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| For Academic Affairs and Research Use Only |
| Proposal Number | ECS22 |
| CIP Code:  |  |
| Degree Code: |  |

**Reconfiguration of Existing Degree Program Proposal Form**

(Also requires Arkansas Department of Higher Education (ADHE) approval)

**[X] Undergraduate Curriculum Council**

**[ ] Graduate Council**

Signed paper copies of proposals submitted for consideration are no longer required. Please type approver name and enter date of approval.

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**Department Curriculum Committee Chair** |

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| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |

**COPE Chair (if applicable)** |
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| Alexandr M. Sokolov | 8/31/2021 |

**Department Chair** |

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| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |

**Head of Unit (if applicable)**   |
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| Mary Elizabeth Spence | 9/22/2021 |
| **Office of Assessment** |  |

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**Undergraduate Curriculum Council Chair** |
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| Jason Stewart | 10/29/2021 |

**College Curriculum Committee Chair** |

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**Graduate Curriculum Committee Chair** |
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| Dr. Abhijit Bhattacharyya | 10/29/2021 |

**College Dean** |

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| Alan Utter | 11/16/2021 |

**Vice Chancellor for Academic Affairs** |
|

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| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |

**General Education Committee Chair (if applicable)**   |  |

1. **Contact Person** (Name, Email Address, Phone Number)

Dr. Alexandr M. Sokolov asokolov@astate.edu 870-972-3635

1. **Title(s) of degree programs to be consolidated/reconfigured:**

 Bachelor of Science in Engineering Management Systems

 Bachelor of Science in Engineering Technology

 Bachelor of Science in Business Administration

1. **Proposed title of consolidated/reconfigured program:**

Bachelor of Science in Construction Management

1. **Proposed Effective Date:** FALL 2022
2. **Reason for proposed program consolidation/reconfiguration:**

*(Indicate student need/demand (projected enrollment) for the proposed program and document that the program meets employer needs using the ADFA Workforce Analysis Form)*

Construction Management is a high demand and high paying field. There is a large need for the local industry to have a construction management program where working adults can gain knowledge of construction management techniques. The Bachelor of Science in Construction Management graduates will have the knowledge, as well as the technical, administrative and communication skills, necessary to succeed in the construction industry. Students must demonstrate the knowledge and skills to deliver construction projects with respect to scope, schedule, budget, quality, safety, and the environment. The professional component must include these topics: construction project management from pre-design through commissioning; project life-cycle and sustainability; health and safety, accident prevention, and regulatory compliance; law, contract documents administration, and dispute prevention and resolution; materials, labor and methods of construction; finance and accounting principles; planning and scheduling; cost management including plan reading, quantity take offs and estimating; project delivery methods; leadership and managing people; business and communication skills.

The projected number of program enrollments for Years 1 - 3.

 Year 1: 5 Students

 Year 2: 20 Students

 Year 3: 40 Students

The projected number of program graduates in 3-5 years.

 Year 3: 5 Students

 Year 4: 15 Students

 Year 5: 15 Students

ADFA Workforce Analysis Form on file.

1. **Provide current and proposed curriculum outline by semester.**

*For undergraduate programs, please use Appendix A-8-semester plan form*

 *Indicate total semester credit hours required for the proposed program. If new courses are needed for the reconfiguration, approval for the courses must be requested prior to approval for the new degree. Underline any new courses. Identify required general education core courses with an asterisk. If utilizing courses from other departments, please color-code them and provide a key.*

