

Passed: 23-0-0

SENATE RESOLUTION #2605

TITLE: ASUW Support for Construction Management Degree Program
DATE INTRODUCED: March 6, 2018
AUTHOR: Senator DeLany
SPONSORS: Senator Kennedy, Means, Mulhall, and Rubino



1. WHEREAS, the mission of the Associated Students of the University of Wyoming (ASUW)
2. is to serve our fellow students through accurate representation; and,
3. WHEREAS, many students from the College of Engineering and Applied Science
4. (CEAS) specifically, the Department of Civil and Architectural Engineering (CAE) are
5. entering construction related fields; and,
6. WHEREAS, many students within the CEAS are taking Construction Management classes
7. as electives for the Math, Science, Technical (MST) elective requirements needed for an
8. engineering degree; and,
9. WHEREAS, students are finding the current classes offered in Construction Management
10. beneficial to their future employment; and,
11. WHEREAS, the purpose of a higher education is to prepare students to enter the work force
12. and the addition of a Bachelor's of Science in Construction Management degree will better
13. equip students entering construction related fields; and,
14. WHEREAS, the Construction Management program will broaden the range of degrees and
15. degree accreditations offered within the CEAS; and,
16. WHEREAS, the CEAS expects a four-year enrollment of 150 or more within the proposed
17. program; and,

18. WHEREAS, increase in jobs as construction managers is expected to grow sixteen
19. percent from 2012-2022 with 20,000 new jobs created nationwide; and,
20. WHEREAS, many civil engineering graduates work in construction manager roles as
21. prior to becoming engineering associates; and,
22. WHEREAS, CAE already has a professor of practice teaching Construction Management;
23. and,
24. WHEREAS, the Economically Needed Diversity Options for Wyoming (ENDOW) Council
25. seeks to support, enhance, and diversify the state's economic opportunities; and
26. WHEREAS, the addition of a Construction Management degree would benefit the state's
27. Construction Industry greatly as proven by letters of support by the Wyoming Contractors
28. Association, the Wyoming Construction Coalition, and several other Wyoming companies as
29. mentioned in Addendum A;
30. THEREFORE, be it enacted by the Associated Students of the University of Wyoming
31. (ASUW) Student Government supports the creation of a Bachelor of Science Degree in
32. Construction Management Degree to the Civil and Architectural Engineering Department
33. as outlined in Addendum A.

Referred to: Advocacy, Diversity, and Policy

Date of Passage: 3/29/2018 Signed: [Signature]
(ASUW Chairperson)

"Being enacted on March 29th, 2018
, I do hereby sign my name hereto and

approve this Senate action." [Signature]
ASUW President

Addendum A



UNIVERSITY OF WYOMING

NOTICE OF INTENT: PROPOSED B.S. DEGREE IN CONSTRUCTION MANAGEMENT

Department of Civil & Architectural Engineering

Created by:

Anthony Denzer, Department Head
Matthew Newman, Professor of Practice

November 2017

EXECUTIVE SUMMARY

We propose to create a new B.S. degree in Construction Management, to be administered within 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 13 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 and College committee

OPPORTUNITY

UW loses many students who are interested in the construction industry but do not aspire to become professional engineers and do not require an engineering degree. This degree will appeal to a different type of student, and will strengthen rather than undermine our existing programs. It will likely capture many students who currently leave Wyoming for degrees in neighboring states.

The demand for Construction Management professionals is strong and forecasted to grow:

- Employment of construction managers is expected to increase 16% from 2012-22. About 20,000 new jobs will be created nationwide.
- Salaries for construction managers in 2015 ranged from \$90,410 (heavy and civil construction firms) to \$78,010 (residential).

Right: Student demand for construction programs in neighboring states.



