

**DEGREE/PROGRAM CHANGE
FORM C
Form Number: C1515**

Fields marked with * are required

Name of Initiator: Mark Daniel Russell **Email:** russ1307@unm.edu **Phone Number:** 505 277-1948
Date: 10-29-2014

Associated Forms exist? Initiator's Title
Faculty Contact Administrative Contact
Department Admin Email
Branch Admin Phone

Proposed effective term

Semester Year

Course Information

Select Appropriate Program
Name of New or Existing Program
Select Category Degree Type
Select Action

Exact Title and Requirements as they should appear in the catalog. If there is a change, upload current and proposed requirements.

See current catalog for format within the respective college (upload a doc/pdf file)

[Construction Management Curriculum proposal 5 Dec 14.docx](#)

Does this change affect other departmental program/branch campuses? If yes, indicate below.

Reason(s) for Request (enter text below or upload a doc/pdf file)

[Construction Management Curriculum justification 23 Oct 14.docx](#)

Upload a document that includes justification for the program, impact on long-range planning, detailed budget analysis and faculty workload implications.(upload a doc/pdf file)

[Workload for Construction Management 23 Oct 14.docx](#)

Are you proposing a new undergraduate degree or new undergraduate certificate? If yes, upload the following documents.

Upload a two-page Executive Summary authorized by Associate Provost. (upload a doc/pdf file)

Upload memo from Associate Provost authorizing go-ahead to full proposal. (upload a doc/pdf file)

December 5, 2014

Proposal for change to Civil Engineering undergraduate curriculum

A revised curriculum sheet is provided on the next sheet to illustrate how this proposal could be implemented. The total hours for the proposed curriculum is 124 hours.

Current Catalog:

Bachelor of Science in Construction Management

The Bachelor of Science in Construction Management (B.S.C.M.) program is accredited by the [American Council for Construction Education](#). With the proper selection of management electives, students completing this program can earn a minor from the Anderson Schools of Management.

Outcomes

Graduates of the department's construction management program must appreciate the technical components and understand the managerial aspects of civil engineering construction projects.

1. We educate students to apply methods to successfully and safely manage construction projects.
Graduates achieve competence in construction topics, including:
 - a. Reading and understanding construction documents,
 - b. Using construction documents to develop construction estimates and schedules,
 - c. Using schedules, estimates and construction documents to safely control projects.
2. Students demonstrate an ability to lead through motivating others and applying appropriate technical skills to solve construction management problems. Graduates:
 - a. Develop a breadth of technical skills to communicate across boundaries,
 - b. Learn to work effectively in teams,
 - c. Develop action plans to work within project constraints.
3. Students develop skills in critical thinking and innovation recognizing the need for continuously learning new skills and competencies. Graduates:
 - a. Utilize online and library resources,
 - b. Critically assess current technical documents,
 - c. Develop an ability to apply technology to solve construction problems.
4. Students learn to employ effective communication skills to deal respectfully and ethically with others. Graduates are:
 - a. Effective at oral communications,

- b. Effective in written communications,
- c. Effective at Internet-based communications: online/electronic/email.

Minor Study Requirements

Students may earn a Minor in Construction Management by completing the following courses with a grade of C- or better: CE 350 or MGMT 326, CE 372 and MGMT 300 or 362, plus three courses from CE 376, 377, 473, 474, 475, or 477.

Curriculum

Credit hours required for graduation: 130

First Year	First Semester	Credit Hours
ENGL 110 (or ENGL 112; or ENGL 113)	Accelerated Composition (or Composition II; or Enhanced Composition) ⁽¹⁾	3
ECON 105 -or- ECON 106	Introductory Macroeconomics ⁽¹⁾ Introductory Microeconomics ⁽¹⁾	3
MATH 121	College Algebra ⁽¹⁾	3
EPS 101	How the Earth Works—An Introduction to Geology	3
CE 130	Construction Detailing ⁽²⁾	3
		15
	Second Semester	
ENGL 120	Composition III ⁽¹⁾	3

CS 150L	Computing for Business Students	3
MATH 123	Trigonometry	3
CE 160L	Civil Engineering Design	3
CE 171	Construction Materials and Techniques ⁽²⁾	3
	Core Humanities Elective ⁽¹⁾	3
		18
Second Year	First Semester	
MATH 180	Elements of Calculus I	3
CHEM 121	General Chemistry	3
CHEM 123L	General Chemistry Lab	1
PHYC 151	General Physics ⁽¹⁾	3
CE 279	Mechanical Electrical Systems Construction	3
	Core Fine Arts Elective ⁽¹⁾	3
		16