|  |
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| **Arkansas State University - Jonesboro** |
| **Degree: Bachelor of Science** |
| **Major: Construction Management** |
| **2022-23** |
| Students requiring developmental course work based on low entrance exam scores (ACT, SAT, ASSET, COMPASS) may not be able to complete this program of study in eight (8) semesters. Developmental courses do not count toward total degree hours.  **Students having completed college level courses prior to enrollment will be assisted by their advisor in making appropriate substitutions. In most cases, general education courses may be interchanged between semesters.** A minimum of 45 hours of upper division credit (3000-4000 level) is required for this degree. |
|
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|
| **Year 1** |   | **Year 1** |
| **Fall Semester** |   | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |   | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| **\*ENG 1003** | Composition I | **3** | X |   | **\*ECON 2313** | Principles of Macroeconomics | **3** | X |
| **\*Humanities** | Gen. Ed. Approved Humanities | **3** | X |   | **Elective** | Elective | **3** |  |
| **\*MATH 1023** | College Algebra | **3** | X |   | **\*ENG 1013** | Composition II | **3** | X |
| **\*SCOM 1203** | Oral Communications | **3** | X |   | **\*Fine Arts** | Gen. Ed. Approved Fine Arts | **3** | X |
| **\*UC 1013** | Making Connections | **3** |   |   | **\*HIST 2763/2773 or POSC 2103** | US History or Since 1876 or Intro to US Government | **3** | X |
| **Total Hours** |   | **15** |   |   | **Total Hours** |   | **15** |   |
| **Year 2** |   | **Year 2** |
| **Fall Semester** |   | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |   | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| **ACCT 2033** | Intro to Financial Accounting | **3** |   |   | **EGRM 3013** | Project Management and Practice | **3** |  |
| **\*ECON 2323** | Principles of Microeconomics | **3** | X |   | **Elective** | Elective | **2** |   |
| **Elective** | Elective | **2** |  |   | **LAW 2023** | Legal Environment of Business | **3** |   |
| **MATH 2143** | Business Calculus | **3** |   |   | **\*Life Science**  | Gen. Ed. Approved Life Science | **4** | X |
| **\*Physical Science** | Gen. Ed. Approved Physical Science | **4** | X |   | **MGMT 3123** | Principles of Management | **3** |   |
| **Total Hours** |   | **15** |   |   | **Total Hours** |   | **15** |   |
| **Year 3** |   | **Year 3** |
| **Fall Semester** |   | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |   | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| **CM 3033** | Architectural CAD | **3** |  |   | **CM 3003** | Construction Physics | **3** |   |
| **EGRM 3003** | Technical Entrepreneurship | **3** |  |   | **CM 3023** | Strategic Bidding and Estimating | **3** |  |
| **TECH 3773** | Statistics | **3** |   |   | **CM 3053** | Building Information Modeling | **3** |  |
| **TECH 3863** | Industrial Safety | **3** |   |   | **EGRM 4023** | Engineering Management I | **3** |  |
| **TECH 4813** | Operations Systems Research | **3** |   |   | **TECH 4823** | Quality Assurance | **3** |   |
| **Total Hours** |   | **15** |   |   | **Total Hours** |   | **15** |   |
| **Year 4** |   | **Year 4** |
| **Fall Semester** |   | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |   | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| **CM 3013** | Green Construction | **3** |  |   | **CM 3043** | Structural Blueprints | **3** |  |
| **CM 4003** | Construction Management Design I | **3** |  |   | **CM 4013** | Construction Management Design II | **3** |  |
| **CM 4023** | Materials and Methods for Construction | **3** |  |   | **CM 4063** | Construction Management Internship | **3** |  |
| **EGRM 4033** | Value Engineering Systems | **3** |  |   | **EGRM 4043** | Logistics and Supply Chain Systems | **3** |  |
| **EGRM 4053** | Technical Human Resource Management for Engineers | **3** |  |   | **EGRM 4073** | Facilities Management Systems | **3** |  |
| **Total Hours** |   | **15** |   |   | **Total Hours** |   | **15** |   |
|  |  |  |  |  |  |  |  |  |
| **Total Jr/Sr Hours after 1st 30** | **66** |  |  | **Total Degree Hours** | **120** |  |
|  |  |  |  |  |  |  |  |  |
| **Graduation Requirements:** |   |
| Completion of HIST 2763 or HIST 2773 or POSC 2103  |   |
| English Proficiency (Grade of C or better in ENG 1003 and ENG 1013) |   |
| Grade C or better in all Construction Management Core courses |   |
| 2.00 GPA at ASU |   |
| 2.00 GPA Overall |   |
| Maximum of 25% of the degree program via examination, PLA, Military or similar means; CLEP (30 hrs max)  |
| 66 JR/SR Hours ***after completing 30 hours*** |   |
| 120 Total Credit Hours |   |
| 18 of last 24 hours must be ASU-Jonesboro courses |   |
| Complete half of the last 50% of semester hours through A-State  |   |
| Yellow is College of Business |   |
| Green is Engineering Technology |   |
| Blue is Engineering Management Systems |   |
| Pink is Mathematics |   |
| \* General Education Core Course |   |

