

Assessment Implementation Plan

Introduction

The CM Assessment Implementation Plan addresses the following items:

- Strategic Plan
- Mission Statement
- Program Outcomes
- Student Learning Outcomes (SLOs)
- Course Learning Outcomes
- First Destination Survey
- Graduating Senior Exit Interviews/Survey
- Course Assessment Reports
- Employer Evaluation Survey - CM 39000 (Internship)
- Student Evaluation Survey - CM 39000 (Internship)
- CM IAB Course Reviews

The plan has been updated especially for the Student Learning Outcome Assessment Schedule and the IAB Course Review Schedule due to the changing conditions and circumstances including COVID-19, faculty and IAB member availability, and course schedule to meet the 5 year assessment cycle.

Strategic Plan

CM Strategic Plan was implemented in May 2018 at the same time as the strategic plan of the School of Engineering and Technology. Both are originally made for 5-year plans, but the CM Strategic Plan was extended from April 2023 to April 2025 due to COVID-19 impact on the CM program. The initiatives and action items will be reviewed by CM faculty in August at the department retreat. This review identifies which action items can be accomplished during the upcoming academic year and how much progress should be made on other action items.

In addition, modifications to the strategic plan will be discussed and necessary revisions will be adopted.

Mission Statement

The purpose of the CM Mission Statement is to provide focus and direction for the program. Mission statements typically do not change on a regular schedule. The CM Mission Statement is discussed periodically at program meetings and IAB meetings. Rephrasing may be suggested and if appropriate will be incorporated into the mission statement.

Program Outcomes

The CM Program Outcomes describe the career and professional accomplishments that we expect our graduates to achieve early in their careers. Assessment of the Program Outcomes occurs on a 5-year cycle. The latest assessment of the Program Outcomes was conducted in September 2022 by alumni of the CM Program and next assessment will be scheduled in Fall 2027. Suggestions for modifications to the outcomes will be solicited.

Student Learning Outcomes (SLOs)

The Program Learning Outcomes are the ACCE Student Learning Outcomes (1-20). Both Direct and Indirect Measures are used to assess and evaluate the Student Learning Outcomes (SLOs). The Indirect Measure is the ACCE Student Learning Outcome Survey (Graduating Senior Exit Survey). Data is collected every semester in November and April by course instructors. The Indirect Measure is evaluated as a part of the Graduating Senior Exit Survey.

The Direct Measures of the Student Learning Outcomes are performed at the course level using a variety of assessment tools. Data for the Direct Measures is collected annually and evaluated on a 5 - year cycle as indicated in the Student Learning Outcome Schedule.

Course Learning Outcomes

Data for the Course Learning Outcomes is collected every semester by course instructors and evaluated in the form of a Course Assessment Report which is reviewed by the Program Director and the CM Curriculum Committee. Changes to Course Learning Outcomes are discussed, and if appropriate, are implemented in the syllabus and course delivery.

First Destination Survey

The Career Center administers the First Destination Survey. Data is collected and compiled for the calendar year (spring, summer, and fall semesters). A report is published in May for the data from the previous calendar year.

Graduating Senior Exit Interviews/Survey

The Graduating Senior Exit Interviews had been administered by the CM IAB and consist of a written section and an oral interview (which is transcribed by the IAB interviewers) until December 2019. Online survey formats have been used from Spring 2020 to the present. The exit interviews are conducted every semester in December and April. Results of the Graduating Senior Exit Interviews/survey are shared between CM faculty and the CM IAB for discussion at a future meeting.

Course Assessment Reports

As described in Course Learning Outcomes, data for course assessment reports is collected every semester by instructors and evaluated annually. If necessary, the course assessment reports are available upon request. The Course Assessment Reports summarize, analyze, and evaluate all assessment data associated with the Course Learning Outcomes and the Student Learning Outcomes and develop a plan for course improvement and/or corrective action. The course assessment reports for the 1-20 Student Learning Outcomes reports are located in Sec 9.4 Achievement of SLOs.

Employer Evaluation Survey - CMGT 39000 (Internship) and Student Evaluation Survey - CMGT 39000 (Internship)

These two surveys are required components of CMGT 39000 - Construction Experience III (internship). Every semester the employers evaluate their experiences with the internship and the interns evaluate their experience at that firm. All the data is recorded in a spreadsheet. As part of the grading rubric for CMGT 39000, the employer evaluation and the student evaluation are reviewed. Where appropriate the Program Director extracts data and provides comments that could be used for program and course improvement. The employer survey also serves as a means of connecting the program to an individual firm for networking and can serve as a recruiting tool for membership to the CM IAB.

CM IAB Course Reviews

Prior to the May 2017 spring semester, the CM IAB Course Reviews we attempted for all courses once every academic year with partial success. Some courses were not reviewed. The courses that were reviewed had mixed results. Some of the reports provided valuable information and some did not. Beginning in the 2018 fall semester, a set schedule of course reviews has been established and is located on the last page of this report.

Assessment Schedule

The following tables present a graphic representation of the Annual Assessment Schedule for assessment measures and tools used by the CM Program. The first table list the assessment measures and tools where data is collected every semester and evaluated at least annually.

Annual Assessment Schedule (E = Data Collected & Evaluated)			
Measure / Tool	December	May	Summer
First Destination Survey		E	
Graduating Senior Exit Surveys	E	E	
Course Assessment Reports	E	E	
Employer Evaluation Survey			E
Student Evaluation Survey			E
SLO Assessment	As shown in the below table		
CM IAB Course Review	As shown in the below table		

The tables on the following pages show the assessment schedule for the Student Learning Outcomes (1-20) and the CM IAB Course Reviews. Where possible the IAB Course Reviews were aligned with the evaluation of Student Learning Outcome(s) associated with that course. This is not always possible since the evaluation of Student Learning Outcomes is not associated with every course and some courses evaluate multiple Student Learning Outcomes.

Student Learning Outcome Assessment Schedule (E = Evaluation)									
ACCE Student Learning Outcomes	Fall 2019	Spring 2020	Fall 2020	Spring 2021	Fall 2021	Spring 2022	Summer 2022	Fall 2022	Spring 2023
SLO 1- Create written communications appropriate to the construction discipline.			E				E		
SLO 2- Create oral presentations appropriate to the construction discipline.					E	E			
SLO 3- Create a construction project safety plan.						E		E	
SLO 4- Create construction project cost estimates.		E			E	E			
SLO 5- Create construction project schedules.					E			E	
SLO 6- Analyze professional decisions based on ethical principles.					E	E		E	
SLO 7- Analyze construction documents for planning and management of construction processes.			E			E			
SLO 8- Analyze methods, materials, and equipment used to construct projects.					E			E	
SLO 9- Apply construction management skills as an effective member of a multi-disciplinary team.	E							E	E
SLO 10- Apply electronic-based technology to manage the construction process.			E			E		E	
SLO 11- Apply basic surveying techniques for construction layout and control.					E			E	
SLO 12- Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.			E			E			
SLO 13- Understand construction risk management.	E	E	E	E	E	E			
SLO 14- Understand construction accounting and cost control.					E			E	
SLO 15- Understand construction quality assurance and control.					E	E		E	E
SLO 16- Understand construction project control processes.					E			E	
SLO 17- Understand the legal implications of contract, common, and regulatory law to manage a construction project.				E				E	
SLO 18- Understand the basic principles of sustainable construction.	E				E				
SLO 19- Understand the basic principles of structural behavior.								E	E
SLO 20- Understand the basic principles of mechanical, electrical and plumbing systems.								E	E

