.1.3   INFORMATION SYSTEMS AND TECHNOLOGY EQUIPMENT

6.1.3.1   Audiovisual Services

6.1.3.1.1   [A] Describe the audiovisual services of the institution.

Classroom Technology General/Discipline:

The ISU campus has WIFI connectivity throughout.

General-purpose classrooms/labs are defined as spaces which are available to any department. A current list of general purpose classrooms and the technology in them can be found here: http://www2.indstate.edu/oit/faculty/classroomtech.pdf

Discipline-specific classrooms/labs are private and restricted to certain departments. Discipline spaces may not have all of the features listed above, as they are generally restricted to the budget of the department which holds ownership. In some cases, special equipment is setup in these spaces, such as a USB-based microscope.

All technology-enhanced general purpose classrooms are equipped with a sound system, a projector, projector screen, computer, DVD/BlueRay capabilities as well as touch-based control panels. Faculty/students can also hook up a laptop to the system if desired.

Classrooms can also include document cameras which can either be connected to by the in-room PC or as an auxiliary. This gives faculty greater mobility in that they can use the built-in desktop software to capture custom-zoomed video or images on the document camera and distribute them to students at will. In contrast to the mobility, it also provides simplicity in that a faculty member can simply plug the document camera into an additional input such as for a laptop. Classrooms with SMART monitors or LED touchscreen software can be used to write over the top of documents and presentation material to provide additional illustration.

General classrooms also have built-in lecture-capture software, which is currently Tegrity. Faculty can record their lectures, as well as the contents of their desktop and document camera (run through the PC), using the lecture capture software. The lecture can be automatically uploaded to Blackboard software and can be made available to students at the faculty member's demand. This provides the need for an effective tool in distance education delivery.

Some general purpose classrooms also have cable television tied into a tuner card connected to the PC. Some have cable TV through the DVD player, while others do not have any cable TV. All classrooms with an in-room PC can play DVD videos using the DVD/CD drive built into the PC.

Classrooms can also include wireless microphones if the need is for ADA accommodation. Faculty are encouraged to contact Human Resources to make initial arrangements.

Classroom PCs are locked down with DeepFreeze software, on a Windows 7 Enterprise platform, which allows the IT department to give faculty what essentially amounts to full administrator rights, which grants the freedom to install custom software on the fly. Upon reboot, DeepFreeze reverts the effected computer to a factory default setting, allowing each new faculty member to get a fresh and consistent experience. A separate partition "D:\" exists as storage in case a faculty member would like to store presentations and other teaching materials for a later session. Faculty can usually request special software be installed on specific machines by showing proof of license and outlining the need.

Checkout:

CETS allows faculty and staff, or students with faculty/staff approval, to check out and use projectors, tripod screens, sound systems and document cameras. These devices are intended to be used for academic or short- term administrative purposes. This service is free of charge to the ISU community, but does have a cost for outside groups and profit-seeking applications.

Setups:

CETS will set up and operate audiovisual equipment in many indoor spaces on campus. This is restricted to university departments and the request must come from faculty/staff. These systems include a screen, projector, sound system and laptop.

Recordings:

CETS Currently records and edits audio recitals for the School of Music in three locations on campus. Other groups can use the spaces and service, but there is typically a fee.

6.1.3.1.2   [B] Describe the audiovisual resources and the visual aids of the construction program.

The Built Environment Department has a conference room (TA 208) equipped with a wall-mounted TV monitor. Faculty can connect their laptops to the monitor with an HDMI cable. The conference room also has a speaker phone that can be used for conference calls.

Classrooms TA 118, TA 225, TA 237, and TA 238 are equipped with sympodiums, which are technology-enhanced lecterns. The sympodiums are equipped with a computer and monitor, which are connected to an overhead projector and screen. Ceiling-mounted microphones can be used to record classroom lectures and post on Blackboard.

The computer lab (TA 237) is also equipped with small-format and large-format printers.

TA 118 also has a document camera for projecting hardcopy documents such as textbooks on the screen.

6.1.3.1.3 *[C] Describe the usage of visual aids in the courses taught by the construction program.*

As mentioned elsewhere, each classroom is equipped with a "sympodium". A sympodium is a large lectern equipped with a computer and connected to an overhead projector and the Internet. Each classroom also has a ceiling-mounted microphone that can record lectures and discussions in the classroom. Whatever is on the instructor's computer, Blackboard site, or Internet can be project on the screen for viewing and captured in computer applications such as Tegrity or Yuja. These class recordings include visuals and lecture. They are linked to the course Blackboard site for students to view asynchronously or at a distance. Each recording is identified by date.

