



1  
2  
3  
4  
5  
6  
7

---

**COMMITTEE ON ACADEMIC PLANNING AND REVIEW**

18-19 CAPR 16  
Thursday, February 21, 2019

**TO:** The Academic Senate

**FROM:** The Committee on Academic Planning Review (CAPR)

**SUBJECT:** 18-19 CAPR 16: Request to Change of CIP code for Construction Management

**PURPOSE:** Approval by the Academic Senate

**ACTION REQUESTED:** That the Academic Senate approve the adoption of a new CIP Code for the Construction Management Program, changing it from 52.2001 to 15.1001

8  
9

10 **BACKGROUND:**

11 At its meeting on February 21, 2019, CAPR unanimously approved the adoption of a new

12 CIP Code for the Construction Management Program. This CIP code is a unique

13 identifier for this program at a national and international level. The change in CIP code

14 reflects more accurately changes to program structure, courses offered and outcomes that

15 graduates achieve. The comparison of program changes to support the new CIP code and

16 a memo describing the importance of the change are attached to this memo.

Date: 1/15/2019  
To: CAPR, Academic Senate  
From: Saeid Motavalli, Chair School of Engineering  
Subject: Request to Change of CIP code for Construction Management

The Classification of Instructional Programs (**CIP codes**) were developed by the U.S. Department of Education as the national taxonomic standard of academic program titles for federal surveys and state reporting of institutional data. The **CIP code** is independent of program length. The codes can be viewed at: <https://www.ohe.state.mn.us/mPg.cfm?pageID=1429> . The current CIP code that we selected when the program started is under the broad area of “**Business, Management, Marketing, and Related Support Services**” The code is for Construction Management, **52.2001**. We are requesting to use the code, **15.1001** which is for Construction Engineering Technology under the broad area of “**Engineering Technologies and Engineering-Related Fields.**”

Programs around the country use one of these codes based on the curriculum and the objective of the program. The programs that have more technical emphasis use the Construction Engineering Technology code and the ones that have management emphasis use the other. The followings are our argument for the appropriateness of the **15.1001** code to identify the program.

1. We have increased the Math requirements for the undergraduate program as part of the program transformation.
2. We have increased the Physics requirements to two semester instead of two quarter.
3. We have increase the technology content of the program by emphasizing courses such as Building Information Modeling, virtual reality, use of drone in construction and utilization of integrated Design-Built concepts.
4. All the faculty teaching in the program are engineers thus emphasis engineering topics more prominently that a typical construction management program. Most of MS project are done on engineering topics.
5. Majority of the students entering the M.S. program have an undergraduate degree in civil engineering. Therefore, they expect a more technical approach to construction management.
6. Given the fact that the program is offered under the School of Engineering and that the program is offered by engineers for engineers, make it logical to use the Construction Engineering Technology code to identify the program.