	Second Semester	
CE 283L	Transportation System Measurements	3
CE 371	Structures for Construction	3
CJ 130	Public Speaking	3
ENGL 219	Technical and Professional Writing ⁽¹⁾	3
MGMT 202	Principles of Financial Accounting	3
STAT 145	Introduction to Statistics	3
		18
Third Year	First Semester	
CE 305	Infrastructure Materials Science	4
CE 350	Engineering Economy	3
CE 376	Cost Estimating	3
CE 478	Design of Temporary Support Structures	3
MGMT 303	Managerial Accounting	3

		16
	Second Semester	
CE 370	Construction Methods and Equipment	3
CE 377	Construction Scheduling	3
	MGMT Elective	3
	Core Humanities Elective ⁽¹⁾	3
	Core Second Language Elective ⁽¹⁾	3
		15
Fourth Year	First Semester ⁽⁴⁾	
CE 455	Engineering Project Management	3
CE 474	Principles of Written Construction Documents	3
CE 477	Project Controls	3
CE 495	Construction Internship	1
	MGMT Elective	3

	Core Social/Behavioral Sciences Elective ⁽¹⁾	3
		16
	Second Semester	
CE 409	Engineering Ethics	1
CE 473	Construction Law	3
CE 475	Construction Safety	3
CE 497L	Design Construction Integration	3
	Construction Elective ⁽³⁾	3
	MGMT Elective ⁽³⁾	3
		16

Notes:

⁽¹⁾ Core Curriculum electives from approved lists.

⁽²⁾ Course may be taken at Central New Mexico Community College.

⁽³⁾ See Department for approved Const and MGMT electives. Approval of advisor required.

⁽⁴⁾ Students must take the American Institute of Constructors (AIC) exam prior to graduation.

Proposed revision:

UNM DEPARTMENT OF CIVIL ENGINEERING CONSTRUCTION MANAGEMENT (123 hrs)											
Name: _____						Student # _____					
Transfer Hours Accepted: _____											
Fall						Spring					
FRESHMAN YEAR											
			Cr	Gr	Pts				Cr	Gr	Pts
Engl	110	Comp I: Exposition	3	___	0	Engl	120	Comp II: Anlys & Arg	3	___	0
Econ	105	Macro or Econ 106 Micro	3	___	0	Math	180	Elements of Calc I	3	___	0
EPS	101	Intro to Geology	3	___	0	CE	160	Civil Engineering Design	3	___	0
CE	130	Construction Detailing	3	___	0	CE	171	Const Material & Tech	3	___	0
Math	123	Trigonometry	3	___	0			Core Humanities Elective	3	___	0
			15						15		0.00
SOPHOMORE YEAR											
			Cr	Gr	Pts				Cr	Gr	Pts
CS	150L	Comput for Bus Students	3	___	0	CE	283	Trans System Measure	3	___	0
Chem	121	General Chemistry	3	___	0	CE	371	Struct Construc (171)	3	___	0
Chem	123L	General Chemistry Lab	1	___	0	CJ	130	Public Speaking	3	___	0
Phyc	151	General Physics	3	___	0	Engl	219	Technical Writing	3	___	0
CE	279	Mech & Elec Systems*	3	___	0	Mgmt	202	Prin of Finan Acctg	3	___	0
Stat	145	Introduction to Statistics	3	___	0				15		0.00
			16		0.00				15		0.00
JUNIOR YEAR											
			Cr	Gr	Pts				Cr	Gr	Pts
CE	305	Infrast Mat Sci/Lab (219)	4	___	0	CE	370	Const Mthds Equip (350)	3	___	0
CE	350	Engin Economy (180)	3	___	0	CE	377	Constr Scheduling (171)	3	___	0
CE	376	Cost Estimating (171)	3	___	0			Core Second Lang Elect	3	___	0
		Core Fine Arts Elective1	3	___	0			Core Humanities Elective	3	___	0
Mgmt	303	Managerial Acctn (202)	3	___	0	Mgt	310	Legal Issues	3	___	0
			16		0.00				15		0.00
SENIOR YEAR											
			Cr	Gr	Pts				Cr	Gr	Pts
CE	474^	Prin Written Const Doc	3	___	0	CE	473^	Construction Law	3	___	0
CE	477	Project Contrls(376,377)	3	___	0	CE	475^	Construction Safety	3	___	0
CE	478	DesignTempStruc1 (371)	3	___	0	CE	497L	Design/Construct Integ	3	___	0
CE	495	Construc Internship	1	___	0	Const Elect2			3	___	0
Mgt	300	Operations Mgt	3	___	0	Mgmt Elect2			3	___	0
		Core Soc/Behav Sci Elec	3	___	0				15		0.00
			16								
<u>Repeated Courses</u>											
		None	3	___	0	^prereqs 376, 377, Engl 219					
			3	___	0	NOTES 1. Core electives from approved list; grade of C or higher required 2. See www.unm.edu/~civil/approvedelecconst.html for Const an Mgt electives. Approval of advisor is required.					
			3	___	0						
			3	___	0						
			3	___	0						
OVERALL HOURS & GPA											