CM IAB Course Reviews (E=Evaluation)										
Course	Title	Spring 2019	Fall 2019	Spring 2020	Fall 2020	Spring 2021	Fall 2021	Spring 2022	Fall 2022	Spring 2023
CMGT 11000	Introduction to Construction Management					COVID19 (suspending IAB reviews)		E		
CMGT 12000	Materials and Methods								E	
CMGT 15000	Surveying							E		
CMGT 21000	Quantity Take-off									E
CMGT 25000	Mechanical and Electrical Systems				E					
CMGT 26000	Statics	E								
CMGT 31000	Cost Estimating			E						
CMGT 32000	Scheduling and Project Control									E
CMGT 33000	Contract Administration and Specifications	E								
CMGT 35000	Material Testing									E
CMGT 36000	Strength of Materials							E		
CMGT 37000	Temporary Structures in Construction									E
CMGT 38000	Infrastructure Planning, Engineering, and Economics				E					
CMGT 39000	Construction Experience III									
CMGT 41000	Equipment and Field Operations								E	
CMGT 42000	Safety and Inspection									E
CMGT 43000	Jobsite Management	E								
CMGT 44000	Project Management Capstone				E					
CMGT 45000	Structural Systems and Analysis									E (Cancelled)
CMGT 46000	Soils and Foundations		E							

Appendix 1

Alumni Survey

Sept – Dec, 2022 CM Alumni Survey Online Form
(surveyed via Qualtrics Online)

What is your name? (Optional)

When did you graduate from the construction (CEMT or CM) program at IUPUI?

Who do you work for and what is your position or title?

Considering your participation in continuing education (for example, seminars, product presentations, lunch-and-learns, toolbox talks, etc.) since you've graduated, how would you evaluate your continuing education and life-long learning?

Very well

Good

Adequate

Fair

Poor

How well do you practice effective written and oral communication skills?

Very well

Good

Adequate

Fair

Poor

How well do you participate within an interdisciplinary team environment?

Very well

Good

Adequate

Fair

Poor

How well do you demonstrate an ability to apply problem solving skills and integrate technical knowledge?

Very well

Good

Adequate

Fair

Poor

How well have you become an engaged construction professional who comprehends the ethical, social, environmental, and economic impacts of construction decisions and solutions?

Very well

Good

Adequate

Fair

Poor

How well have you become an engaged citizen who seeks service and leadership roles in professional societies and organizations, as well as the community?

Very well

Good

Adequate

Fair

Poor

What is your email address? (optional)



Sept – Dec, 2022 CM Alumni Survey Result
(surveyed via Qualtrics Online)

Default Report

CMGT Alumni Survey

January 12th 2023, 9:28 am MST

Q1 - What is your name? (Optional)

What is your name? (Optional) *Deleted survey results due to personal information*

What is your name? (Optional) *Deleted survey results due to personal information*

Q2 - When did you graduate from the construction (CEMT or CM) program at IUPUI?

When did you graduate from the construction (CEMT or CM) program at IUPUI? *Deleted survey results due to personal information*

Q3 - Who do you work for and what is you position or title?

Who do you work for and what is you position or title?

Thompson Thrift Construction, Preconstruction Project Engineer

IEA / Renewables Estimator

Taylor Bros Construction as a Project Engineer

Lithko Contracting, LLC. Field engineer

The Skillman Corporation- Project Engineer

Walsh Construction - Project Engineer II

Milestone Contractors L.P Project Manager

CLD Group, LLC, partner

The Skillman Corporation

CPM Construction, Project Engineer

Shiel Sexton Project Engineer

IEA - Project Scheduler

Infrastructure & Energy Alternatives Inc. (IEA)

Geiger and Peters - Assistant PM

Geiger and Peters, Project Manager

Geiger and Peters - Project Managers Assistant in training for a Project Manager position

Messer Construction - Project Manager

Milestone Contractors L.P. Project Manager

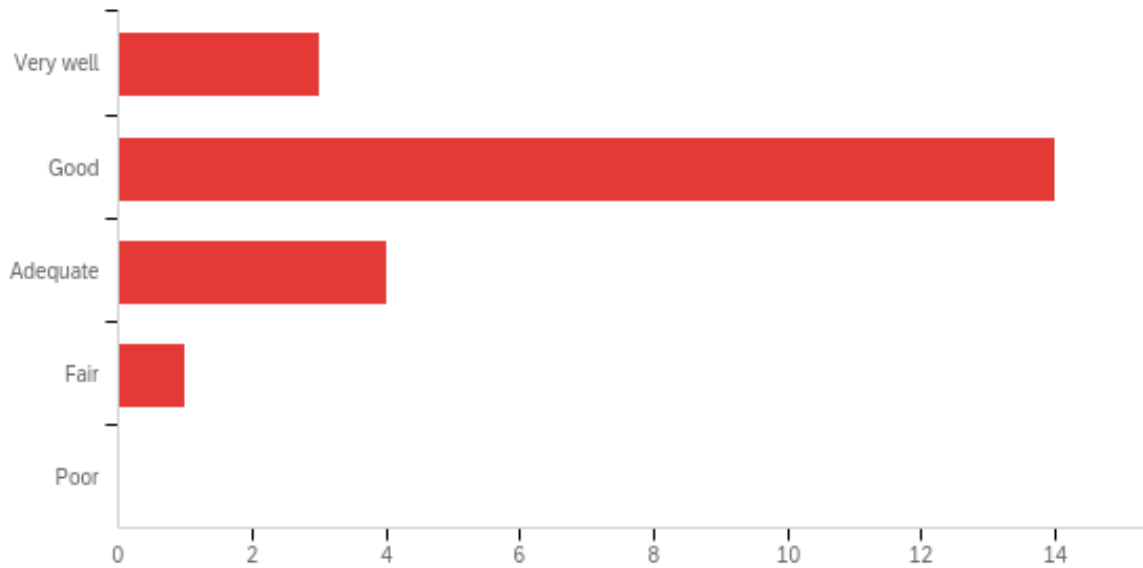
F.A. Wilhelm Construction - Quality Assurance Engineer

Kendall Property Group - Vice President of Construction

BMWC Constructors (Project Engineer)

Seamless Roofing LLC, Business Development Rep

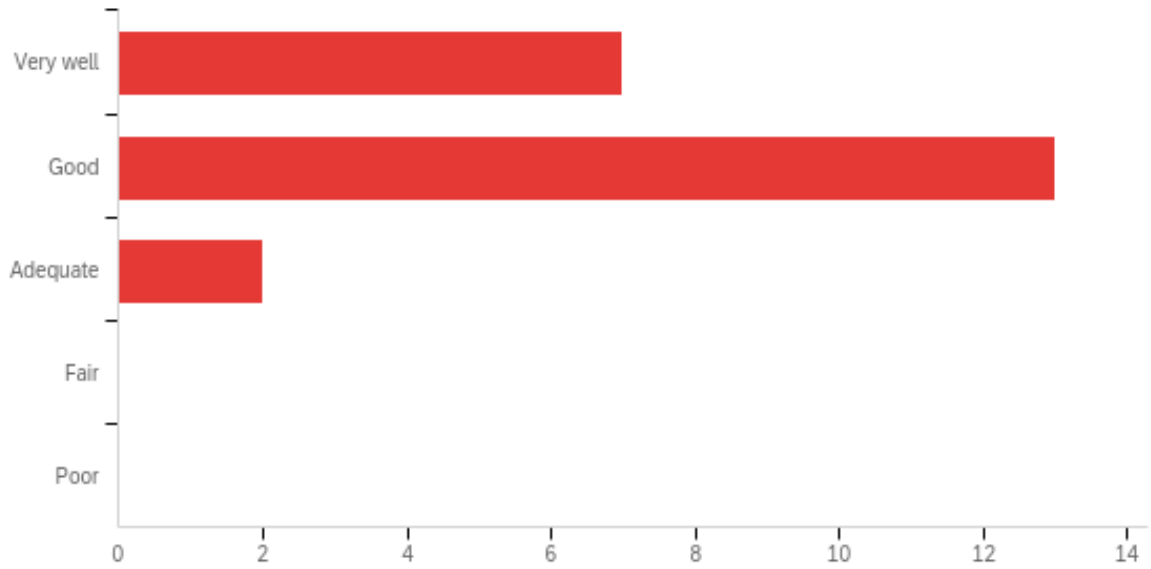
Q4 - Considering your participation in continuing education (for example, seminars, product presentations, lunch-and-learns, toolbox talks, etc.) since you've graduated, how would you evaluate your continuing education and life-long learning?