1. **Will the proposed degree be offered:**
	1. **Traditional/Face-to-face** Yes
	2. **Distance/Online** Yes
		1. **If yes, indicate mode of distance delivery, and the percentage of courses offered via this modality (<50%, 50-99%, or 100%).**

100% online though Blackboard synchronous course delivery system and video recording software provided by A-State such as Kaltura

* + 1. **If online, will it be offered through Global Initiatives/Academic Partnerships (AP)?**

YES

1. **Will the proposed degree be offered off-campus?** Yes
	1. **If yes, identify the off-campus location**

A-State Online

1. **Provide documentation that proposed program has received full approval by licensure/certification entity, if required.**

 *(A program offered for teacher/education administrator licensure must be reviewed/approved by the Arkansas Department of Education prior to consideration by the Coordinating Board; therefore, the Education Protocol Form also must be submitted to ADHE along with the Letter of Notification).*

N/A

1. **List institutions offering similar program and identify the institutions used as a model to develop the proposed program.**

University of Arkansas Little Rock

University of Tennessee Chattanooga

Christian Brothers University

1. **Provide scheduled program review or specialized accreditation initial review date (within 10 years of program implementation).**

In 2032

1. **Is there differential tuition requested?** *If yes, please fill out the New Program/Tuition and Fees Change Form.*

N/A

1. **Graduate programs only: Will this program require a comprehensive exam?**

N/A

**Student Learning Outcomes**

Provide outcomes that students will accomplish during or at completion of this reconfigured degree. Fill out the following table to develop a continuous improvement assessment process.

*For further assistance, please see the ‘Expanded Instructions’ document available on the UCC - Forms website for guidance, or contact the Office of Assessment at 870-972-2989.*

**University Outcomes**

Please indicate the university-level student learning outcomes for which this new program will contribute. Please complete the table by adding program level outcomes (PLO) to the first column, and indicating the alignment with the university learning outcomes (ULO). If you need more information about the ULOs, go to the [University Level Outcomes Website](http://www.astate.edu/a/assessment/student-learning-outcomes/files/ULOs%20for%20Website2.pdf).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **ULO 1: Creative & Critical Thinking** | **ULO 2: Effective Communication** | **ULO 3: Civic & Social Responsibility** | **ULO 4: Globalization & Diversity** |
| **PLO 1** | **X** |  |  |  |
| **PLO 2** | **X** | **X** | **X** |  |
| **PLO 3** | **X** | **X** | **X** |  |
| **PLO 4** |  | **X** |  | **X** |
| **PLO 5** |  |  | **X** | **X** |
| **PLO 6** |  | **X** | **X** |  |

***Note: Best practices suggest 4-7 outcomes per program; minors would have 1 to 4 outcomes.***

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| **Outcome 1** | An ability to identify, formulate, and solve broadly defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to the discipline. |
| Assessment Measure | Direct: Projects will be assessed with a Rubric; Indirect: Exit Survey |
| Which courses are responsible for this outcome? | CM 3043 Structural Blueprints |
| Assessment Timetable | Collect data whenever course is offered. But assess every 3 years as the College of Engineering and Computer Science Assessment schedule. |
| Who is responsible for assessing and reporting on the results? | The course instructor, Program coordinator, and the Program Director |

