

Feasibility Study

Bachelor of Science in Construction Management

August 10, 2018

Contact: Anthony Denzer tdenzer@uwyo.edu

Executive Summary

Degree Title:	Construction Management
Level of Degree:	Bachelor's (B.S.); also Minor
Delivery Mode(s):	On-Campus
Startup Cost of Degree:	FY1: \$178,602 FY2: \$544,082 FY3: \$824,897 (phased hiring plan)
Anticipated Launch Date:	Immediately

Description:

We propose to create a new B.S. degree in Construction Management, to be administered by the Department of Civil and Architectural Engineering. Construction Management offers a considerable opportunity for UW to grow. Key points:

- Expected 4-year enrollment: 150 or more
- Can offer in Academic Year 2018-19
- Not an engineering degree
- Accreditation by American Council for Construction Education (ACCE)
- Curriculum takes advantage of some existing courses in Engineering and Business
- Need 14 new courses in Construction Management
- Need 5 faculty and 1 administrative assistant
- Has demonstrated support from Dean Pishko; 1 Professor of Practice already hired
- Supported by:
 - Faculty of Civil & Architectural Engineering
 - College of Engineering and Applied Sciences
 - External Advisory Boards and Industry Partners
 - Faculty Senate Academic Programs Committee
 - UW Board of Trustees, Academic and Student Affairs committee

Table of Contents

Pro Forma Budget	3
Overview and Description of Degree, Purpose, Strategic Plan Overlay	4
Student demand for construction programs in neighboring states.	5
Learning Outcomes	6
Curriculum Map and Program Structure	7
Course Descriptions: 14 new courses	8
Assessment Plan	9
Degree Program Evaluation	10
Substantive Change Determination	10
New Resources Required	11
Executive Summary of Demand Statistics.....	12

Pro Forma Budget

	FY 1	FY 2	FY 3	FY 4
Enrollment and Pricing Assumptions				
New headcount enrollment				
Resident	15	35	55	75
Nonresident	15	35	55	75
Total	30	70	110	150
Per Credit Tuition*				
Resident	\$134	\$139	\$145	\$151
Nonresident	\$537	\$558	\$581	\$604
Fees				
Program	\$272	\$272	\$272	\$272
Advising	\$180	\$180	\$180	\$180
Mandatory	\$1380	\$1380	\$1380	\$1380
Total credit hours generated**	150	650	1730	3370
New Revenue Assumptions				
Total Tuition	\$301,950	\$731,850	\$1,197,900	\$1,698,750
Total Program Fees	\$8,160	\$19,040	\$29,920	\$40,800
Total Advising Fees	\$5,400	\$12,600	\$19,800	\$27,000
Total Mandatory Fees	\$41,400	\$96,600	\$151,800	\$207,000
New Expense Assumptions				
Compensation and benefits				
Faculty	\$137,080	\$458,920	\$737,480	\$759,604
Other instructional staff				
GAs				
Staff		\$53,640	\$55,249	\$56,907
Support				
Programming	\$8,160	\$19,040	\$29,920	\$40,800
Marketing	\$20,000	\$10,000	\$10,000	\$10,000
New course development				
Other (1 month summer salary for accreditation)	\$21,522	\$21,522	\$22,168	\$22,833
Projected Results				
Total Expenses	\$186,762	\$563,122	\$854,817	\$890,144
Total New Revenues	\$356,910	\$860,090	\$1,399,420	\$1,973,550
Total surplus or deficit	\$170,148	\$296,968	\$544,603	\$1,083,406
Operating margin (surplus or deficit / revenues)	48%	35%	39%	55%
Capital expense	\$0	\$0	\$0	\$0
Net cash flow generated	\$170,148	\$296,968	\$544,603	\$1,083,406

* UW's Board of Trustees' current working policy is to raise tuition by 4% each year

** estimated total across your department's offerings, not counting other units' offerings

Overview and Description of Degree, Purpose, Strategic Plan Overlay

We propose a B.S. degree in Construction Management administered by the Department of Civil and Architectural Engineering (CAE). This is a pragmatic opportunity for UW to grow efficiently.

The mission is to prepare students for careers in Construction Management. Construction managers plan, coordinate, budget, and supervise construction projects from start to finish. We plan to achieve American Council for Construction Education (ACCE) accreditation.

The rationale is:

- To serve Wyoming students.
Currently Wyoming students interested in pursuing (non-engineering) professional careers in the construction industry must leave the state to earn a degree in Construction Management. Wyoming is one of only eleven states not offering an accredited Construction Management degree. Rather than ‘poaching’ students from other programs at UW, Construction Management will draw students to UW who currently do not attend.
- To grow enrollment at UW.
Over 2,800 students are enrolled in Construction programs in neighboring states. Based on a comparison of construction management programs offered by of our peer institutions (see next page), we believe that implementing this program will increase UW’s enrollment by 150-200 students over 4 years.
- To help diversify the state’s economy.
Industry partners in Wyoming have expressed overwhelming support for this program. The proposed curriculum focuses on both vertical and horizontal construction methods to include mining and heavy/highway industries. These industries are critical to the State’s economy and supporting them thus to the mission of our land grant institution.
- To serve industry demand and national trends.
Demand for employees in the construction industry is strong and forecasted to grow. Data is included.
- To build synergy with existing programs.
The B.S. in Construction Management can be created efficiently, because of existing coursework in Civil & Architectural Engineering, Accounting, Management, and others. Also, Casper College and Laramie County Community College, offer A.S. degrees in Construction Management. We will pursue 2+2 articulation plans and other exchanges.