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Considering your participation in continuing education (for example, seminars, product presentations, lunch-and-learns, toolbox talks, etc.) since you've graduated, how would you evaluate your continuing education and life-long learning?	1.00	4.00	2.14	0.69	0.48	22

#	Answer	%	Count
1	Very well	13.64%	3
2	Good	63.64%	14
3	Adequate	18.18%	4
4	Fair	4.55%	1
5	Poor	0.00%	0
	Total	100%	22

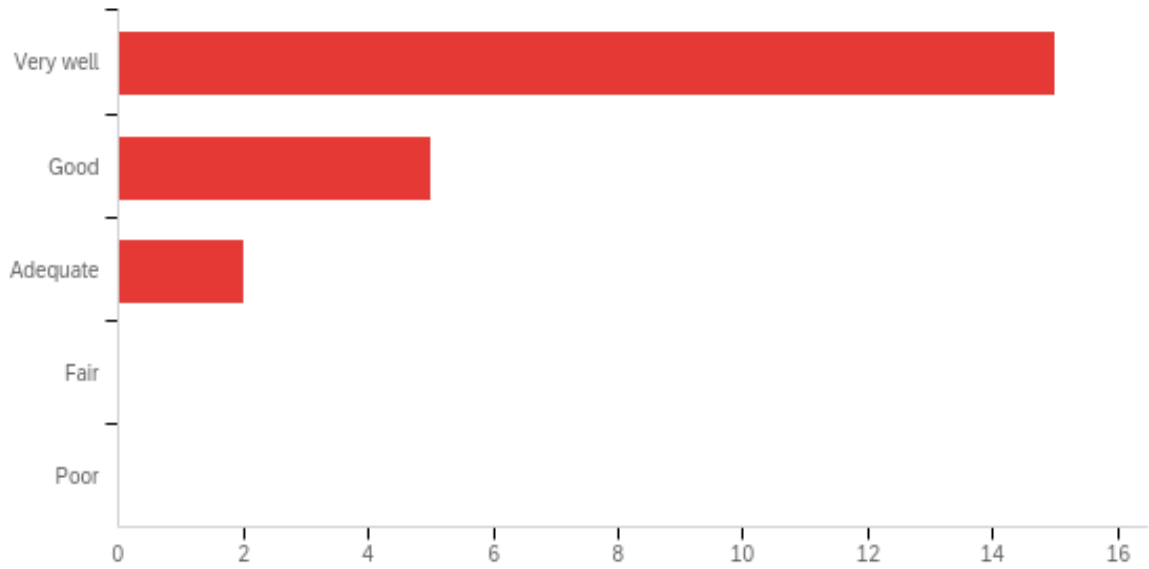
Q5 - How well do you practice effective written and oral communication skills?



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	How well do you practice effective written and oral communication skills?	1.00	3.00	1.77	0.60	0.36	22

#	Answer	%	Count
1	Very well	31.82%	7
2	Good	59.09%	13
3	Adequate	9.09%	2
4	Fair	0.00%	0
5	Poor	0.00%	0
	Total	100%	22

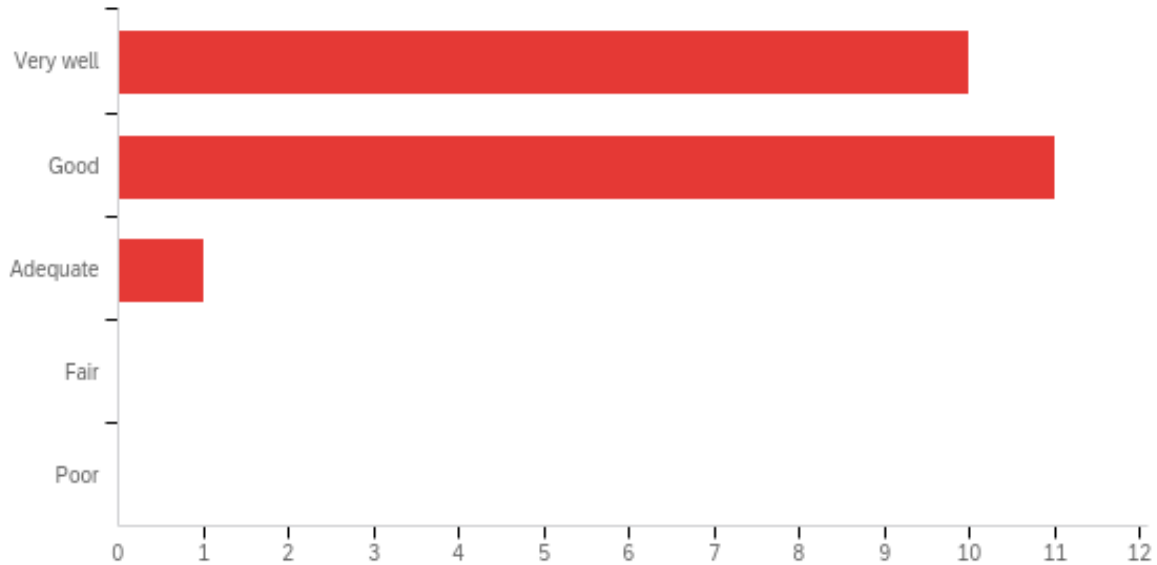
Q6 - How well do you participate within an interdisciplinary team environment?



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	How well do you participate within an interdisciplinary team environment?	1.00	3.00	1.41	0.65	0.42	22