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| **Outcome 2** | An ability to formulate or design a system, process, procedure or program to meet desired needs. |
| Assessment Measure | Direct: Projects will be assessed with a Rubric; Indirect: Exit Survey |
| Which courses are responsible for this outcome? | CM 3033 Building Information Modeling |
| Assessment Timetable | Collect data whenever course is offered. But assess every 3 years as the College of Engineering and Computer Science Assessment schedule. |
| Who is responsible for assessing and reporting on the results? | The course instructor, Program coordinator, and the Program Director |

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| **Outcome 3** | An ability to develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions. |
| Assessment Measure | Direct: Projects will be assessed with a Rubric; Indirect: Exit Survey |
| Which courses are responsible for this outcome? | CM 3023 Strategic Bidding and Estimating |
| Assessment Timetable | Collect data whenever course is offered. But assess every 3 years as the College of Engineering and Computer Science Assessment schedule. |
| Who is responsible for assessing and reporting on the results? | The course instructor, Program coordinator, and the Program Director |

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| **Outcome 4** | An ability to communicate effectively with a range of audiences. |
| Assessment Measure | Direct: Projects will be assessed with a Rubric; Indirect: Exit Survey |
| Which courses are responsible for this outcome? | CM 3023 Strategic Bidding and Estimating |
| Assessment Timetable | Collect data whenever course is offered. But assess every 3 years as the College of Engineering and Computer Science Assessment schedule. |
| Who is responsible for assessing and reporting on the results? | The course instructor, Program coordinator, and the Program Director |

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| **Outcome 5** | An ability to understand ethical and professional responsibilities and the impact of technical and/or scientific solutions in global, economic, environmental, and societal contexts. |
| Assessment Measure | Direct: Projects will be assessed with a Rubric; Indirect: Exit Survey |
| Which courses are responsible for this outcome? | CM 3013 Green Construction |
| Assessment Timetable | Collect data whenever course is offered. But assess every 3 years as the College of Engineering and Computer Science Assessment schedule. |
| Who is responsible for assessing and reporting on the results? | The course instructor, Program coordinator, and the Program Director |

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| **Outcome 6** | An ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty. |
| Assessment Measure | Direct: Projects will be assessed with a Rubric; Indirect: Exit Survey |
| Which courses are responsible for this outcome? | CM 3023 Strategic Bidding and Estimating |
| Assessment Timetable | Collect data whenever course is offered. But assess every 3 years as the College of Engineering and Computer Science Assessment schedule. |
| Who is responsible for assessing and reporting on the results? | The course instructor, Program coordinator, and the Program Director |

*Please repeat as necessary.*

**Appendix A, 8-Semester Plan**

(**Referenced in #9** - **Undergraduate Proposals Only)**

*Instructions: Please identify new courses in italics*.