CNST 111L and CNST 420 require a lab component, which provides experiential learning and a vehicle for enhancing communication skills. Numerous visual aides are provided as part of the classroom lectures in the form of diagrams, figures, short videos, and examples of the course material.

6.1.3.2 *Computer Facilities*

[A] Describe the computer facilities of the institution and the procedure for obtaining time on the computer.

ISU contains 85 technology enhanced classrooms, 1 public lab, 48 discipline-specific computer labs, and 7 distance-learning classrooms. Campus infrastructure currently supports over 100 servers and high performance computing facilities. The campus is a notebook institution beginning with freshmen in Fall of 2007. The campus is served by an extensive fiber optic cable system, and uses a gigabit backbone to deliver data and interactive video connections to every building. Wireless network access is available in all buildings and some outdoor spaces as well. High-speed connection to both the commercial Internet and Internet2 is provided for faculty and student use. Student computing needs are served by 173 microcomputers in general use computer clusters, and 679 microcomputers in special use clusters.

[B] Describe the computer facilities of the construction program.

The Construction Program has a discipline-specific computer lab with graphic capable computers (TA 237). The computers are installed with an "image" that returns all settings to the "image" when rebooted. Construction-specific applications are installed on the "image". Applications include CAD, estimating, and scheduling programs. Students are encouraged to download free, educational software to their own computers such as AutoCAD. Small and large-format printers are connected to the lab computers.

Classrooms TA 238 and TA 118 are equipped with sympodiums as previously discussed. TA 118 also has a document camera that can duplicate images of any documents placed under it. These images can be displayed on the computer so distance-students can view them.

6.1.3.2.1 *[C] Describe the usage of the computers by the construction program and the students.*

Courses such as Architectural Graphics, Scheduling, and Estimating use TA 237 for the course-specific applications. Students are allowed to use the lab during non-class-time periods and after-hours.

6.1.3.3   For course delivered by alternative methods, describe the type of technical support given the students.

The Office of Information and Technology (OIT) provides the following assistance to students:

Student Computing Support Center (walk-in support)

        M-Th   7:30 am to 7:00 pm

        Friday   7:30 am to 4:30 pm

        Saturday   Closed

        Sunday   3:00 pm to 9:00 pm

Technology Assistance Group Call Center

        812-237-2910

        888-818-5465

Instructional Tools Support Center

        812-237-7000

        Fall and Spring

        M-Th   7:30 am to 9:00 pm

        Friday   7:30 am to 6:00 pm

        Saturday and Sunday   12:00 pm to 9:00 pm

7   FINANCIAL RESOURCES

7.1   Requirements

7.1.1   BUDGETED FUNDS

7.1.1.1   Indicate the amount and percentage of operating revenue and expenditures for the construction program and units within the institution that are comparable to the construction program. In addition, explain how these units are similar in size and function.

Table 7.1.1.1 College of Technology Operating Revenue and Expenditures for the Prior Fiscal Year

Revenue Source	Revenue Amount	% of Total
Institutional Funds: Base Budget and Salaries	5,924,095	
Other (specify each; exclude non-recurring funds)	NA	
Total Revenue	5,924,095	**100%**
Expenditure Type	**Expenditure Amount $**	**% of Total**
Salaries		
Faculty (full-time and part-time)	4,575,196	
Staff (Support Staff-427,446; Admin. And Prof. Staff-660,268)	1,087,714	

Other (specify each)		
Subtotal Salaries	5,662,910	
Operating (COT Totals for Departmental Base Budgets)		
Supplies (S&E: Supplies and Expenses)	162,256	
Educational Materials (Included in S&E)		
Telephone/Internet (Provided by the University)		
Equipment (Separate allocation based on funds and needs)		
Student Assistance	57,332	
Travel	30,330	
Other Expenses (specify each: Repairs and Maintenance)	11,267	
Subtotal Operating	261,185	
Total Expenditures	5,924,095	**100%**

COT Revenue Sources:

University funding is provided for faculty and staff salaries, outside of the base operating budgets.
Faculty and staff salaries total $5,662,910.

The base operating budgets allocated to the College and its departments total $261,185.

The base operating budgets for Supplies and Expenses total $162,256 and do include the costs for telephone lines. Internet service and long distance calls are paid by the university.