#	Answer	%	Count
1	Very well	68.18%	15
2	Good	22.73%	5
3	Adequate	9.09%	2
4	Fair	0.00%	0
5	Poor	0.00%	0
	Total	100%	22

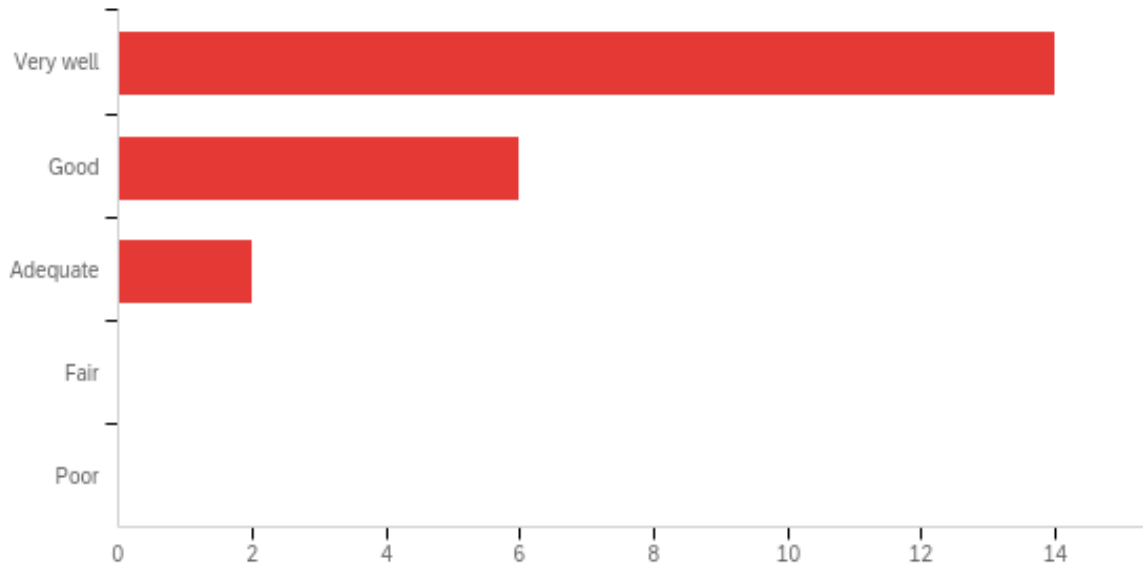
Q7 - How well do you demonstrate an ability to apply problem solving skills and integrate technical knowledge?



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	How well do you demonstrate an ability to apply problem solving skills and integrate technical knowledge?	1.00	3.00	1.59	0.58	0.33	22

#	Answer	%	Count
1	Very well	45.45%	10
2	Good	50.00%	11
3	Adequate	4.55%	1
4	Fair	0.00%	0
5	Poor	0.00%	0
	Total	100%	22

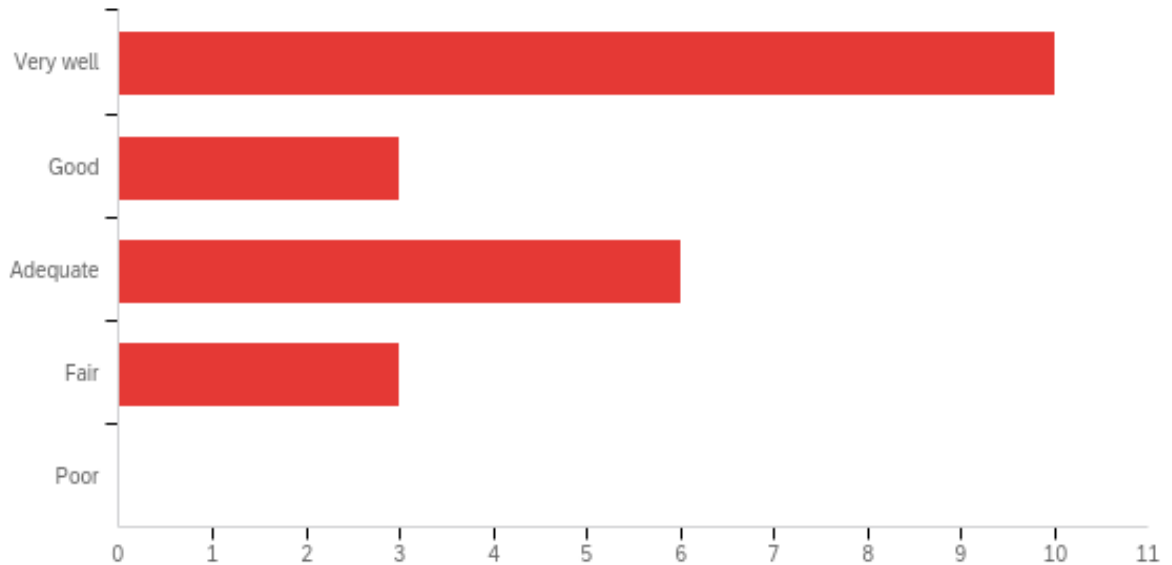
Q8 - How well have you become an engaged construction professional who comprehends the ethical, social, environmental, and economic impacts of construction decisions and solutions?



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	How well have you become an engaged construction professional who comprehends the ethical, social, environmental, and economic impacts of construction decisions and solutions?	1.00	3.00	1.45	0.66	0.43	22

#	Answer	%	Count
1	Very well	63.64%	14
2	Good	27.27%	6
3	Adequate	9.09%	2
4	Fair	0.00%	0
5	Poor	0.00%	0
	Total	100%	22

Q8 - How well have you become an engaged citizen who seeks service and leadership roles in professional societies and organizations, as well as the community?



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	How well have you become an engaged citizen who seeks service and leadership roles in professional societies and organizations, as well as the community?	1.00	4.00	2.09	1.12	1.26	22

#	Answer	%	Count
1	Very well	45.45%	10
2	Good	13.64%	3
3	Adequate	27.27%	6
4	Fair	13.64%	3
5	Poor	0.00%	0
	Total	100%	22

Q10 - What is your email address? (optional)

What is your email address? (optional) *Deleted survey results due to personal information*

Appendix 2

Senior Exit Interviews and Surveys*

(*Senior exit interview was changed from in-person to online survey due to COVID-19 and convenience)

Construction Management
Graduation Senior Exit Interview Questions
December 13, 2019

1. What did you like best about the CM program?
 - The classes are put together very well. A student has been enrolled in other schools a felt like the CM classes were much more organized and expectations were more clear than other places.
 - The CM program provided a great overview of the entire construction process and site management.
 - The CM program estimating and scheduling classes were good.
 - The CM program safety class was a great experience. The OSHA 30 hour certification was very helpful.

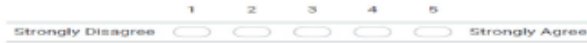
2. What did you like least about the CM program?
 - The CM program advisors are very poor. Seemed really combative and not very helpful. What was told to the students for the first two years was different than what they were told the last two years.
 - There was too much focus on materials classes. One class on the materials topic is probably enough.
 - The engagement from IUPUI faculty and staff surrounding internships is very weak. The fee the students have to pay for the internship program is worthless.
 - A large majority of the program seems to focus on commercial construction.

3. What suggestions do you have for improving the CM program?
 - Would like to see more introduction to the business management side of the industry. There is a lot of focus on the details and how everything comes together, but it would be good to learn more about how to manage everything at a higher level.
 - Students need more involvement from the CM program faculty and staff surrounding internships and helping students find those opportunities.
 - Would like to see an introduction to more construction industries: MEP, civil, road, industrial, etc.
 - Estimating class should be broken up in to two different classes. It seems to be too much material for just a single semester.

4. Ask questions about student debt?
 - Four students:
 - o No debt, used GI Bill
 - o \$40k debt. Feels comfortable and sees it being well worth the value.
 - o \$50k+ debt. Out of state tuition. Feels like it was valuable.
 - o No debt, scholarships & family help.

**CONSTRUCTION MANAGEMENT
GRADUATING SENIOR EXIT INTERVIEW SURVEY SUMMARY - FALL 2020**

SCORING CRITERIA



SURVEY QUESTION OR STATEMENT

STUDENT'S NAME	1. Why did you select IUPUI?
A	IUPUI was close enough to home and offered the degree plan I was looking for.
C	I felt this was the most affordable and professional school in my area.
H	Close to home and was the route I initially needed to go to Purdue
G	Downtown setting which meant more types of jobs that would be available for my major.
A	I selected IUPUI mainly for three reasons. First, I have always wanted to live in Indianapolis. I felt like this was an excellent opportunity for me to at least try out living in the city, and I ended up loving it. Secondly, I was excited about the opportunity to go to college in a working city rather than just a college town. I knew this would mean more opportunity for employment and internships, and that did not disappoint. Finally, I was given the opportunity to be a member of the IUPUI Honors College, and I am so thankful I did that.
Ja	It was closest to home, had the program I wanted, worked well with veterans.
Y	I chose IUPUI because of the Purdue Degree offered and also the location is in downtown Indianapolis which gives better work opportunity. IUPUI also offered me a scholarship which was very important for me as an international student.
K	I selected IUPUI because of its affiliation with Purdue University, the price of tuition, and it's convenient location in downtown Indianapolis.
R	I selected IUPUI because I wanted to pursue a degree in the construction industry. I live in Bloomington and my only options were IUPUI and Purdue. IUPUI was a lot closer of a drive for the same degree.
V	IUPUI allowed me to be located in Indianapolis. I felt that going to school in Indianapolis gave me an edge over students going to school in West Lafayette or Bloomington, or any other college town. Being in Indy allowed me to make connections with companies located blocks away from campus. Indianapolis also allowed me to make connections outside of the construction industry.