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| **Arkansas State University-Jonesboro** |
| **Degree: Bachelor of Science** |
| **Major: Construction Management** |
| **Year: 2022-2023** |
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|   |
| Students requiring developmental course work based on low entrance exam scores (ACT, SAT, ASSET, COMPASS) may not be able to complete this program of study in eight (8) semesters. Developmental courses do not count toward total degree hours. **Students having completed college level courses prior to enrollment will be assisted by their advisor in making appropriate substitutions. In most cases, general education courses may be interchanged between semesters.** A minimum of 45 hours of upper division credit (3000-4000 level) is required for this degree. |
| **Year 1** |   | **Year 1** |
| **Fall Semester** |   | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |   | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| \*ENG 1003 | Composition I | 3 | X |   | \*ECON 2313 | Principles of Macroeconomics | 3 | X |
| \*Humanities | Gen. Ed. Approved Humanities | 3 | X |   | \*Elective | Elective | 3 |   |
| \*MATH 1023 | College Algebra | 3 | X |   | \*ENG 1013 | Composition II | 3 | X |
| \*SCOM 1203 | Oral Communications | 3 | X |   | \*Fine Arts | Gen. Ed. Approved Fine Arts | 3 | X |
| \*UC 1013 | Making Connections | 3 |   |   | \*HIST 2763/2773 or POSC 2103 | US History or Since 1876 or Intro to US Government | 3 | X |
| **Total Hours** |   | 15 |   |   | **Total Hours** |   | 15 |   |
| **Year 2** |   | **Year 2** |
| **Fall Semester** |   | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |   | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| \*ACCT 2033 | Intro to Financial Accounting | 3 |   |   | \*EGRM 3013 | Project Management and Practice | 3 |   |
| \*ECON 2323 | Principles of Microeconomics | 3 | X |   | \*Elective | Elective | 2 |   |
| \*Elective | Elective | 2 |   |   | \*LAW 2023 | Legal Environment of Business | 3 |   |
| \*MATH 2143 | Business Calculus | 3 |   |   | \*Life Science  | Gen. Ed. Approved Life Science | 4 | X |
| \*Physical Science | Gen. Ed. Approved Physical Science | 4 | X |   | \*MGMT 3123 | Principles of Management | 3 |   |
| **Total Hours** |   | 15 |   |   | **Total Hours** |   | 15 |   |
| **Year 3** |   | **Year 3** |
| **Fall Semester** |   | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |   | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| *\*CM 3033* | *Architectural CAD* | *3* |   |   | *\*CM 3003* | *Construction Physics* | *3* |   |
| \*EGRM 3003 | Technical Entrepreneurship | 3 |   |   | *\*CM 3023* | *Strategic Bidding and Estimating* | *3* |   |
| \*TECH 3773 | Statistics | 3 |   |   | *\*CM 3053* | *Building Information Modeling* | *3* |   |
| \*TECH 3863 | Industrial Safety | 3 |   |   | \*EGRM 4023 | Engineering Management I | 3 |   |
| \*TECH 4813 | Operations Systems Research | 3 |   |   | \*TECH 4823 | Quality Assurance | 3 |   |
| **Total Hours** |   | 15 |   |   | **Total Hours** |   | 15 |   |
| **Year 4** |   | **Year 4** |
| **Fall Semester** |   | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |   | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| *\*CM 3013* | *Green Construction* | *3* |   |   | *\*CM 3043* | *Structural Blueprints* | *3* |   |
| *\*CM 4003* | *Construction Management Design I* | *3* |   |   | *\*CM 4013* | *Construction Management Design II* | *3* |   |
| *\*CM 4023* | *Materials and Methods for Construction* | *3* |   |   | *\*CM 4063* | *Construction Management Internship* | *3* |   |
| \*EGRM 4033 | Value Engineering Systems | 3 |   |   | \*EGRM 4043 | Logistics and Supply Chain Systems | 3 |   |
| \*EGRM 4053 | Technical Human Resource Management for Engineers | 3 |   |   | \*EGRM 4073 | Facilities Management Systems | 3 |   |
| **Total Hours** |   | 15 |   |   | **Total Hours** |   | 15 |   |
| **Total Jr/Sr Hours \_66\_\_ Total Degree Hours \_120\_\_** |
| **Graduation Requirements:** |
| Completion of HIST 2763 or HIST 2773 or POSC 2103  |
| English Proficiency (Grade of C or better in ENG 1003 and ENG 1013) |
| Grade C or better in all Construction Management Core courses |
| 2.00 GPA at ASU |
| 2.00 GPA Overall |
| Maximum of 25% of the degree program via examination, PLA, Military or similar means; CLEP (30 hrs max)  |
| 66 JR/SR Hours ***after completing 30 hours*** |
| 120 Total Credit Hours |
| 18 of last 24 hours must be at A-State |
| Complete half of the last 50% of semester hours through the A-State campus |
| *\* Course offered online* |