This proposal aligns with **Breaking Through: 2017–2022 A Strategic Plan for the University of Wyoming** in several important ways. Construction Management supports the following points from this plan:

- Promote academic programs that address workforce needs of the state and region (Goal One)
- To grow enrollment (Goal Two)
- Provide high-impact learning experiences (Goal Two)
- Expand and grow quality of undergraduate scholarly experiences (Goal Two)
- Support economic development in Wyoming (Goal Three)

The **College of Engineering & Applied Science (CEAS) Strategic Plan (FY18–23)** calls for launching a Construction Management program in AY19, as part of the goal to “Invest in High Impact Practices.” This plan also calls for innovative growth and enrollment growth.



Student demand for construction programs in neighboring states.

Learning Outcomes

We plan to adopt, directly, the learning outcomes required by the American Council for Construction Education (ACCE) accreditation rules. They state:

Upon graduation from an accredited ACCE 4-year program a graduate shall be able to:

- 1. Create written communications appropriate to the construction discipline.*
- 2. Create oral presentations appropriate to the construction discipline.*
- 3. Create a construction project safety plan.*
- 4. Create construction project cost estimates.*
- 5. Create construction project schedules.*
- 6. Analyze professional decisions based on ethical principles.*
- 7. Analyze 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 multi-disciplinary team.*
- 10. Apply electronic-based technology to manage the construction process.*
- 11. Apply basic surveying techniques for construction layout and control.*
- 12. Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.*
- 13. Understand construction risk management.*
- 14. Understand construction accounting and cost control.*
- 15. Understand construction quality assurance and control.*
- 16. Understand construction project control processes.*
- 17. Understand the legal implications of contract, common, and regulatory law to manage a construction project.*
- 18. Understand the basic principles of sustainable construction.*
- 19. Understand the basic principles of structural behavior.*
- 20. Understand the basic principles of mechanical, electrical and piping system.*

Additionally, general learning outcomes are required and assessed through the University Studies Program (USP).

Curriculum Map and Program Structure

FRESHMAN FALL	13	FRESHMAN SPRING	17
CE 1000: VISTA I	1	MATH 2200: Calculus I	4
MATH 1405: Trigonometry	3	PHYS 1110: General Physics I	4
USP C1 requirement	3	COJO 2010: Pub Speaking (C2)	3
USP FYS requirement	3	ECON 1010: Macroeconomics (H)	3
USP V requirement	3	General Elective	3
SOPHOMORE FALL	17	SOPHOMORE SPRING	15
ACCT 1010: Accounting I	3	ACCT 1020: Accounting II	3
CM 2000: Intro to Const. Mgmt. <i>created 2017</i>	3	CE 2070: Engineering Surveying	3
GEOL 1100: Physical Geology	4	CM 2120: Const. Materials & Methods <i>new course</i>	3
STAT 2010: Statistics for Business	4	CM 2600: Construction Drawings <i>new course</i>	3
USP H requirement	3	General Elective	3
JUNIOR FALL	16	JUNIOR SPRING	15
CM 2200: Structures <i>new course</i>	4	CM 3120: Const. Estimating <i>created 2018</i>	3
CM 2400: MEP Systems <i>new course</i>	3	CM 3140: Heavy Construction <i>new course</i>	3
CM 3100: Const. Scheduling <i>created 2018</i>	3	CM 3160: Const. Law & Contracts <i>new course</i>	3
CM 3220: Soils and Concrete <i>new course</i>	3	COJO 3010: Business Comm. (C3)	3
Math/Science Elective	3	CM Elective	3
SENIOR FALL	15	SENIOR SPRING	12
CM 4100: Project Management <i>new course</i>	3	CM 4600: Bldg. Information Modeling <i>new course</i>	3
CM 4120: Construction Safety <i>new course</i>	3	CM 4900: Capstone Project <i>new course</i>	3
MGT 3210: Mgmt. and Organization	3	CM Elective	3
CM Elective (opt. summer internship)	3	General Elective	3
General Elective	3		
		TOTAL credits	120

This curriculum has been reviewed and approved at multiple levels, with input from many sources. It was revised in Spring 2018, after feedback from the Faculty Senate Academic Programs Committee. The Committee suggested that previous curriculum included too many required courses, which would restrict students' ability to complete the program in four years. To address this suggestion, a number of general electives are included. The curriculum as shown above was approved by unanimous vote of the Department faculty on May 8, 2018.

At this time, the new courses are intended to be available as traditional on-campus courses taught in Laramie. As the program is populated with new faculty, we will explore opportunities to offer distance courses.

Course Descriptions: 14 new courses

CM 2000: Introduction to Construction Management (3)

Introduction to the theories and principles of managing complex construction projects. Covers project delivery methods, design and construction process, project financing and organizational structures.

CM 2120: Construction Materials and Methods (3)

Overview of the various materials, assemblies, and processes used and applied in the building construction process.

CM 2200: Structural Systems (4)

Introduction to structural systems including fundamental concepts of statics, mechanics of materials, loads, and framing design methods in steel, concrete, and timber.

CM 2400: MEP Systems (3)

Introduction to Mechanical, Electrical, and Plumbing systems in buildings.

CM 2600: Construction Documents (3)

Introduction to construction documents with emphasis on creating and reading design and construction drawings and specifications.

CM 3100: Construction Scheduling (3)

Project planning, critical path scheduling and work flow. Understand project phasing, bid packages, schedule contingencies and resource availability. Introduction to scheduling software.