STUDENT'S NAME	2. Why did you select Construction Management as your major?
A	I switched to construction management after realizing I was not interested in computer engineering like I thought I was. Construction piqued my interest, so I went with. I love it.
C	After reviewing several "the day in the life" videos on careers, I felt this program reflected my personality traits.
H	I wanted something more business oriented other than Mechanical Engineering when I first started
G	I selected CM because I always wanted to be in the construction industry, and it is what I felt most comfortable with coming out of high school.
A	I originally wanted to be an architect, as I have always had a love for design and construction. However, I wanted to be involved more in the actual construction process.
Ja	Seemed like a good career I could support my family with.
Y	I selected CM as my major as I wanted to do something more hands on and my father is a civil engineer by profession, so I wanted to follow his footsteps. I originally wanted to pursue civil engineering but IUPUI did not offer a civil engineering degree so I had to go with CM.
K	I was originally enrolled at Purdue University in Mechanical Engineering Technology, but decided that it was not the career path for me. I selected Construction Management because it had the technical aspect of MET, but was easier for me to visualize and understand.
R	I wanted to stay in the construction field but not limit myself to one particular trade.
V	I worked several construction and landscaping type jobs in high school, I really fell in love with the business during that time. It seemed like the right thing to do, and I am glad I stuck with it.

STUDENT'S NAME	3. The CM program's learning objectives and plan of study have met my individual interests and career goals.	SCORE	AVERAGE
H	It taught me a lot and showed me things that I already knew do to experience	45	4.5
A	I was very pleased with the design of the program and I felt that it fully prepared me for the industry. I did feel a couple classes were not needed and felt like busy work.		
Ja	I feel like I have learned important aspects of construction and have been given a good foundation to start my career on.		
Y	I learned a lot about construction and management in the CM program but I think we lacked some important engineering courses and the main engineering courses such as strength of materials and mechanics of materials were not taught in depth.		
V	Overall, I feel that the program touched on a wide range of aspects. However, I would have liked to see more of an emphasis on the civil and design side of the industry.		

STUDENT'S NAME	4. My experiences with the CM program provided me the opportunities to learn from faculty who used effective teaching methods.	SCORE	AVERAGE
A	I enjoyed all of my professors and believe that they did their absolute best to help students understand anything that they may have had issues with.	44	4.4
H	Some people seemed out dated compared to what I've seen out at sites but it may be just a different perspective.		
A	Absolutely this is one of my favorite parts about the program is all of the adjunct faculty. I love this because they are working in the industry every day and are able to teach exactly what we need to know.		
Ja	I felt that my instructors knew what they were talking about but I do not feel like every class I took was necessary.		

Most of the faculty did really well in teaching the materials. All the faculty members were very knowledgeable in the construction industry. However I do not agree with the teaching style of some faculties who just read from power points slides for two hours and had no activities in class which made the lecture monotonous and boring to attend.

All professors I had were extremely welcoming and helpful. I have no complaints regarding my professors.

STUDENT'S NAME	5. My experiences with the CM program provided me the opportunities to learn from effective lab exercises and computer skills.	SCORE	AVERAGE
	<p>Covid proved to be sort of an issue with the last two semesters for classes with labs, but overall the lab experiences were great.</p> <p>Some labs seemed better to teach why we do something rather than showing.</p> <p>Yes, I would agree the number of labs was adequate in the program and helped my learning. I also learned a lot of good practices via the computer methods.</p> <p>Learning Microsoft programs and procore have already been very useful at work.</p> <p>All the labs were great and I learned a lot in these labs. The computer skills I gained were also great and really helpful. However I feel that we could have picked one software and learned about it in great detail. We were exposed to a lot of software at the beginners level but I would not say I am an expert in any of the softwares I learned.</p> <p>Much of my lab and classroom experiences have been reflected in the field and in real world work.</p>	45	4.5

STUDENT'S NAME	6. My experiences with the CM program provided me the opportunities to gain real world construction management experiences during internships.	SCORE	AVERAGE
Vincent Yetzko	<p>Yes, I was able to land two very good internships during my time in the program, and feel extremely blessed and prepared with this program.</p> <p>I was turned into cheap labor for my internship, I still can not think on one useful thing I learned during my internship. I should have advocated for myself better but I also think the school should have taught me how to do that and warned me that companies would try to do that.</p> <p>I loved the fact that I was able to intern with a company and learned a great deal about the real world. However, as an international student who is on a visa, it was really hard for me to find an internship. The CM program should consider that there are international students who have not worked in the USA before and do not know about the job market here and should better assist them in finding internship and full time opportunities. Visa issues should not be a factor in someones learning. Finding an internship is still okay but getting a full time job as an international student is very very tough because companies do not want to sponsor visas for international students.</p> <p>Most of my classroom teachings have been applied to my internship experiences.</p>	44	4.4

STUDENT'S NAME	7. In which of the following construction sectors did you start your career? Please provide the employer's name, if applicable.	Responses
	Commercial	5
	Employer: Advanced Energy Protection	
	Employer: Seamless Roofing LLC, commercial roofing Subcontractor	
	Employer: Shiel Sexton	
	Employer: North Mechanical Contracting	
	Employer: Building Associates, Inc.	
	Heavy highway / civil construction	3
	Employer(s): (SJCA), (Beam Longest, and Neff)	
	Employer: Gradex, Indianapolis, In	
	Employer: Clark Dietz	
	Industrial construction	
	Residential construction	2
	Employer: TWG Construction (Multi-Family)	
	Employer: FSR Contractors, Carmel, In	
	Graduate school	
	Manufacturers/suppliers of construction materials	
	Other	
	Retail Construction - Employer: Taylor Bros Construction	1

STUDENT'S NAME	8. Please indicate the salary range that you accepted coming into the construction workforce.	Responses
	\$40,000 - \$45,000	
	\$45,000 - \$50,000	1
	\$50,000 - \$55,000	2
	\$55,000 - \$60,000	3
	\$60,000 - \$65,000	3
	> \$65,000	1
		10
	I do not have a full time offer yet but am working hard to get one therefore I do not fall in the above salary range.	
	I am still working my salary out with my current employer now and expect it to be in the following range.	

47500	47500
52500	105000
57500	172500
62500	187500
65000	65000
577500	57750

STUDENT'S NAME	9. What did you like best about the CM program?
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	The professors were all very easy to get along with and all had vast knowledge of the industry.
	I felt the CM program prepared me for the work environment. It reflected almost exactly what I needed to know to perform my job.
	Learning multiple different fields rather than just one possible route
	I liked that the classrooms were mostly in small numbers which helped with one on one relationships between professor and student.
	The opportunity to work with professors who work in the industry each day, and care about providing students with great opportunities and making sure we are ready to graduate.
	Learning about construction and meeting other classmates who were interested in the same things and working with them.
	Faculty is great and very helpful. Learned a lot about the construction industry. Internships helped me gain real world experience.
	My favorite part of the CM program was the small class sizes. I always felt like personal attention and help was there if I needed it. There were very few large lectures or labs where I felt lost in the crowd.
	I liked how most classes were directly related to my current job and helped me grow at a quicker pace. This program did a great job at preparing me in every aspect. I also liked how it was a mix of professors and adjunct professors.
	Small class sizes. I don't think I ever had a CEMT class with more than 25 or 30 students at a time. It allowed me to really know my professors, I enjoyed that quite so.