**Bulletin Changes**

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| **Instructions**  |
| **Please visit** [**http://www.astate.edu/a/registrar/students/bulletins/index.dot**](http://www.astate.edu/a/registrar/students/bulletins/index.dot) **and select the most recent version of the bulletin. Copy and paste all bulletin pages this proposal affects below. Please include a before (with changed areas highlighted) and after of all affected sections.** **\*Please note: Courses are often listed in multiple sections of the bulletin. To ensure that all affected sections have been located, please search the bulletin (ctrl+F) for the appropriate courses before submission of this form.**  |

**Reference 2021-22 Undergraduate Bulletin.**

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185 •College of Engineering and Computer Science

186 •Department of Computer Science

191 •Data Science and Data Analytics Program

198 •Engineering Programs

200 •Civil Engineering Program

204 •Electrical Engineering Program

207 •Mechanical Engineering Program

215 •Engineering Management Systems Program

217 •Engineering Technology Program

224 •Land Surveying and Geomatics Program

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185 •College of Engineering and Computer Science

186 •Department of Computer Science

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200 •Civil Engineering Program

204 •Electrical Engineering Program

207 •Mechanical Engineering Program

215 •Engineering Management Systems Program

216 •Construction Management Program

217 •Engineering Technology Program

224 •Land Surveying and Geomatics Program

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**Bachelor of Science (B.S.)**

Accounting

Biological Sciences (emphasis in):

—Biology

—Botany

—Pre-professional Studies

—Zoology

Biotechnology

Business Administration

—Sustainable Business Practices

Business Economics

Chemistry:

—Pre-Health Profession Studies

Clinical Laboratory Science

Communication Disorders

Information Systems and Business Analytics

Computer Science

Creative Media Production (emphasis in):

—Corporate Media

—Graphic Communication

—Sports Media

Data Science and Data Analytics

Dietetics

Digital Technology and Design (emphasis

in):

—Game Design

—Graphic Communications

**Pg. 68**

**Bachelor of Science (B.S.)**

|  |
| --- |
| Communication Disorders |
| **Construction Management** |
| Information Systems and Business Analytics |

**Pg. 185**

**College of Engineering and Computer Science**

*Professor Abhijit Bhattacharyya, Dean*

*Associate Professor Yeonsang Hwang, Associate Dean*

**PROGRAMS OF STUDY**

The College of Engineering and Computer Science offers undergraduate degree programs in a broad spectrum of areas, including a Bachelor of Arts and a Bachelor of Science in Computer Science; a Bachelor of Science in Civil Engineering degree; a Bachelor of Science in Data Science and Data Analytics; a Bachelor of Science in Electrical Engineering degree; a Bachelor of Science in Engineering Management Systems; a Bachelor of Science and an Associate of Science in Engineering Technology a Bachelor of Science and Associate of Applied Science in Land Surveying and Geomatics; and a Bachelor of Science in Mechanical Engineering degree. Minors are available in Computer Science, Electrical Engineering, Land Surveying and Geomatics, and Renewable Energy Technology. Two undergraduate certificates in Data Analytics and Controls and Automation are also available.

The College of Engineering and Computer Science grants a wide-range of master’s degree programs (M.E.M., M.S., M.S.E., M.S.Engr.) and multiple graduate certificates. For further information, see A-State’s Graduate Bulletin.

From an administrative standpoint, the college is comprised of one department and five programs:

Department of Computer Science

Program for Civil Engineering

Program for Electrical Engineering

Program for Engineering Management Systems

Program for Engineering Technology

Program for Mechanical Engineering

**Pg. 185**

**College of Engineering and Computer Science**

*Professor Abhijit Bhattacharyya, Dean*

*Associate Professor Yeonsang Hwang, Associate Dean*

**PROGRAMS OF STUDY**

The College of Engineering and Computer Science offers undergraduate degree programs in a broad spectrum of areas, including a Bachelor of Arts and a Bachelor of Science in Computer Science; a Bachelor of Science in Civil Engineering degree; a Bachelor of Science in Data Science and Data Analytics; a Bachelor of Science in Electrical Engineering degree; a Bachelor of Science in Engineering Management Systems; ; a Bachelor of Science in Construction Management; a Bachelor of Science and an Associate of Science in Engineering Technology a Bachelor of Science and Associate of Applied Science in Land Surveying and Geomatics; and a Bachelor of Science in Mechanical Engineering degree. Minors are available in Computer Science, Electrical Engineering, Land Surveying and Geomatics, and Renewable Energy Technology. Two undergraduate certificates in Data Analytics and Controls and Automation are also available.