CM 3120: Cost Estimating (3)

Strategies for creating material take-offs and developing cost estimates at varying stages of projects based on delivery method and available resources.

CM 3140: Heavy Construction Methods (3)

Construction equipment and construction techniques for earthwork, mining and horizontal construction.

CM 3160: Construction Law and Contract Documents (3)

Contracts, insurance/ bonds, roles and responsibility in various project delivery methods. Labor relations, dispute resolution arbitration

CM 3220: Soils and Concrete (3)

Soil mechanics, foundation engineering, road design and concrete construction.

CM 4100: Project Management (3)

Theory and practice of the organization, management, and administrative functions on construction projects.

CM 4120: Construction Safety (3)

Standards and practices for safety in the workplace. Understand the role of a safety coordinator and job planning to prevent worksite injuries.

CM 4600: Building Integrated Modeling (3)

Use of building information modeling software to create design, construction, coordination and fabrication models used in the documentation and construction process.

CM 4900: Capstone Project (3)

Completion of a comprehensive project under faculty supervision.

Assessment Plan

The faculty of the Department of Civil & Architectural Engineering (not the smaller subset of Construction Management faculty) will be responsible for the degree program.

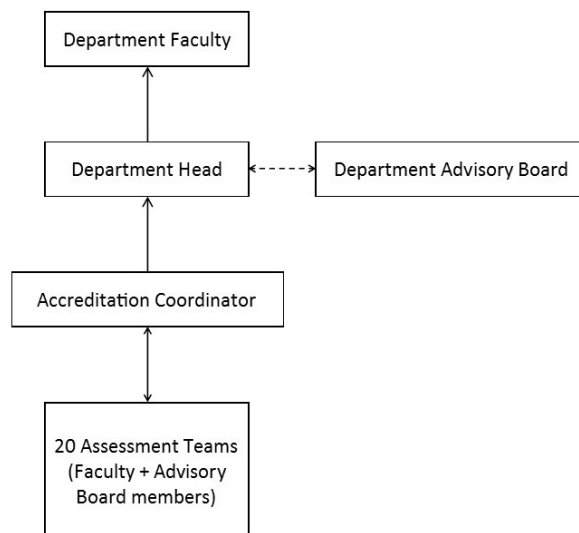
The department has well-established procedures for assessing our existing B.S. programs for ABET accreditation requirements. We plan to mirror these procedures in assessing the Construction Management program.

Assessment processes should be regularly-used, appropriate, and documented. Assessment results should be systematically utilized as input for the continuous improvement of the program.

We plan to:

- Identify a faculty Accreditation Coordinator for the Construction Management program. This is likely faculty hire #2 (chart below), a senior level person who would start in Summer 2019.
- Develop overall Assessment Plan, including:
 - Establish schedule for assessing Learning Outcomes. Typically we assess each Learning Outcome every 2-3 years. Assessment may occur more frequently in the beginning.
 - Map the 20 Learning Outcomes to specific courses or other potential assessment measures.
 - Establish an “Assessment Team” for each Learning Outcome
- Assessment Teams will:
 - Develop Performance Indicators for each Learning Outcome.
 - Develop assessment rubrics for each Performance Indicator.
- The overall process will:
 - Use a variety of assessment tools, including a mix of direct and indirect assessments.
 - Where student work is used as a direct assessment, the student work will be evaluated by multiple faculty members and Advisory Board members.

Assessment Responsibility Chart



Degree Program Evaluation

The program will be evaluated by the Department Head, the department faculty, and the department's Advisory Board on an ongoing basis. An annual report will be created.

We plan to:

- Establish a Construction Management Advisory Board (a subset of the department's Advisory Board), composed of industry professionals, to review the program's mission, objectives, and curriculum.
- Collect and analyze enrollment data, including retention and graduation rates.
- Conduct and analyze exit surveys for graduating students.
- Collect and analyze job placement and hiring statistics.

The program will also be evaluated by the American Council for Construction Education (ACCE) as we seek initial accreditation (timeframe to be determined).

The program will be evaluated by UW Academic Affairs within 5 years of startup.

Substantive Change Determination

This has been investigated. This program does not represent a Substantive Change and there are no significant implications for HLC.

New Resources Required

5-6 full-time faculty positions and 1 full-time staff position are required to deliver the program effectively. A phased implementation plan has been developed (see graphic below).

No other resources are required. Student fees will support technology and instructional (lab) supplies. Department-level fundraising will support other needs such as marketing and student travel.

Start Date	Position	Teaching Load	Salary	Benefits
2019-20	1 Professor of Practice <i>9-month position (currently includes 3 mo's summer salary for program development)</i>	3+2 <i>CM 2000 CM 2400 CM 2600 CM 4100 CM 4600 Outreach</i>	~\$92,000	~\$47,000
	2 Tenure-Track, Senior <i>9-month position Endowed Chair?</i>	2+1 <i>Program Director CM 4900 CM 2400 CM Elec</i>	~\$130,000	~\$66,000
	3 Tenure-Track, Junior <i>9-month position</i>	1+2 <i>Research-Active CM 3220 CM 2120 CM 3140</i>	~\$86,000	~\$44,000
	Admin. Assistant		~\$36,000	~\$18,000
	4 Professor of Practice <i>9-month position</i>	3+3 <i>CM 3100 CM 3120 CM Elect CM 3160 CM Elect CM 4120</i>	~\$86,000	~\$44,000
2020-21	5 Tenure-Track, Junior <i>9-month position</i>	2+1 <i>Research-Active CM 4900 CM Elec CE 1000</i>	~\$86,000	~\$44,000
TOTAL IN 2020-21		10+10 <i>Adequate to support program</i>	~\$516,000	~\$263,000
----- <i>Contingent upon 180 students enrolled in Fall 2020</i> -----				
2021-22	6 Tenure-Track, Senior <i>9-month position</i>	TBD <i>Potential joint appointment with College of Business</i>		

Executive Summary of Demand Statistics

Our own research indicates demand for employees in the construction industry is strong and forecasted to grow:

- Employment of construction managers is expected to increase 11% (Faster than average) from 2016–26, according to the Bureau of Labor Statistics (BLS). About 44,800 new jobs will be created nationwide.
- The median annual wage for construction managers was \$91,370 in May 2017.