STUDENT'S NAME	10. What did you like least about the CM program?
	Lack of ability to create a flexible schedule. Most the CMGT classes were only offered at one time a week.
	Some classes felt as though they were repeating. I understand the need for reinforcement of learning, but it felt as though they were "filler classes". One example would be "project conditions". The capstone course more than prepares you and an additional class was not needed.
	Some lessons seemed force rather than teaching .
	I wish there were more "field trip" type activities.
	At times, I did feel there were some busy work type classes, especially early on. However, as the program moved along the classes got much more applicable.
	I could have learned everything I need to know for my career in about 2 year, maybe less. There are so many wasted classes/time needed to graduate.
	Less focus on the engineering side which is fine now but when I joined back in 2017, it was still CEMT so I did expect some engineering courses.
	Math requirement is very low.
	Scholarships more for American citizens not international students
	Some classes were just 2 hours lectures and we cannot pay attention for that long without getting distracted.
	Some faculties did an amazing job recognizing that and made their lectures more enjoyable but some faculties just wanted to get through the lectures and that made the class dull.
	My least favorite part of the CM program was the limited class availability. There were many classes that only offered one meeting time. This didn't allow for much schedule flexibility, which was difficult when also working full-time.
	I feel like a some of the classes were more engineering based, and not CMGT based. I understand it was more to become a well-rounded student, but I often found myself not as motivated and interested as the class was not related to my degree.
	The slight emphasis on business. I feel that, in a way, it is like putting all your eggs in one basket.
	Construction is a diverse business, and I would have liked to see more diverse topics taught in the program.

STUDENT'S NAME	11. What suggestions do you have for improving the CM program?
	Keep up the good work. I learned a lot and feel prepared.
	Focus on the estimating portion of this career. I wasn't a fan of estimating, but it prepares you the most. It trains your mind to look for the detail-oriented portions of the project. I feel that the program did prepare me, but adding more of this in classes couldn't hurt.
	Maybe bringing in more business to Guest teach specific lessons.
	Going off of last question, maybe adding activities where students would be able to go in the field and learn or even a class that did activities with Habitat for Humanity where students could learn the processes of scheduling in a real-world environment.
	My biggest suggestion is to continuing adding more with newer trends in the industry.
	Combine some classes and save your students time/money.
	Can work with the office of international affairs at IUPUI to see how they can better assist international students.
	Some classes need activities or labs so that students don't sit and stare at the screen for 2 hours
	But overall, great program and I am honored to be graduating from this program
	There are several classes in the program that seemed to repeat and re-teach the same material. I understand that this material is important to the curriculum, but I feel like these classes could have been changed to add new material.
	I really do not have any suggestions, I believe the CM program fit my needs perfectly and if I could recommend it to anyone I would.
	More of an emphasis on design, civil, and architectural aspects of the industry. As well as bringing back the second surveying course. As well as more classes regarding the industrial and residential side of construction.
	I felt like the change to the program to emphasis the business side was not the right move by the school.

STUDENT'S NAME	12. If you are graduating with student debt, please indicate the range that best describes your circumstances.	Responses
	No debt	4
	I went to school on the GI bill, if it was not for that I would have never signed up for school.	
	< \$5,000	2



Student loans for tuition because international students pay three times more than normal tuition rate.	
\$5,000 - \$10,000	1
\$10,000 - \$15,000	
\$15,000 - \$20,000	1
\$20,000 - \$25,000	
\$25,000 - \$30,000	
> \$35,000	
> \$40,000	
> \$50,000	2

13. Are you graduating this semester?	Responses	
	Yes = 9	No = 1

NOTE: All scores, answers, and comments are based on 10/11 participants.

Q1 - Why did you select IUPUI?

Why did you select IUPUI?

It was on the cheaper end and I could still get a degree from Purdue

Iupui was close to home and I could get both IU and Purdue degrees.

Recommend

location, cost, opportunity, experience

Purdue Degree, Close to home (Westfield), 2+2 transfer program from Ivy Tech

near to where i lived

Cheaper than Purdue but the same degree. Not as far from home. Big construction industry in Indianapolis.

Price and location

Q2 - Why did you select Construction Management as your major?

Why did you select Construction Management as your major?

I have always enjoyed working outside and being complete projects

I have been involved with construction since I was little.

Childhood dream

Purdue degree, experienced professors, multiple different opportunities

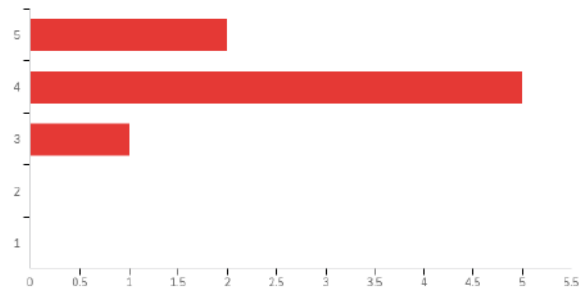
I like to work outside and with my hands. I like building/making projects, not a fan of the average desk 9-5 job with management breathing down your neck.

wanted to learn as much as i can about construction

I grew up in a constriction family and always loved the opportunity to build.

I've always been interested in construction

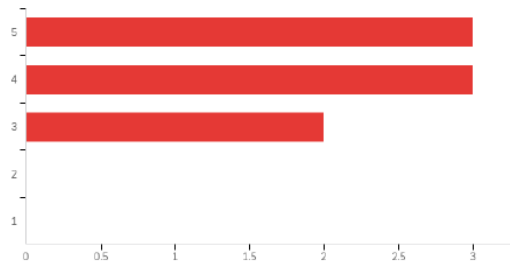
Q3 - The CM program's courses have met my individual interests and career goals. (5 will be most satisfied or agreed, 1 will be least satisfied or disagreed)



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	The CM program's courses have met my individual interests and career goals. (5 will be most satisfied or agreed, 1 will be least satisfied or disagreed)	61.00	63.00	61.88	0.60	0.36	8

#	Answer	%	Count
61	5	25.00%	2
62	4	62.50%	5
63	3	12.50%	1
64	2	0.00%	0
65	1	0.00%	0
	Total	100%	8

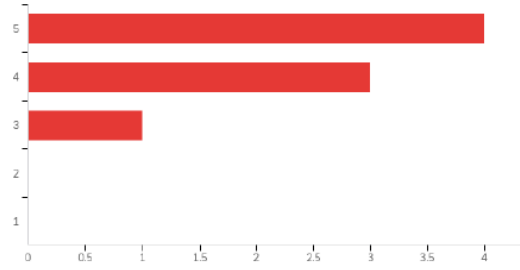
Q4 - My experiences with the CM program provided me the opportunities to learn from faculty who used effective teaching methods (5 will be most satisfied or agreed, 1 will be least satisfied or disagreed)



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	My experiences with the CM program provided me the opportunities to learn from faculty who used effective teaching methods (5 will be most satisfied or agreed, 1 will be least satisfied or disagreed)	16.00	18.00	16.88	0.78	0.61	8