The College of Engineering and Computer Science grants a wide-range of master’s degree programs (M.E.M., M.S., M.S.E., M.S.Engr.) and multiple graduate certificates. For further information, see A-State’s Graduate Bulletin.

From an administrative standpoint, the college is comprised of one department and ~~five~~ six programs:

Department of Computer Science

Program for Civil Engineering

Program for Construction Management

Program for Electrical Engineering

Program for Engineering Management Systems

Program for Engineering Technology

Program for Mechanical Engineering

**Program description added immediately after pg 216.**

**Construction Management Program**

**Assistant Professors: Hossain, Sokolov**

**Instructors: Burcham**

 The Bachelor of Science in Construction Management graduates will have the knowledge, as well as the technical, administrative and communication skills, necessary to succeed in the construction industry. Students must demonstrate the knowledge and skills to deliver construction projects with respect to scope, schedule, budget, quality, safety, and the environment. The professional component must include these topics: construction project management from pre-design through commissioning; project life-cycle and sustainability; health and safety, accident prevention, and regulatory compliance; law, contract documents administration, and dispute prevention and resolution; materials, labor and methods of construction; finance and accounting principles; planning and scheduling; cost management including plan reading, quantity take offs and estimating; project delivery methods; leadership and managing people; business and communication skills.

**PROGRAM EDUCATIONAL OBJECTIVES**

The Construction Management program educational objectives are:

* Graduates have successfully advanced in construction management practice as evidenced by their achievements and contributions to their employers and the community.
* Graduates have pursued certification, licensure, graduate degrees, or completed professional development activities in continuing to advance their knowledge base in the construction management or related professional fields.
* Graduates are actively working to improve their community and society in general by utilizing and sharing their construction management expertise.

**PROGRAM LEARNING OUTCOMES**

1. An ability to identify, formulate, and solve broadly defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to the discipline.
2. An ability to formulate or design a system, process, procedure or program to meet desired needs.
3. An ability to develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions.
4. An ability to communicate effectively with a range of audiences.
5. An ability to understand ethical and professional responsibilities and the impact of technical and/or scientific solutions in global, economic, environmental, and societal contexts.
6. An ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.

Admission Requirements:

 Students must meet the University admission standards.

**Major in Construction Management**

**Bachelor of Science**

A complete 8-semester degree plan is available at <https://www.astate.edu/info/academics/degrees/>