Student wage budget total $57,332. Additional funds are available for Graduate Assistants (Administrative, Clinical, Research, or Teaching) through an application process.

Operating travel budgets total $30,330.
Additional travel funds are often available from other campus sources which include special allocations from Academic Affairs to the College (2 years out of the past 6 years), funds for International Travel grants from the Center for Global Engagement (typically a $2,000 limit per person with application), and travel funds available to new faculty members ($1,000-$3,000 each) linked to participation in orientation workshops related to research.

Equipment funds are not included in the base budgets. A separate allocation is received from Academic Affairs based on equipment requests. Annual allocations to the College of Technology have ranged from $25,000 to $250,000 or more. The allocations are based on classroom equipment needs linked to teaching. (Example: Last year, $150,000 was allocated to purchase and repair robots required for automation courses) All COT departments are invited to submit requests for equipment.

College of Technology FTE by Department				
Department	**Tenure and T-Track**	**Instructors**	**Lecturers**	**Total**
AETM	10.5	5.0	1.0	16.5
Aviation	3.5	2.0	2.2	7.7
Built Environment	6.5	5.0	0.0	11.5
Electronics	2.5	2.0	4.8	9.3
Human Resources	9.0	3.0	1.4	13.4

7.1.1.2   *Indicate the amount and percentage of operating revenue and expenditures allocated for the construction program and, if applicable, other degree programs contained within the department.*

Table 7.1.1.2 CM Program's Operating Revenue and Expenditures for the Prior Fiscal year

Revenue Source	**Revenue Amount**	**% of Total**
Institutional Funds (Salaries outside of base budget)	33,324	
Other (specify each; exclude non-recurring funds)		
Total Revenue	33,324	**100%**
Expenditure Type	**Expenditure Amount $**	**% of Total**
Salaries		
Faculty	366,452	
Staff	138,843	
Other (specify each)		
Subtotal Salaries	505,295	
Operating		
Supplies and Educational Materials	9,739	
Telephone/Internet (University pays Internet)	4,771	

Equipment (Capital equipment comes from Dean's office.)		
Student Assistance	6,136	
Travel	2,908	
Other Expenses (printing, postage, awards, repairs, etc.)	9,770	
Subtotal Operating	33,324	
Total Expenditures	538,619	**100%**

7.1.1.3 *Detail how projected resources will be allocated to ensure the capacity of the degree program to achieve its planned growth, future goals, and objectives.*

ISU is a public university and its main resources are state funds and tuition revenue. The University allocates its funds to each college following a formula that considers the number of faculty, staff, graduate assistants, and student workers with their salaries and benefits, number of students, student credit hours generated, equipment and supplies including labs, travel funds for professional development, etc. The College of Technology dean allocates funds to each department. From the Department, the money is used for programs and faculty based on identified needs

The department has been very accommodating with equipment acquisition and update requests. An on-going departmental process allows the programs to prioritize requested funds to purchase, or upgrade equipment, supplemental teaching materials and lab supplies. In addition to monies distributed by the department chair student lab fees and distance education fees are also available for specific needs unique to each course. Outside of the annual department and program budgets the university offers one-time funds for equipment needs. In November 2014, the COT Dean distributed $24,000 to the BE department to fulfill equipment requests. In 2015 no funds were received, and $257,000 was requested in 2016 (awaiting disbursement decision).

Support for faculty professional development predominately comes in the form of travel funds. The faculty members are encouraged to make presentations at conferences, professional meetings, and/or attend professional workshops. The travel funds are used to support faculty travels related to research and professional development. Grants are available through the Center for Community Engagement, the Center for Global Engagement, the Fulbright Program and others.

7.1.2 NONRECURRING FUNDS

7.1.2.1 *Identify the source, amount, and use of nonrecurring funds (soft monies, annual gifts, donations, etc.) for the degree program.*

The CM Advisory Board may donate money to the Program for specific uses. For instance, in spring 2017, the Board donated $2000 to the Sigma Lambda Chi Scholarship Fund. They also contribute money to fund student competitions if grant monies do not cover the cost.

Sigma Lambda Chi raises money with an annual golf outing to fund two $500 student scholarships.

The University Foundation has an account for private donations to the Program. For instance, in 2014 the Program received $5000 from a local businessman.

7.1.2.2 *Detail how any nonrecurring funds have been used in the last three fiscal years.*

Please refer to 7.1.2.1 above.