Market Research was conducted by the Education Advisory Board (EAB) in Summer 2018. The full report is attached. Highlights are:

- Regional employer demand for construction managers grew by 169% between 2013–2018.
- Students graduating with a Bachelor’s degree in Construction Management have “high salary potential.” The regional average salary, from job postings, was found to be \$85,000.
- UW’s tuition rates will appeal to prospective students.



DATA SNAPSHOT

Employer Demand for Bachelor's-Level **Construction Management** Professionals

Prepared for the University of Wyoming

COE Forum

Muthhukumar Girri Palaniyapan

Market Research Associate

Kacper Coulter

Market Research Manager

LEGAL CAVEAT

EAB Global, Inc. ("EAB") has made efforts to verify the accuracy of the information it provides to members. This report relies on data obtained from many sources, however, and EAB cannot guarantee the accuracy of the information provided or any analysis based thereon. In addition, neither EAB nor any of its affiliates (each, an "EAB Organization") is in the business of giving legal, accounting, or other professional advice, and its reports should not be construed as professional advice. In particular, members should not rely on any legal commentary in this report as a basis for action, or assume that any tactics described herein would be permitted by applicable law or appropriate for a given member's situation. Members are advised to consult with appropriate professionals concerning legal, tax, or accounting issues, before implementing any of these tactics. No EAB Organization or any of its respective officers, directors, employees, or agents shall be liable for any claims, liabilities, or expenses relating to (a) any errors or omissions in this report, whether caused by any EAB organization, or any of their respective employees or agents, or sources or other third parties, (b) any recommendation by any EAB Organization, or (c) failure of member and its employees and agents to abide by the terms set forth herein.

EAB is a registered trademark of EAB Global, Inc. in the United States and other countries. Members are not permitted to use these trademarks, or any other trademark, product name, service name, trade name, and logo of any EAB Organization without prior written consent of EAB. Other trademarks, product names, service names, trade names, and logos used within these pages are the property of their respective holders. Use of other company trademarks, product names, service names, trade names, and logos or images of the same does not necessarily constitute (a) an endorsement by such company of an EAB Organization and its products and services, or (b) an endorsement of the company or its products or services by an EAB Organization. No EAB Organization is affiliated with any such company.

IMPORTANT: Please read the following.

EAB has prepared this report for the exclusive use of its members. Each member acknowledges and agrees that this report and the information contained herein (collectively, the "Report") are confidential and proprietary to EAB. By accepting delivery of this Report, each member agrees to abide by the terms as stated herein, including the following:

1. All right, title, and interest in and to this Report is owned by an EAB Organization. Except as stated herein, no right, license, permission, or interest of any kind in this Report is intended to be given, transferred to, or acquired by a member. Each member is authorized to use this Report only to the extent expressly authorized herein.
2. Each member shall not sell, license, republish, distribute, or post online or otherwise this Report, in part or in whole. Each member shall not disseminate or permit the use of, and shall take reasonable precautions to prevent such dissemination or use of, this Report by (a) any of its employees and agents (except as stated below), or (b) any third party.
3. Each member may make this Report available solely to those of its employees and agents who (a) are registered for the workshop or membership program of which this Report is a part, (b) require access to this Report in order to learn from the information described herein, and (c) agree not to disclose this Report to other employees or agents or any third party. Each member shall use, and shall ensure that its employees and agents use, this Report for its internal use only. Each member may make a limited number of copies, solely as adequate for use by its employees and agents in accordance with the terms herein.
4. Each member shall not remove from this Report any confidential markings, copyright notices, and/or other similar indicia herein.
5. Each member is responsible for any breach of its obligations as stated herein by any of its employees or agents.
6. If a member is unwilling to abide by any of the foregoing obligations, then such member shall promptly return this Report and all copies thereof to EAB.

Table of Contents

1) Research Methodology	4
Project Challenge	4
Methodology and Definitions	4
Burning Glass Labor/Insight™	5
Project Sources	5
Profiled Institutions.....	6
2) Executive Overview	7
3) Market Considerations	8
Demand over Time	8
Program Completions.....	9
Advertised Salary	10
4) Program Structure	11
Program Characteristics	11
Curriculum and Skills	12

1) Research Methodology

Project Challenge

Leadership at the University of Wyoming approached the Forum as they considered the development of a bachelor's-level construction management program. Through quantitative data analytics and secondary research, the Forum sought to assess the market viability of a bachelor's-level construction management program.

EAB's market research function provides insights which guide strategic programmatic decisions at member institutions. The Forum combines qualitative and quantitative data to help administrators identify opportunities for new program development, assess job market trends, and align curriculum with employer and student demand.