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| **University Requirements:** |  |
|   | See University General Requirements for Baccalaureate degrees |  |
| **First Year Making Connections Course:** | **Sem. Hrs** |
|   | UC 1013, Making Connections (or equivalent course) | **3** |
| **General Education Requirements:** | **Sem. Hrs** |
|   | See General Education Curriculum for Baccalaureate degrees | **35** |
|   |  |  |
|   | **Students with this major must take the following:** |  |
|   |  *MATH 1023, College Algebra or MATH course that requires MATH 1023 as a prerequisite* |
|   |  *COMS 1203, Oral Communication* |  |
|   |  *ECON 2313, Principles of Macroeconomics* |  |
|   |  *ECON 2323, Principles of Microeconomics* |  |
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| **Major Requirements:** | **Sem. Hrs.** |
|   | Grade of "C" or better required for all major requirements |  |
|   | ACCT 2033, Introduction to Financial Accounting | 3 |
|   | CM 3003, Construction Physics | 3 |
|   | CM 3013, Green Construction | 3 |
|   | CM 3023, Strategic Bidding and Estimating | 3 |
|   | CM 3033, Architectural CAD | 3 |
|   | CM 3043, Structural Blueprints | 3 |
|   | CM 3053, Building Information Modeling | 3 |
|   | CM 4003, Construction Management Design 1 | 3 |
|   | CM 4013, Construction Management Design 2 | 3 |
|   | CM 4023, Materials and Methods for Construction | 3 |
|   | CM 4063, Construction Management Internship | 3 |
|   | EGRM 3003, Technical Entrepreneurship | 3 |
|   | EGRM 3013, Project Management and Practice | 3 |
|   | EGRM 4023 Engineering Management I | 3 |
|   | EGRM 4033 Value Engineering Systems | 3 |
|   | EGRM 4043 Logistics and Supply Chain Systems | 3 |
|   | EGRM 4053 Technical Human Resource Management for Engineers | 3 |
|   | EGRM 4073 Facilities Management Systems | 3 |
|   | LAW 2023, Legal Environment of Business | 3 |
|   | MATH 2143, Business Calculus | 3 |
|   | MGMT 3123, Principles of Management | 3 |
|   | TECH 3773, Statistics | 3 |
|   | TECH 3863, Industrial Safety | 3 |
|   | TECH 4813, Operations Systems Research | 3 |
|   | TECH 4823, Quality Assurance | 3 |
| **Sub-total** | **75** |
|   | Electives | 7 |
| **Total Required Hours** | **120** |

Course Descriptions to be added at page 480 in the 2021-2022 Undergraduate Bulletin.

**Construction Management (CM)**

**CM 3003, Construction Physics** An introduction to the fundamental principles underlying classical physics and modern physics and the applications of those principles in construction and engineering. Prerequisite, C or better in MATH 2143 or MATH 2204. SPRING.

**CM 3013, Green Construction** Overview of design and construction delivery systems for high performance green buildings; relevant criteria and established guidelines; green standards; high performance green buildings and sustainability; vocabulary associated with sustainability and green buildings; physical limitations of materials. FALL.

**CM 3023, Strategic Bidding and Estimating** Theory and practice of construction project bidding and estimating. Review of all bid-preparation activities from a contractor’s organization from the initial decisions on project selection and receipt of drawings and specifications, through the estimating process and necessary follow-up actions. SPRING.

**CM 3033, Architectural CAD** Introduction to principles of graphic tools and CAD systems in architecture and construction fields. Application of CAD in creation of floor plans, foundation plans, roof design, section details, and elevation drawings. FALL.

**CM 3043, Structural Blueprints** Basic principles of print reading. Topics include line types, orthographic projections, dimensioning methods, and notes. Upon completion, students should be able to interpret basic prints and visualize the features of a part or system. Prerequisite, C or better in CM 3033. SPRING.

**CM 3053, Building Information Modeling** Utilizing basic functions of Building Information Modeling (BIM) for residential and commercial construction. During the course, students will examine geometry, spatial relationships, geographic information, quantities, and properties of building components. Prerequisite, C or better in CM 3033. SPRING.

**CM 4003, Construction Management Design I** Multidisciplinary group work on a design problem from conceptualization through selection of best alternative. A project proposal is required. Prerequisite, C or better in MATH 2143 or MATH 2204. FALL.

**CM 4013, Construction Management Design II** Group work to complete final design and testing aspects of a senior design project. A public oral presentation is required. Prerequisite, C or better in CM 4003. SPRING.

**CM 4023, Materials and Methods for Construction** Introduction to specifications, standards, codes, quality control, and quantity survey as they pertain to the execution of selected construction materials. Topics include site work, concrete, masonry, steel, rough and finish carpentry, thermal and moisture protection, doors, windows, finishes, and specialties. Prerequisite, C or better in CM 3003. FALL.

**CM 4063, Construction Management Internship** Practical experience in construction management. Evaluation and reports required. Prerequisite, Program Director approval. FALL & SPRING.