8 INDUSTRY, ALUMNI AND PUBLIC RELATIONS

8.1 Requirements

8.1.1 SUPPORT FROM INDUSTRY

8.1.1.1   Provide evidence that the construction industry advisory committee is representative of potential employers of graduates of the degree program and other industry professionals.

Please refer to the CM Advisory Board folder on the flash drive.

8.1.1.2   Provide evidence that the construction industry advisory committee meets at least once a year for the purpose of advising and assisting the development and enhancement of the degree program.

Please refer to the CM Advisory Board folder on the flash drive.

8.1.1.3   Provide minutes of each construction industry advisory committee meeting.

Please refer to the CM Advisory Board folder on the flash drive.

8.1.2   SUPPORT FOR INDUSTRY

8.1.2.1   Demonstrate that the educational unit maintains continuous liaison with the various constituencies it serves via active participation by faculty in associations and other professional organizations for the purpose of establishing educational and professional development activities for the construction industry.

On November 30, 2016, the CM Program and the Career Center hosted a Construction Career Fair. The Fair was attended by 21 construction companies with excellent student attendance.

Donald McNabb is the CM Program representative to the Associated General Contractors of Indiana.

Dan Bawinkel is actively engaged with the US Green Building Council.

Lee Ellingson, Dan Bawinkel, and William Baker are actively involved with the local chapter of Sigma Lambda Chi, the international honorary society for construction.

Dan Bawinkel is actively engaged with the local Association of Building Contractors.

All faculty are actively engaged with the Associated Schools of Construction and the American Council of Construction Education.

Lee Ellingson is actively engaged with the Asphalt Paving Association of Indiana.

8.1.2.2   Provide evidence that the educational unit has a policy on faculty roles in continuing education appropriate to its goals and objectives, local market, and other factors.

The College of Technology Promotion and Tenure document specifies the following for professional experience:

- The equivalent of three years of non-academic work experience in a field related to a Department academic program.

- Paid employment, consulting, internships, volunteer work, and other non-class activities could provide the appropriate real-world experience. Each State or nationally recognized professional certification (or licensure or similar credential) can substitute for one year of professional experience, up to a maximum of two years of professional experience. To qualify, such certifications have to be based, at least in part, on (a) an exam and (b) require periodic recertification. The professional experience as defined in this section pertains to all faculty ranks and accomplishments.

The Promotion and Tenure document further specifies the following for associate and full professors: The faculty member is expected to have completed at least six service accomplishments. At least two accomplishments must come from the following:

- Officer of a University, professional, or community committee.

- Conducts studies or prepares proposals for the Department, College, or University.

- Assumes administrative responsibilities (not part of load) related to either the academic or support services of the University community.

- Acts as a conference organizer or chair at the regional to international levels.

- Consults as requested by government, business or industry, or other educational institutions. In the area of the faculty member's expertise.

- Contributes services to the community that are relevant to the faculty member's role or expertise.

8.1.2.3   Demonstrate that the educational unit takes appropriate responsibility for helping to improve the skills and knowledge of industry practitioners.

William Baker is researching drones (or autonomous vehicles) in construction. He has some experience with this with his military background. The College of Technology has a certified academic program dedicated to autonomous aircraft. Dr. Baker has made the following presentations and workshops:

- Drones, Construction, and You. *Indiana CPA Society Construction Conference* (2016).

- Unmanned Systems to Mitigate Safety Concerns in the Built Environment. *International Scientist Conference: Kiev, Ukraine* (2016).

- Drones On-Site Business Cases for the Construction Industry. *AUVSI International XPONENTIAL Conference* (2016).

- Applications of Unmanned Construction Systems. *Indiana Construction Industry Conference* (2016).

- Using Unmanned Equipment in Construction to Increase Safety and Efficiencies. *Asia-Pacific Conference on Life-Science and Engineering International Conference* (2015).

- Workshop: Basic Contract Administration (32-hour workshop). *Army JAG for Indiana*.

8.1.3   STUDENT-INDUSTRY RELATIONS

8.1.3.1   Demonstrate that the educational unit actively encourages and facilitates participation of students in activities of construction-related organizations, internships, and cooperative educational programs.