EAB reports rely primarily on labor market data from the Burning Glass Labor/Insight™ tool (description below). Reports occasionally use data from the United States Census Bureau and United States Bureau of Labor Statistics data to explore occupation and job trends. Market research reports may also incorporate Integrated Postsecondary Education Data System (IPEDS) data to assess student enrollment, demographics, and completion rates across competitor programs.

Methodology and Definitions

Methodology: Unless stated otherwise, this report includes data from online job postings from July 2017 to June 2018. The Forum identified the demand over time for bachelor's-level construction management professionals regionally and nationally. Moreover, the Forum examined the top skills and advertised salary for bachelor's-level construction management professionals at the regional and national levels.

To examine demand for construction management professionals, the Forum analyzed job postings for bachelor's-level professionals with construction management-related skills (e.g., 'architecture and construction: construction management') that categorize into construction management-related occupations (e.g., 'construction managers,' 'construction and building inspectors').

Definitions: "Region" and "regional data" refer to the following states:

- Colorado,
- Idaho,
- Montana,
- Nebraska,
- South Dakota,
- Utah, and
- Wyoming.

Annual growth in job postings is measured in the change between July 2013 and June 2018 by six-month halves (i.e., 2013 H2 is July 2013 to December 2013).

EAB's Partner for Real-Time Labor Market Data

This report includes data made available through EAB's partnership with Burning Glass Technologies, a Boston-based leader in human capital data analytics. Burning Glass Technologies specializes in the use of web spidering technology to mine more than 80 million online job postings and analyze real-time employer demand. Under this partnership, EAB may use Burning Glass's proprietary Labor/Insight™ tool to answer member questions about employer demand for educational requirements, job titles, and competencies over time, as well as by geography. The tool considers job postings "unspecified" for a skill, industry, employer, geography, certification, or educational requirement when the job posting did not advertise for one of these particular job characteristics. Unspecified postings represent null values and should be excluded from the total number (n value) of job postings analyzed in the query. A more complete description of the tool is available at <http://www.burning-glass.com/products/laborinsight-market-analysis/>.

For more information about the Labor/Insight™ tool, please contact Betsy Denious, Director of Business Development Learning & Policy at bdenious@burning-glass.com or 301-525-6596.

Project Sources

The Forum consulted the following sources for this report:

- Bureau of Labor Statistics (BLS) (<https://www.bls.gov/>).
- EAB's internal and online research libraries (eab.com).
- National Center for Education Statistics (NCES) (<http://nces.ed.gov/>).
- Profiled Program Websites:
 - Boise State University, Bachelor's-Level Construction Management Program, accessed July 24th 2018, (<https://coen.boisestate.edu/cm/about/>).
 - Brigham Young University-Idaho, Bachelor's-Level Construction Management Program, accessed July 24th 2018, (<http://www.byui.edu/design-and-construction-management/current-student>)
 - Brigham Young University-Provo, Bachelor's-Level Construction Management Program, accessed July 24th 2018, (<https://cfm.byu.edu/content/program>).
 - Colorado State University-Pueblo, Bachelor's-Level Construction Management Program, accessed July 24th 2018, (<https://www.csupueblo.edu/construction-management/index.html>).
 - University of Denver, Bachelor's-Level Real Estate and the Built Environment Program, accessed July 24th 2018, (<https://daniels.du.edu/burns-school/bachelors/>).
 - Utah Valley University, Bachelor's-Level Construction Management Program, accessed July 24th 2018, (<https://www.uvu.edu/ct/degrees/index.html#bs-cm>).

Profiled Institutions

The Forum profiled programs via secondary research at the following institutions:

A Guide to Institutions Profiled in this Brief¹

Institution	Location	Approximate Institutional Enrollment (Undergraduate/Total)	Classification
Boise State University	Mountain West	20,000 / 24,000	Doctoral Universities: Moderate Research Activity
Brigham Young University-Idaho	Mountain West	45,000 / 45,000	Baccalaureate Colleges: Diverse Fields
Brigham Young University-Provo	Mountain West	31,000 / 34,000	Doctoral Universities: Higher Research Activity
Colorado State University-Pueblo	Mountain West	5,000 / 8,000	Master's Colleges & Universities: Medium Programs
University of Denver	Mountain West	6,000 / 11,500	Doctoral Universities: Higher Research Activity
Utah Valley University	Mountain West	34,500 / 35,000	Master's Colleges & Universities: Small Programs

1) National Center for Education Statistics.

2) Executive Overview

Increased regional and national employer demand suggest opportunity for the development of a bachelor's-level construction management program at the University of Wyoming. Regional employer demand for bachelor's-level construction management professionals increased 169 percent between H2 2013 and H1 2018 (i.e., from 283 to 760 job postings). National employer demand for bachelor's-level construction management professionals increased 176 percent during the same time (i.e., from 5,800 to 16,001 job postings). Furthermore, administrators should expect continued growth in employer demand for bachelor's-level construction managers. The Bureau of Labor Statistics (BLS) [projects](#) 11 percent growth for "construction managers" between 2016 and 2026, faster than the seven and a half percent growth projected for all occupations. The BLS attributes the stronger than average projected growth for "construction managers" to an expected increase in residential, commercial, and infrastructure activity.

Highlight high salary potential for bachelor's-level construction management professionals to attract prospective students. Regional and national employers advertise higher salaries in job postings for bachelor's-level construction management professionals than in those for all bachelor's-level professionals. In the last year, regional employers advertise an average salary of \$85,000 for bachelor's-level construction managers. In contrast, regional employers advertise an average salary of \$63,000 for all bachelor's-level professionals. Likewise, national employers advertise an average salary of \$95,000, which reflects a salary 35 percent greater than the salary national employers advertise for bachelor's-level professionals (i.e., \$70,000).