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MATH 123	Trigonometry	3
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	Second Semester	
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ENGL 120	Composition III ⁽¹⁾	3
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CE 279	Mech & Elec Systems	3
STAT 145	Introduction to Statistics	3
		16
	Second Semester	

CE 283L	Transportation System Measurements	3
CE 371	Structures for Construction	3
CJ 130	Public Speaking	3
ENGL 219	Technical and Professional Writing ⁽¹⁾	3
MGMT 202	Principles of Financial Accounting	3
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CE 350	Engineering Economy	3
CE 376	Cost Estimating	3
	Core Fine Arts Elective ⁽¹⁾	3
MGMT 303	Managerial Accounting	3
		16
	Second Semester	

CE 370	Construction Methods and Equipment	3
CE 377	Construction Scheduling	3
	Core Second Language Elective (1)	3
	Core Humanities Elective ⁽¹⁾	3
Mgt 310	Legal Issues	3
		15
Fourth Year	First Semester ⁽⁴⁾	
CE 474	Principles of Written Construction Documents	3
CE 477	Project Controls	3
CE 478	Design of Temporary Support Structures	3
CE 495	Construction Internship	1
Mgt 300	Operations Management	3
	Core Social/Behavioral Sciences Elective ⁽¹⁾	3
		16

	Second Semester	
CE 473	Construction Law	3
CE 475	Construction Safety	3
CE 497L	Design Construction Integration	3
	Construction Elective ⁽³⁾	3
	MGMT Elective ⁽³⁾	3
		15

Notes:

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October 23, 2014

Reason for Request for change to Construction Management undergraduate curriculum

In an effort to provide a more efficient delivery of course material, the following changes have been suggested by our Industry Advisory Board and Civil Engineering Faculty.

1. Since the ACCE accreditation requirements do not consider Math 121 College Algebra as an adequate level of math, it is recommended that the requirement be dropped. The students will be expected to show up Calculus ready, similar to the requirements for Civil and Construction Engineering.
2. The CE 409 Engineering Ethics class was added to the curriculum to meet the needs of the ABET accreditation. Since the ABET accreditation criteria has changed to an outcomes based requirement, the stand alone CE 409 class no longer meets the ABET criteria. As the 1 hour class is only taught 2 days a week for half a semester, faculty hours and class room space is being obligated for a full semester on a topic that is no longer required as a stand-alone course. It is recommended that the class be dropped from the curriculum.
3. The CE 455 Engineering Project Management and CE 477 Project Controls courses have been delivering very similar material. Feedback from the students and instructors has suggested that the two courses could be combined into an updated CE 477 Project Controls course.

The combination of these changes will result in the following:

Proposal: Construction Management

Existing Program has 130 hours

Drop CE 409 Ethics - 1 hour

Drop Math 121 College Algebra - 3 hours

Drop CE 455 Engr Proj Management - 3 hours

Proposed program has 123 hours.

Justification, Planning, Budget and Workload for Construction Management curriculum changes
23 October 2014

Justification for the program – The requested changes will result in a reduction of credit hours from 130 to 123. The reduction in credit hours provides a more efficient path for students to obtain their Construction Management Degree without jeopardizing the quantity of material learned.

Impact on long range planning – There should be minimal impact on the courses being taught.

No additional budget is required to implement this change.

Faculty Workload – The CE 409 class is currently being taught by an adjunct professor and thus this requirement will be eliminated. Deletion of the CE 455 class will result in less of a need for adjunct faculty that has been required to teach the class. For the module classes, the reduction in students in the 3 credit hour class and replacement with a 1 credit hour class should result in a slightly lower workload.