#	Answer	%	Count
16	5	37.50%	3
17	4	37.50%	3
18	3	25.00%	2
19	2	0.00%	0
20	1	0.00%	0
	Total	100%	8

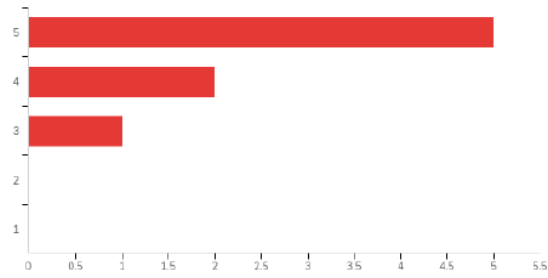
Q5 - My experiences with the CM program provided me with the opportunities to learn from effective lab exercises and computer skills. (5 will be most satisfied or agreed, 1 will be least satisfied or disagreed)



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	My experiences with the CM program provided me with the opportunities to learn from effective lab exercises and computer skills. (5 will be most satisfied or agreed, 1 will be least satisfied or disagreed)	21.00	23.00	21.63	0.70	0.48	8

#	Answer	%	Count
21	5	50.00%	4
22	4	37.50%	3
23	3	12.50%	1
24	2	0.00%	0
25	1	0.00%	0
	Total	100%	8

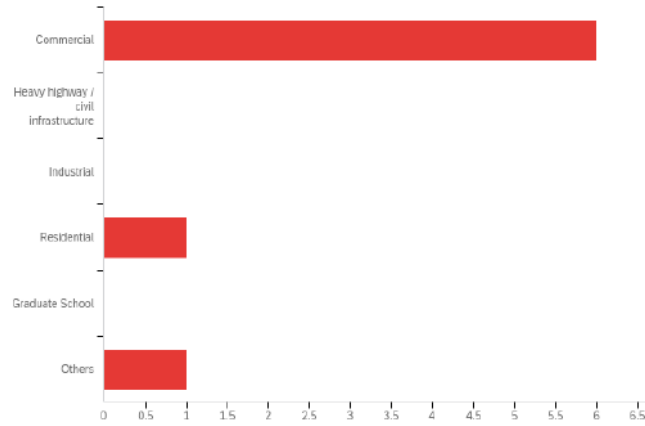
Q6 - My experiences with the CM program provided me with the opportunities to gain real-world construction management experiences during internships. (5 will be most satisfied or agreed, 1 will be least satisfied or disagreed)



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	My experiences with the CM program provided me with the opportunities to gain real-world construction management experiences during internships. (5 will be most satisfied or agreed, 1 will be least satisfied or disagreed)	29.00	31.00	29.50	0.71	0.50	8

#	Answer	%	Count
29	5	62.50%	5
30	4	25.00%	2
31	3	12.50%	1
32	2	0.00%	0
33	1	0.00%	0
	Total	100%	8

Q7 - In which of the following construction sectors did you start your career?



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	In which of the following construction sectors did you start your career?	1.00	6.00	2.00	1.80	3.25	8

#	Answer	%	Count
1	Commercial	75.00%	6
2	Heavy highway / civil infrastructure	0.00%	0
3	Industrial	0.00%	0
4	Residential	12.50%	1
5	Graduate School	0.00%	0
6	Others	12.50%	1
	Total	100%	8

Q8 - Please provide the employer's name.

Please provide the employer's name.

T&W

Magnolia Health Systems

EF Marburger

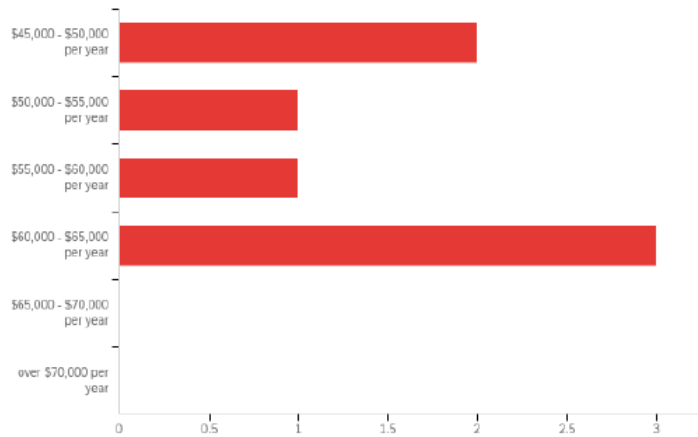
Myers Construction Management, Inc.

Lennar

shiel sexton

Geiger and Peters

Q9 - Please indicate the salary range that you accepted coming into the construction workforce with the CM degree.



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Please indicate the salary range that you accepted coming into the construction workforce with the CM degree.	1.00	4.00	2.71	1.28	1.63	7

#	Answer	%	Count
1	\$45,000 - \$50,000 per year	28.57%	2
2	\$50,000 - \$55,000 per year	14.29%	1
3	\$55,000 - \$60,000 per year	14.29%	1
4	\$60,000 - \$65,000 per year	42.86%	3
5	\$65,000 - \$70,000 per year	0.00%	0
6	over \$70,000 per year	0.00%	0

Q10 - What did you like best about the CM program?

What did you like best about the CM program?

I liked the capstone the best, it was ally captivate everything we have learned over the years

Most of the classes taught real world situations

Online classes

Labs, site visits, down to earth professors and students

the community that it builds in the program

We have some of the best professor's in the area.

The professors

Q11 - What did you like least about the CM program?

What did you like least about the CM program?

I felt like some of the professors along the way dropped the ball on the material they taught us and I did not like that we did not have a single hands on class for building.

There wasn't enough hands on labs.

Homework

three hour power-points read in monotone

how behind the times the program teaches

We also have some professors that are not so great.

No CAD classes

Q12 - What suggestions do you have for improving the CM program?

What suggestions do you have for improving the CM program?

I suggest that there is another class added for scheduling and I highly suggest there is class about carpentry because there is a lot of students that I feel like do not even know how to swing a hammer. Also having more classes with reading and understanding full sets of blueprints, not just snippets on canvas.

Show students how to handle construction tools or even just show them how to build things.

Focus more on real world experiences

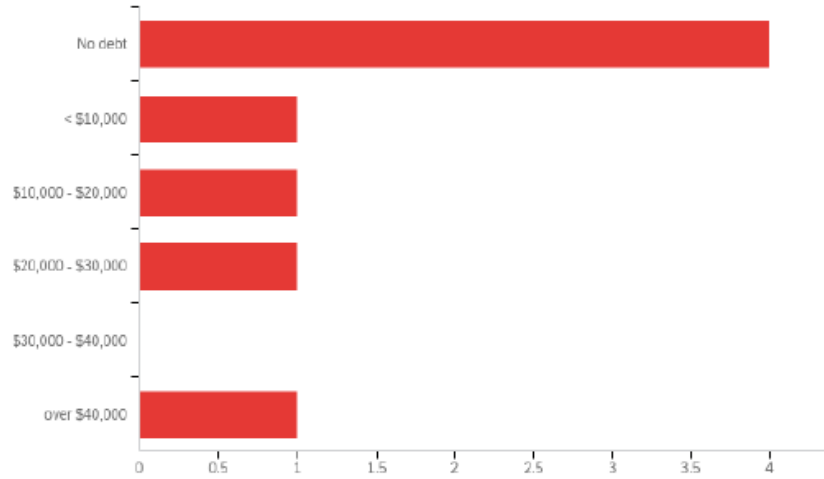
make sure each professor is teaching each class in an engaging manor

teaching cpm prgrams or digital construction adds like purdue in west lafayette does

Instead of a few adjunct proffessors that also work and don't have the actual time to teach, hire a couple more good teachers that will tske on multiple classes.