Include coursework to develop students' leadership and budgeting skills to improve employment outcomes. Administrators should note regional and national employers express high demand for bachelor's-level construction management professionals with leadership and budgeting skills. In the last year, regional and national employer seek bachelor's-level construction management professionals with 'project management' skills in 923 and 20,127 job postings, respectively (i.e., 74 percent and 78 percent of relevant postings, respectively). In the last year, regional and national employer specify 'budgeting' as a desired skill in 62 and 61 percent of job postings, respectively (i.e., 772 of 1,250 job postings and 16,259 of 26,565 job postings, respectively).

3) Market Considerations

Demand over Time

National Employer Demand for Bachelor’s-Level Construction Management Professionals Increased 176 Percent from H2 2013 to H1 2018

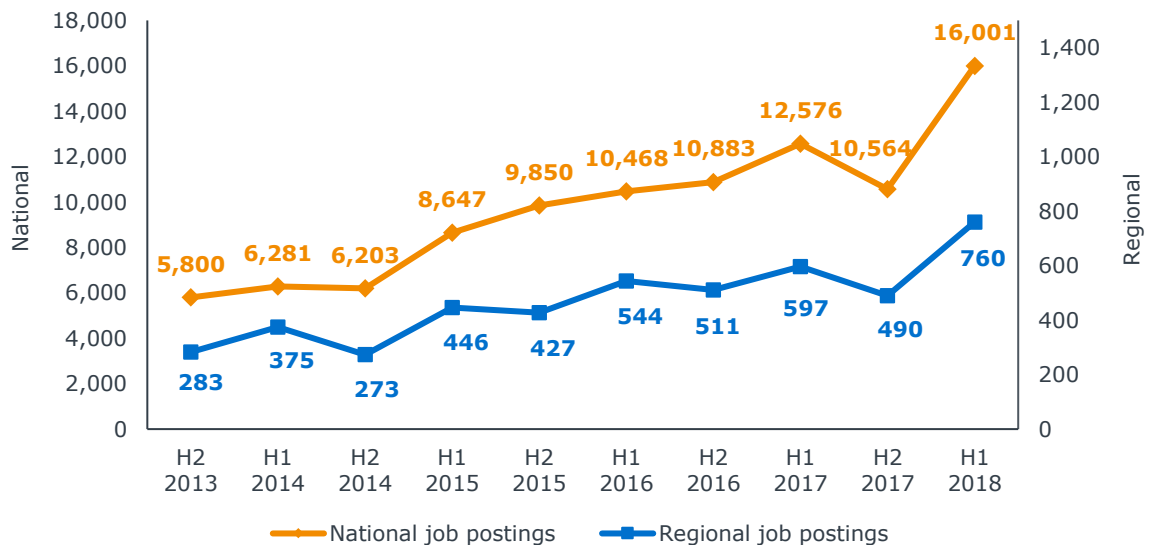
Increased national and regional employer demand for bachelor’s-level construction management professionals supports program development at the **University of Wyoming**. Between H2 2013 and H1 2018, the number of job postings for bachelor’s-level construction management professionals nationally increased from 5,800 to 16,001 (i.e., 176 percent increase). In contrast, the number of national job postings for all bachelor’s-level professionals increased at a slower rate of 41 percent during the same time (i.e., from 2,537,177 to 3,588,143 job postings).

Regional employers also exhibit increased demand for bachelor’s-level construction management professionals between H2 2013 and H1 2018. During that time, regional employer demand for bachelor’s-level construction management professionals increased 169 percent (i.e., from 283 to 760 job postings); this represents a much faster growth than the 55 percent increase in regional employer demand for all bachelor’s-level professionals in the same period (i.e., 121,436 to 188,271 job postings).

Furthermore, administrators should also note strong projected growth for construction management-related occupations. The Bureau of Labor Statistics (BLS) [projects](#) 11 percent growth in employment for “construction managers” between 2016 and 2016; this represents a faster increase than the projected growth of seven and a half percent across all occupations. The BLS attributes strong projected employment growth of “construction managers” to an increase in residential, commercial, and infrastructure construction activity.

Demand over Time for Bachelor’s-Level Construction Management Professionals

July 2013-January 2018, Regional and National Data²



2) Burning-Glass Labor/Insight™

Half of Profiled Regional Institutions Report Decreased Completions for Bachelor’s-Level Construction Management Programs Between 2013 and 2016

Administrators at the **University of Wyoming** should note that three of the six profiled regional institutions report declining completions for respective bachelor’s-level construction management programs between 2013 to 2016 (e.g., **Brigham Young University-Idaho, Brigham Young University-Provo, and University of Denver**). For example, completions reported by Brigham Young University-Provo declined 10 percent between 2013 and 2016 (i.e., from 48 to 43 completions).

Of the six profiled institutions, only **Colorado State University-Pueblo** reports greater enrollments in 2016 compared to 2013. The number of degree completions reported by the University increased from four in 2013 to seven in 2016 (i.e., 75 percent).