CNST 351, Professional Internship, is required of all construction students. It is pass/fail. Documentation of their experience must be submitted to the instructor to receive credit for the course. At least 300 work hours are required. The course is offered every semester, but most students do their internship in the summer. Students routinely work 400 hours plus and praise the value of the experience. Faculty routinely encourage students to do the internship as soon as possible so they can continue to work with that company during their stay in the program or work for other companies to acquire a more diverse experience. Companies routinely come to campus to present information about their company and encourage students to apply for internships or permanent employment. Of course, this depends on the health of the national economy.

8.1.3.2   Demonstrate that all students (traditional and distance education) have access to information about internships and cooperative education programs and activities of construction-related organizations in their local area.

ISU maintains a discrete Career Center, which assists all students with their internship and employment needs. For this purpose, the Career Center maintains an online web site called Sycamore Career Link. All students have access to Sycamore Career Link through the MyISU Portal. Once inside Sycamore Career Link, students can research more information about the construction industry, register for events, look for internships as well as full time employment in the construction industry. Students can also use internships.com which is inside of Blackboard to search for internships as well.

8.1.4   ALUMNI RELATIONS AND FEEDBACK

8.1.4.1   Demonstrate that the educational unit maintains a current registry of alumni and contact with them to seek feedback in its improvement process.

The University Foundation maintains a database on all graduates. They have allowed us access to this database. We also have a LinkedIn site that facilitates communications with graduates.

8.1.4.2   Demonstrate that the educational unit engages the alumni in activities such as a formal advisory board, student career advising, potential employment, curriculum review and development, fund raising, and continuing education.

Advisory Board

Please refer to the Advisory Board folder in the flash drive.

Student Career Advising

All CM students are assigned a construction faculty member as official advisor during their junior and senior years. Construction faculty are all located in the Built Environment Department, which is located in the Technology Annex where all construction courses are taught. Construction faculty are easy to locate and encourage all construction students to visit whenever they have questions about courses, scheduling, and career development. CNST 100, Introduction to Construction Management, presents to incoming students employment opportunities and various career tracks provided by the industry. Goal number 2 of the Advisory Board Strategic Plan is "Prepare students to take their place in the construction industry."

Potential Employment

The ISU Career Center maintains a Sycamore Career Link with the following logins:

- Student Login
- Employer Login
- Faculty Login
- Mentor Login
- Alumni Login

Employers and alumni are encouraged to maintain a connection with the Career Center. Construction students can now post their resumes on the Career Center web site for viewing by potential employers. The Career Center sponsors two University-wide career fairs annually. Moreover, the Center hosted a construction specific career fair on November 30, 2016. Twenty-one potential employers attended. Student attendance was good, and employers reported that it was a success. There are plans to repeat in fall 2017.

Curriculum Review and Development

The Advisory Board meets once in the fall and once in the spring. The CM curriculum is a standing item in the agenda. At each meeting, the CM program coordinator reviews any curriculum changes and proposals and solicits suggestions from the Board. Please refer to the meeting minutes in the Advisory Board folder in Drop Box.

Fund Raising

The Advisory Board has been very generous in providing funds to support student teams to participate in student competitions, especially the ASC Region 3 competitions. Also, alumni attendance has been very good at the construction golf-outing every spring, which raises money for student scholarships.

Continuing Education

The Advisory Board Constitution states in Section 2.02 (f) "Other objectives of the Advisory Board shall be to assist in providing cooperative education/internship experiences for students, placement of CM Program graduates, and *Professional development for faculty*." (emphasis added) Local Board members have agreed to sponsor any faculty member that wants to visit their office and learn how they conduct their work. We intend to take advantage of this in the near future.

8.1.5   PUBLIC DISCLOSURES

8.1.5.1 *Demonstrate that the Institution broadly and accurately publishes the objectives of the degree program, admission requirement, degree program assessment measures employed, the information obtained through these assessment measures and actions taken as a result of the feedback, student achievement, the rate and types of employment of the graduates, and any data supporting the qualitative claims made by the degree program.*

Please refer to the following link:

http://www.indstate.edu/technology/sites/technology.indstate.edu/files/BE/CNST_accreditation_plan.pdf

8.1.5.2 *If accreditation status is published, demonstrate that there has been no release of the program's term or period of accreditation.*

Please refer to the following links:

http://www.indstate.edu/technology/cnst

http://www.indstate.edu/academics/undergraduate/majors/construction-management

9 ACADEMIC QUALITY PLANNING PROCESS AND OUTCOME ASSESSMENT

9.1 Requirements

If terminology of the assessment process varies from the definitions found in Section 1.1.1 of these Standards, provide a glossary of compatible terminology.