2019 Curriculum	B.S.	Original Curriculum	B.S.
ACCT 210 - Introduction to Financial Accounting Units: 3		ACCT 2253 Accounting for Management Decision-Making (4)	
CMGT 320 - Construction Law Units: 3		ACCT 2701 Legal Environment of Business (4)	
CHEM 110 - General Chemistry for Engineering Units: 3 ; G.E./G.R. Area: B1, B3		CHEM 1601 Basic Chemistry for the Health Sciences (4) <b>B1</b>	
CMGT 101 - Introduction to Construction Management Units: 3		CMGT 1011 Introduction to Construction Management (4)	
CMGT 142 - Construction Graphics and Plans Reading Units: 2		ENGR 1420 Engineering Graphics (2)	
CMGT 201 - Surveying Units: 2			
CMGT 206 - Construction Materials Units: 3		CMGT 2060 Construction Methods and Material I (4)	
CMGT 207 - Construction Methods Units: 3		CMGT 2070 Construction methods and material II (4)	
ECON 200 - Principles of Microeconomics Units: 3		ECON 2301 Principles of Microeconomics (4) <b>D1</b>	
MATH 130 - Calculus I Units: 4 ; G.E./G.R. Area: B4		MATH 1130 College Algebra (4) <b>B4</b>	
		MATH 1300 Trigonometry and Analytic Geometry (4)	
PHYS 125 - Principles of Physics I Units: 4 ; G.E./G.R. Area: B1, B3		PHYS 2701 Introductory Physics (4) <b>B5</b>	
PHYS 126 - Principles of Physics II Units: 4 ; G.E./G.R. Area: B1, B3		PHYS 2702 Introductory Physics (4)	
PSYC 100 - General Psychology Units: 3 ; G.E./G.R. Area: D1-3		PSYC 1000 General Psychology (5) <b>D2</b>	
		STAT 1000 Elements of Probability and Statistics (5)	
<b>Upper Division (41)</b>		<b>Upper Division (64)</b>	
CMGT 310 - Statics and Strength of Materials Units: 3		ENGR 3101 Statics and Dynamics (4)	
CMGT 325 - Electrical and Mechanical Systems in Construction Units: 3		CMGT 4250 Electrical and Mechanical Systems in Construction (4)	
CMGT 340 - Construction Cost Estimating Units: 3		CMGT 4400/6400 Construction Cost Estimation (4)	
CMGT 345 - Building Codes and Commissioning Units: 3		CMGT 3450 Building Codes (4)	
CMGT 350 - Construction Project Planning, Scheduling and Control Units: 4		CMGT4200 Construction Scheduling (4)	
		CMGT 4500/6500 Construction Project Planning and Control, Computer Tools (4)	
CMGT 360 - Soil Mechanics and Building Foundations Units: 3		CMGT 3600 Soil Mechanics and Building Foundation (4)	
CMGT 410 - Building Information Modeling Units: 3		CMGT 4100/6100 Engineering Graphics for Construction Management (4)	
CMGT 430 - Environmental Issues and Green Building Units: 3		CMGT 4300/6300 Environmental Issues and Green Building (4)	
CMGT 440 - Construction Project Management Units: 3		CMGT 3400 Construction Project Management and Commissioning (4)	
CMGT 480 - Construction Safety Units: 3		CMGT 3190 Construction Safety (4)	
CMGT 493 - Senior Project Units: 4		CMGT 4610 Senior Project I (4)	
		CMGT 6420 Senior Project II (4)	
MGMT 312 - Human Resources Management Units: 3		MGMT 3610 Human Resources Management and Decision Making (4)	

2019 Curriculum	M.S.	Original Curriculum	M.S.
<b>Core Courses</b>		<b>Core Courses</b>	
CMGT 610 - BIM and Advanced Technologies Units: 3		CMGT 6100 - Engineering Graphics for Construction Management Units: 4	
CMGT 620 - Legal Issues in Construction Management Units: 3		CMGT 6200 - Legal Issues in Construction Management Units: 4	
CMGT 630 - Environmental Issues and Sustainable Construction Units: 3		CMGT 6300 - Environmental Issues and Green Building Units: 4	
CMGT 640 - Cost Estimating for Construction Management Units: 3		CMGT 6400 - Construction Cost Estimating Units: 4	
CMGT 650 - Construction Project Management, Planning, and Scheduling Units: 3		CMGT 6500 - Construction Project Planning and Control, Computer Tools Units: 4	
CMGT 660 - Cost Accounting, Control and Reporting in Construction Units: 3		CMGT 6600 - Financial Decision Making and Reporting in Construction Units: 4	
CMGT 670 - Construction Enterprise and Risk Management Units: 3		CMGT 6700 - Construction Risk Management and Commissioning Units: 4	
CMGT 680 - Construction Safety and Health Units: 3		CMGT 6800 - Construction Safety Units: 4	
CMGT 685 - Special Topics in Construction Management Units: 3		CMGT 6850 - Current Issues in Construction Management Units: 4	
Elective Courses (9 units)		Elective Courses (8 units)	

**Modifications to engineering, math and science requirements**

Changed to Construction Engineering Law Higher level Chem requirement					
Added engineering plan reading Added a Surveying course (civil engineering)					
Calculus requirement added					
Physics requirement increased from 8 quarter to 8 semester units					
Strength of Materials added to the Statics course (civil engineering)					
Building Information Modeling is new to the curriculum, technologies such as VR and 4-D modeling are part of this course					
Building Information Modeling replaced engineering graphics, Technologies such as VR and 4-D modeling are new topics in this course					
Topics on Health and safety was added to the content.					