Completions of Bachelor’s-Level Construction Management Programs

Competitor Programs, National Center of Education Statistics

Institution	Program Title	Reported Degree Completions				Percentage Change in Completions Between 2013 and 2016
		2013	2014	2015	2016	
University of Denver	Bachelor’s-Level Real Estate and The Built Environment	3	2	3	2	-33%
Brigham Young University-Provo	Bachelor’s-Level Construction Management	48	29	28	43	-10%
Brigham Young University-Idaho	Bachelor’s-Level Construction Management	51	39	39	48	-6%
Boise State University	Bachelor’s-Level Construction Management	35	38	28	35	0%
Colorado State University-Pueblo	Bachelor’s-Level Construction Management	4	3	7	7	75%
Utah Valley University	Bachelor’s-Level Construction Management	N/A	N/A	0	0	N/A

Advertised Salary

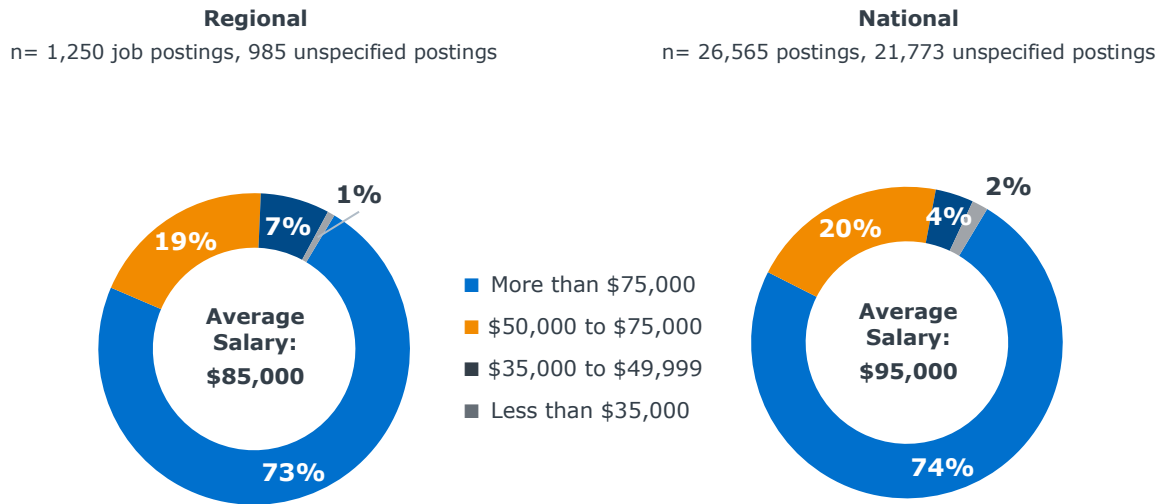
Emphasize Higher-than-Average Salary for Bachelor's-Level Construction Management Professionals to Secure Program Enrollments

Administrations at the **University of Wyoming** should highlight in program marketing that regional employers advertise an average salary of \$85,000 in relevant job postings for bachelor's-level construction management professionals; this represents a 35 percent higher salary than the salary advertised for all bachelor's-level professionals (i.e., \$63,000). National employers advertise an average annual salary of \$95,000 for bachelor's-level construction managers during the past 12 months. Comparatively, national employers advertise a lower average annual salary of \$70,000 for all bachelor's-level professionals in that time. According to Data USA, nationally, "construction managers" earn an average salary of \$82,900.³

Administrators should note that regional employers advertise an average annual salary greater than \$75,000 in 73 percent of all specified job postings (i.e., 193 of 265 job postings). Nineteen percent of regional postings which specify salary for bachelor's-level construction management professionals advertise salaries between \$50,000 and \$75,000. (i.e., 51 of 265 job postings).

Advertised Salary for Bachelor's-Level Construction Management Professionals

July 2017-June 2018, Regional and National Data⁴



3) Data USA: [Construction Managers](#)

4) Burning Glass Labor/Insight™

4) Program Structure

Program Characteristics

Highlight *University of Wyoming's* Competitive Tuition Rates to Appeal to Prospective Students

Administrators at the **University of Wyoming** should advertise the favorable tuition rates compared to regional institutions which offer bachelor's-level construction management programs to secure program enrollments. The University of Wyoming charges in-state and out-of-state students enrolled in bachelor's-level programs \$134 and \$537 students per credit hour, respectively.⁵ Profiled institutions charge students enrolled in respective bachelor's-level construction management programs between \$167 and \$1,372 per credit hour. Among profiled institutions, **Brigham Young University-Idaho** charges the lowest tuition per credit hour of \$167 for Latter-Day Saints (LDS) students and \$334 per credit hour for non-LDS students. In contrast, the **University of Denver** charges the highest tuition per credit hour of \$1,372.

Additionally, administrators should note that only two of the six profiled institutions impose fees based on the number of credits students complete (i.e., **Colorado State University-Pueblo, Utah Valley University**). For example, students enrolled in the bachelor's-level construction management program at Colorado State University-Pueblo pay an additional \$82 in fees per credit. Institutions such as **Boise State University** and Brigham Young University-Idaho do impose fees; however, these institutions typically impose these fees independent of the credits taken. For instance, students enrolled at **Brigham Young University-Provo** must pay \$10 to change classes after the add/drop deadline.