9.1.1 CONTINUOUS IMPROVEMENT

Please refer to the supporting folder provided on the flash drive.

Provide a QIP for review by the Visiting Team; be sure to include the following:

9.1.1.1 *Strategic Plan for the educational unit.*

9.1.1.2 *Assessment Plan for the degree program*

9.1.1.3 *Assessment Implementation Plan for the degree program*

9.1.2 EDUCATIONAL UNIT STRATEGIC PLAN

Please refer to the supporting folder provided on the flash drive.

Describe the educational unit's Strategic Plan for the continuous improvement of the degree program, and specifically:

9.1.2.1 *Describe the systematic and sustained effort to enable the degree program to fulfill its mission.*

9.1.2.2 *Describe the internal status of the degree program resources as well as the external factors that influence the operation of the degree program.*

9.1.2.3 *Demonstrate that the Strategic Plan is updated periodically and that it represents the collective input from all of the degree program constituencies.*

9.1.3 DEGREE PROGRAM ASSESSMENT PLAN

Please refer to the supporting folder provided on the flash drive.

Provide the educational unit's comprehensive Assessment Plan for the continuous improvement of the degree program with documented results from all systematically structured information for review by the visiting team.

And describe the following:

9.1.3.1   Describe the Mission Statement of the degree program.

9.1.3.2   Describe the degree program Objectives (to be evaluated for clarity and ability to permit assessment of achievement).

9.1.3.3   Describe the Program Learning Outcomes and demonstrate that they are regularly formulated, evaluated, and reviewed with the appropriate participation of faculty, students, industry advisors, and other pertinent parties.

9.1.3.4   Describe the assessment tools used to measure degree program objectives and learning outcomes as stated in 9.1.3.2 and 9.1.3.3 above, and:

- Describe the frequency for using the tools.
- Describe the procedures for data collection.

9.1.3.5   Describe the Performance Criteria used to measure the achievement of the degree program objectives and learning outcomes as stated in 9.1.3.2 and 9.1.3.3 above.

9.1.3.6   Describe the Evaluation Methodology used for data collection.

9.1.4   ASSESSMENT IMPLEMENTATION PLAN

Please refer to the supporting folder provided on the flash drive.

Describe the educational unit's Assessment Implementation Plan for the continuous improvement of the degree program and provide evidence that the degree program is making progress in achieving its mission, objectives, and learning outcomes and that it takes the outcomes assessment results into consideration in degree program development.

Specifically demonstrate that:

9.1.4.1   The educational unit is conducting a comprehensive assessment at the degree program level.

9.1.4.2   The results of each assessment cycle are documented in a systematic manner.

9.1.4.3   Evaluation of the degree program objectives and learning outcomes are being compared to the stated performance criteria to determine whether stated objectives and learning outcomes were achieved and if there is a validated need for improvement an any area.

9.1.4.4   After each comprehensive assessment cycle, the entire process is being reviewed and updated with plans for improvement including any revisions to the degree program's assessment plan.

10 REVIEW LAST VISITING TEAM REPORT: WEAKNESSES AND CONCERNS

10.1 Weakness #1

10.1.1 DESCRIPTION

Supporting documentation in many of the course notebooks was incomplete. [ACCE Document 103, Section III, 3.2] See III.B.5

10.1.2 FIRST YEAR REPORT

Course notebooks for each construction course are kept in the Dean's office suite. Electronic copies of supporting documentation have been sent via e-mail to the ACCE. Construction faculty have been informed what documentation is required. Discussions have been documented in official meeting minutes. A curriculum map indicates which learning objectives are taught in the courses. Emphasis will be placed on keeping the notebooks current.

10.1.3 THIRD YEAR REPORT

The CM Program now maintains two sets of course notebooks or binders. One set is distributed among the faculty according to the courses they teach, and the other set is stored in a locked room behind the administrative assistant. Once a year in the fall, student work is transferred from the faculty binders to the Program binders. Sticky tags have been created for each learning outcome and attached to the appropriate student work. The tag numbers are keyed to the curriculum map, which lists all of the learning outcomes and which courses they relate to.