CURRICULUM

The proposed curriculum is 121 credits. It has been developed after extensive study of our peer institutions, and it has been thoroughly reviewed at several levels. The core required courses are:

- 13 new courses in Construction Management
- 7 existing courses from Civil & Architectural Engineering
- 5 existing courses from the College of Business

FALL FR 16 credits	CE 1000: VISTA I	3	SPRING FR 17 credits	ARE 1600: Arch. Design Studio I	3
	MATH 1450: Algebra and Trig	5		MATH 1200: Calculus I	4
	USP C1 requirement	3		PHYS 1110: General Physics I	4
	USP PYS requirement	3		USP C3 requirement	3
	Science Elective	4		USP V requirement	3
FALL SO 16 credits	ACCT 1010: Accounting I	3	SPRING SO 15 credits	ACCT 1020: Accounting II	3
	CM 2100: Intro to Const. Mgmt	3		ARE 2600: Arch. Design Studio II	3
	CM 2120: Const. Materials & Methods	3		CM 2700: Structures	3
	STAT 2050: Fund. of Statistics	4		CM 2400: MEP Systems	3
	USP H requirement	3		MGT 1040: Legal Environ. of Business	3
FALL JR 15 credits	CE 2000: VISTA II	3	SPRING JR 15 credits	CM 3120: Const. Estimating	3
	CE 2070: Engineering Surveying	3		CM 3140: Heavy Construction	3
	CM 3100: Const. Scheduling	3		CM 3150: Const. Law & Contracts	3
	CM 3220: Soils and Concrete	3		MGT 3110: Business Ethics	3
	USP H requirement	3		USP C2 requirement	3
FALL SR 15 credits	CE 3000: VISTA III	3	SPRING SR 12 credits	CM 4500: Bldg. Information Modeling	3
	CM 4100: Project Management	3		CM 4900: Capstone Design Project	3
	CM 4220: Construction Safety	3		CM Elective	3
	MGT 3220: Mgmt. and Organization	3		CM Elective	3
	CM Elective (summer internship)	3			

We also propose to create a Minor in Construction Management, available to all UW Majors, using the coursework and faculty outlined in this proposal.

DISTINCTION

We expect UW's program to be distinguished in these ways:

1. "Horizontal construction" refers to roads and infrastructure; "Vertical construction" refers to buildings. Most programs focus almost exclusively on vertical. We plan to focus on both. Horizontal construction is important to Wyoming industries, state agencies, and counties, and thus to the land grant mission.
2. We will emphasize 3D Computer Modeling and Simulation. This is a major strength of the Architectural Engineering program currently (3 national awards). We will train students using the software tools which are used in industry.

INDUSTRY SUPPORT

We have letters of support from:

- Department of Civil and Architectural Engineering Advisory Board (16 members)
- Wyoming Contractors Association (Katie Legerski)
- Wyoming Construction Coalition (Josh Camahan)
- GE Johnson Construction Wyoming (Chris Hoit)
- Hazelden Wyoming Constructors (Derek Oliver)
- Martin/Martin Wyoming Inc. (John Shaffer)
- Whiting-Turner Contracting Company (John Gallings)

PHASED RESOURCE PLAN

This proposal requires new resources (five faculty positions). Position #1 has already been funded through the Engineering Initiative. The ratio—~150 students to 5 faculty—is very efficient. At higher enrollments we would expect to require additional faculty at roughly 30 to 1.

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 VISTA II ARE 2600 VISTA III Outreach</i>	~\$92,000	~\$47,000
	2 Tenure-Track, Senior <i>9-month position Endowed Chair?</i>	2+1 <i>Program Director CM 2200 CM 2400 CM 4100</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>	~\$66,000	~\$41,000
	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 4600 CM 4900 ARE 1600</i>	~\$86,000	~\$44,000
TOTAL IN 2020-21		10+10 <i>Adequate to support program</i>	~\$516,000	~\$263,000

CONCLUDING NOTES

The CM program is a pragmatic opportunity for UW to grow efficiently. It addresses a major objective in UW's strategic plan: to help diversify the state's economy.

We can offer this program right away, with new resources phased in over three years. It will attract many students who would like to work in the building industry, but not in the capacity of an engineer.

The CM program will work closely with Wyoming Community Colleges to develop 2+2 articulation plans and other exchanges such as distance courses.

The CM program will also bring substantial new development opportunities for the UW Foundation.