Characteristics of Bachelor's-Level Construction Management Programs

Competitor Programs

Institution	Program Title	Advertised Tuition Per Credit	Fees Per Credit
Brigham Young University-Idaho	Bachelor's-Level Construction Management	\$ <u>167</u> (LDS Tuition) \$ <u>334</u> (Non-LDS tuition)	NA
Brigham Young University-Provo	Bachelor's-Level Construction Management	\$ <u>286</u> (LDS tuition) \$ <u>572</u> (Non-LDS tuition)	N/A
Boise State University	Bachelor's-Level Construction Management	\$ <u>350</u> * (In-state) \$ <u>689</u> * (Out-of-state)	N/A
Colorado State University-Pueblo	Bachelor's-Level Construction Management	\$ <u>350</u> (In-state) \$ <u>795</u> (Out-of-state)	\$ <u>82</u> (In-state) \$ <u>82</u> (Out-of-state)
Utah Valley University	Bachelor's-Level Construction Management	\$ <u>384</u> (In-state) \$ <u>1,159</u> (Out-of-state)	\$ <u>39</u> (In-state) \$ <u>39</u> (Out-of-state)
University of Denver	Bachelor's-Level Real Estate and The Built Environment	\$ <u>1,372</u>	N/A

*The amount reflects both tuition and fees charged by Boise State University. The University does not disaggregate the tuition and fees.

5) University of Wyoming: [Cost of Attendance](#)

Ensure a Bachelor’s-Level Construction Management Program Confers In-Demand Leadership and Budgeting Skills

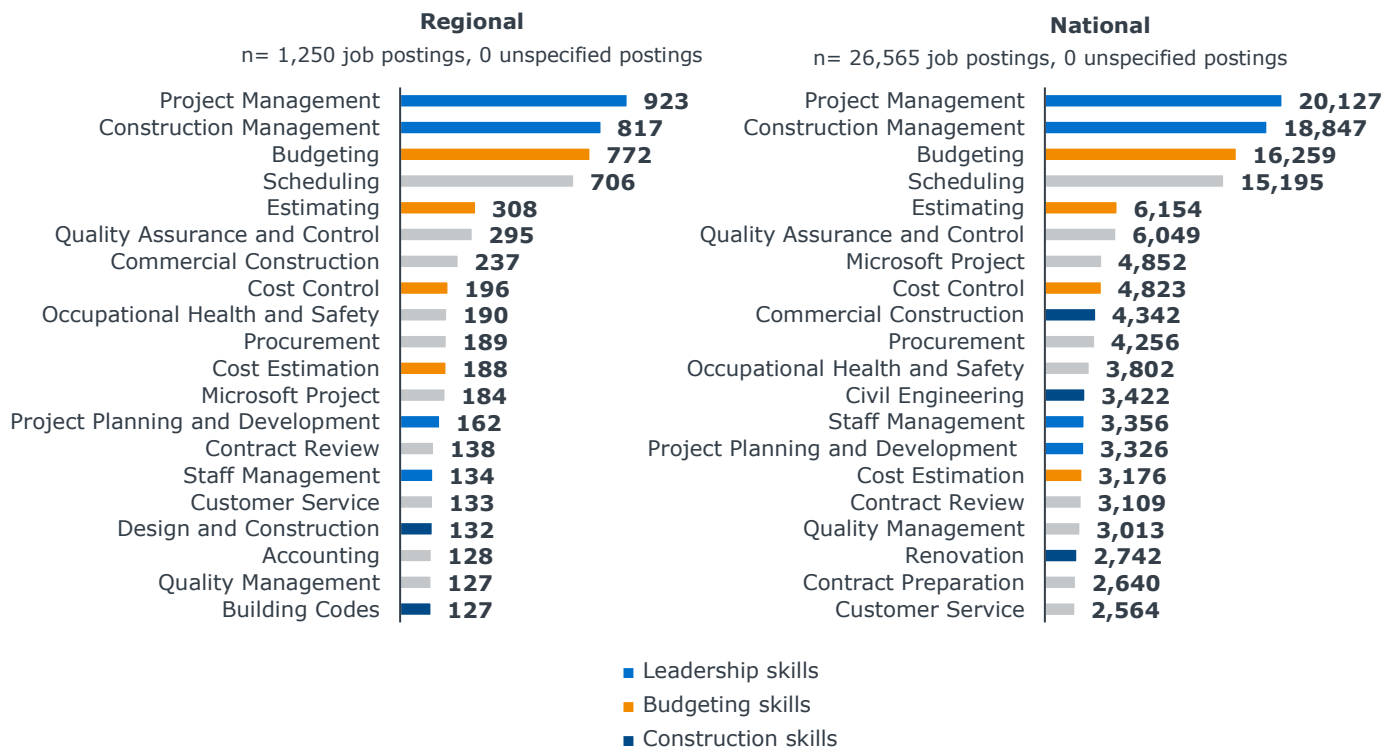
Administrators at the **University of Wyoming** should confer in-demand leadership and budgeting skills throughout the curriculum of a prospective bachelor’s-level construction management program. **Boise State University** offers course such as “construction project management” and “project scheduling” to develop students’ leadership skills. The top leadership skills employers seek from bachelor’s-level construction management professionals include:

- ‘Project management’ (i.e., 923 regional and 20,127 national postings)
- ‘Construction management’ (i.e., 817 regional and 18,847 national postings), and
- ‘Project planning and development’ (i.e., 162 regional and 3,326 national postings).

Furthermore, administrators should ensure a prospective bachelor’s-level construction management program confers in-demand budgeting skills. The top budgeting skills regional and national employers seek from bachelor’s-level construction management professionals include ‘budgeting,’ ‘cost control,’ and ‘estimating.’ **Utah Valley University** includes coursework such as “construction financial management” and “principles of construction estimating” to confer in-demand budgeting skills.

Top Skills for Bachelor’s-Level Construction Management Professionals

July 2017-June 2018, Regional and National Data⁶



6) Burning Glass Labor/Insight™