10.1.4 FIFTH YEAR REPORT

The CM Program now organizes assessment binders according to Student Learning Outcomes. The ACCE has identified twenty Student Learning Outcomes, so the CM Program maintains twenty assessment binders—one for each learning outcome. Instructions for populating the binders are listed below:

Any learning outcome that is assigned to a course(s) on the Curriculum Map and Curriculum Plan needs a hard-copy artifact in the binders. This includes the categories *Introduce*, *Practice*, or *Document*. However, only one student sample is required for assessment. A hard-copy artifact may be assignment instructions, copy of Quiz or test, or a slide from a PowerPoint presentation.

Student work that is to be assessed needs:

1. Instructions (if provided by the instructor)
2. One copy of one student's submittal
3. Grade statistics for the class. Statistics should only be for on-campus sections.

Each binder contains five tabs as listed below. Contents are listed under the heading.

Assessment Plan

- Curriculum Map (highlight outcome)

- Curriculum Plan (highlight outcome)

Learning Outcomes

- List of ACCE Learning Outcomes (highlight outcome)

Course Syllabus

- Course Syllabus (highlight outcome)

Student Work

- One copy of one graded student's work (print from Blackboard)

- One artifact from every outcome listed on the Curriculum Map (not graded)

Assessment Data

- Column Statistics printed from the Grade Book in BB. (If more than one on-campus section is offered, statistics from each section needs to be included.)

All three sets of binders will be available to the visiting team.

10.2 Concern #1

10.2.1 DESCRIPTION

Faculty turn-over, especially given the small number of faculty in the program and that the only tenured and tenure-track members also fulfill administrative roles, is a concern. [ACCE Document 103, Section IV, 4.1] The recurring weakness involving the course notebooks is, at least partially caused by faculty turnover. It is difficult to ensure that course content is meeting ACCE requirements when instructors change frequently.

10.2.2 FIRST YEAR REPORT

All efforts are being made to recruit and retain good faculty. Turnover has been due to retirement, unforeseen health issues, and relocation due to promotion. A new tenure-track member has been hired and will begin in spring 2013. His family is local, and he indicates he has every intention of remaining at ISU.

10.2.3 THIRD YEAR REPORT

The following lists the number of years faculty have been in the program:

Tenured: 17 years

Tenure-track: 1 year

Multi-year contract: 12 years

Multi-year contract: 2 years

All indications are that these are long-term commitments.

10.2.4 FIFTH YEAR REPORT

The following lists the number of years faculty have been in the program:

Tenured: 19 years   Ellingson

Tenure-track: 3 year   Baker

Multi-year contract: 15 years   McNabb

Multi-year contract: 1 year   Bawinkel

Multi-year contract: 1 year   MacDonald

All indications are that these are long-term commitments.

10.3 Concern #2

10.3.1 DESCRIPTION

The documentation for integration of oral and written communication and ethics in the matrix did not identify where the required content was located in the curriculum. [ACCE Document 103, Section III, 3.2]

10.3.2 FIRST YEAR REPORT

A curriculum map has been created that documents which objectives are taught in which courses. The Construction Program is in the process of cross referencing course objectives with the notebooks. This will be complete by the third-year report. Syllabi and student work concerning the above have been sent by e-mail.

10.3.3 THIRD YEAR REPORT

As indicated in the response to Weakness #1, examples of student work that fulfill the Program Learning Outcomes are filed in the faculty and program binders and cross-referenced with the numbered tags. A new department-wide format for course syllabi has been adopted, which lists all learning outcomes assigned to each course. The learning outcomes are coordinated with the Curriculum Map.

10.3.4 FIFTH YEAR REPORT

Construction Ethics:

The CM program has created a new course, CNST 101, Ethics and Construction. CNST 101 has also been approved by Foundational Studies (General Education) as meeting the requirements for the category, *Ethics and Social Responsibility*. It has become a popular course for both construction students and non-construction students. The course uses case studies provided in the AIC *Program for Construction Ethics*. Documentation is provided in the appropriate ACCE assessment binder. This topic is also introduced in CNST 101, Introduction to Construction Management.

Written Communications:

Written communications are now introduced in the following courses:

- CNST 111L, Soils Laboratory

Written communications are practiced in

- CNST 330, Construction Accounting, Finance, and Safety

Written communications are now demonstrated in the following courses:

- CNST 420, Construction Surveying
- CNST 480, Construction Capstone

Written communications are assessed in:

- CNST 420, Construction Surveying

Oral Communications

Oral communications are introduced in:

CNST 111, Construction Materials, Methods, and Equipment

Oral communications are practiced in:

- CNST 450, Construction Project Management

Oral communications are demonstrated and assessed in:

- CNST 480, Construction Capstone