Add more CAD classes

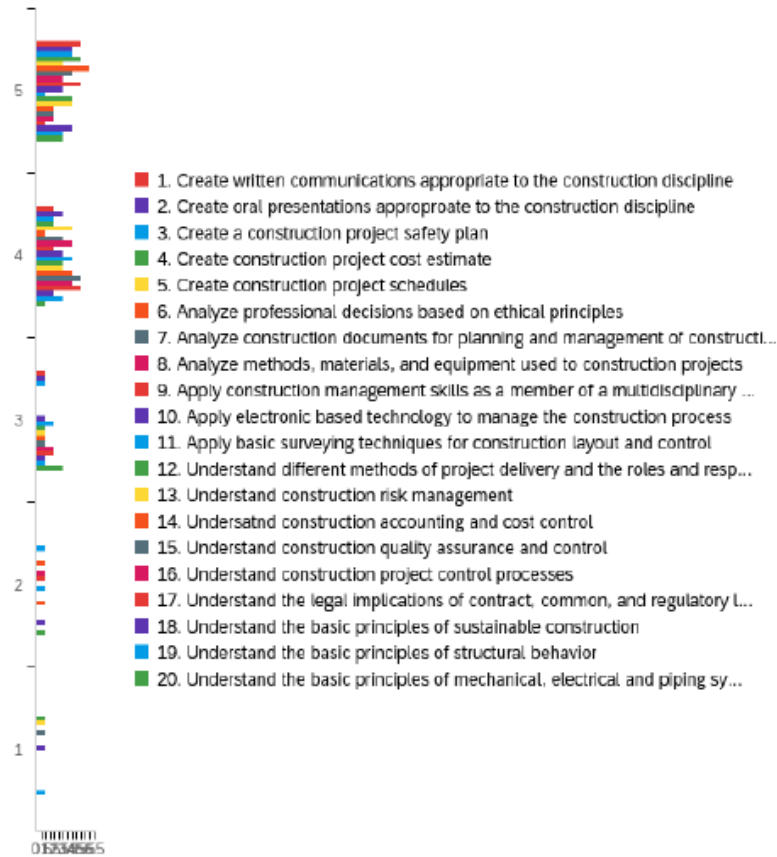
Q13 - If you are graduating with student debt, please indicate the range that best describes your circumstances.



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	If you are graduating with student debt, please indicate the range that best describes your circumstances.	1.00	6.00	2.38	1.73	2.98	8

#	Answer	%	Count
1	No debt	50.00%	4
2	< \$10,000	12.50%	1
3	\$10,000 - \$20,000	12.50%	1
4	\$20,000 - \$30,000	12.50%	1
5	\$30,000 - \$40,000	0.00%	0
6	over \$40,000	12.50%	1
	Total	100%	8

Q14 - Our accreditation agency, The American Council for Construction Education (ACCE), has established learning outcomes that set out what you should be able to do upon graduation. Please rate that you have achieved the following outcomes in Likert scale (5 will be most satisfied or agreed, 1 will be least satisfied or disagreed).



#	Question	5	4	3	2	1	Total
1	1. Create written communications appropriate to the construction discipline	62.50%	25.00%	12.50%	0.00%	0.00%	8

2	2. Create oral presentations appropriate to the construction discipline	50.00%	4	37.50%	3	12.50%	1	0.00%	0	0.00%	0	8
3	3. Create a construction project safety plan	50.00%	4	25.00%	2	12.50%	1	12.50%	1	0.00%	0	8
4	4. Create construction project cost estimate	62.50%	5	25.00%	2	0.00%	0	0.00%	0	12.50%	1	8
5	5. Create construction project schedules	37.50%	3	50.00%	4	0.00%	0	0.00%	0	12.50%	1	8
6	6. Analyze professional decisions based on ethical principles	75.00%	6	12.50%	1	0.00%	0	12.50%	1	0.00%	0	8
7	7. Analyze construction documents for planning and management of construction processes	50.00%	4	37.50%	3	0.00%	0	0.00%	0	12.50%	1	8
8	8. Analyze methods, materials, and equipment used to construction projects	37.50%	3	50.00%	4	0.00%	0	12.50%	1	0.00%	0	8
9	9. Apply construction management skills as a member of a multidisciplinary team	62.50%	5	25.00%	2	0.00%	0	12.50%	1	0.00%	0	8
10	10. Apply electronic based technology to manage the construction process	37.50%	3	37.50%	3	12.50%	1	0.00%	0	12.50%	1	8
11	11. Apply basic surveying techniques for construction layout and control	12.50%	1	50.00%	4	25.00%	2	12.50%	1	0.00%	0	8
12	12. Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process	50.00%	4	37.50%	3	12.50%	1	0.00%	0	0.00%	0	8
13	13. Understand construction risk management	50.00%	4	37.50%	3	12.50%	1	0.00%	0	0.00%	0	8
14	14. Understand construction accounting and cost control	25.00%	2	50.00%	4	12.50%	1	12.50%	1	0.00%	0	8
15	15. Understand construction quality assurance and control	25.00%	2	62.50%	5	12.50%	1	0.00%	0	0.00%	0	8
16	16. Understand construction project control processes	25.00%	2	50.00%	4	25.00%	2	0.00%	0	0.00%	0	8
17	17. Understand the legal implications of contract, common, and regulatory law to manage a construction project	12.50%	1	62.50%	5	25.00%	2	0.00%	0	0.00%	0	8
18	18. Understand the basic principles of sustainable construction	50.00%	4	25.00%	2	12.50%	1	12.50%	1	0.00%	0	8
19	19. Understand the basic principles of structural behavior	37.50%	3	37.50%	3	12.50%	1	0.00%	0	12.50%	1	8
20	20. Understand the basic principles of mechanical, electrical and piping systems	37.50%	3	12.50%	1	37.50%	3	12.50%	1	0.00%	0	8

Appendix 3

CM IAB Course Reviews

CEMT 43000 (CMGT 46000) Fall 2019, page 74-75

CEMT 34200 (CMGT 31000) Spring 2020, page 76

CMGT 25000 Fall 2020, page 77 – 79

CMGT 38000 Fall 2020, page 80-81

CMGT 44000 Fall 2020, page 82- 85

CMGT 15000 Spring 2022, page

CMGT 36000 Spring 2022, page

CMGT 11000 Spring 2022, page

CMGT 35000 Fall 2022, page

CMGT 12000 Fall 2022, page

CMGT 32000 Fall 2022, page

**Classroom Observation Information Sheet
(to be completed by the course instructor)**

Instructor: Dan Koo, Ph.D., P.E.

Date: November 7th, 2019

Course No. and Title: CEMT 43000 Soils and Foundations

1. What are the goals for the class that I will observe?
The class objectives for Special Topic – Subsurface Utility Engineering are 1) understanding and identifying utility infrastructure buried underground, 2) understanding subsurface utility engineering (SUE), and 3) applying SUE to actual construction projects.
2. What are the plans for achieving these goals?
The instructor will provide a lecture based on the latest industry materials for professional training. The power point slides includes materials and topics such as embedded videos, utility drawings, utility reports, national utility infrastructure, and subsurface utility engineering. The instructor will cover most materials provided to students and lead the discussion for this subject.
3. What teaching/learning activities will take place?
Student engagement during the lecture, taking a quiz for previous class subject (subsurface stress), reading utility drawings and report.
4. What have students been asked to do in preparation for this class?
SUE is a new subject for the course. Students are not required to prepare for this time.
5. Will this class be typical of your teaching style? If not, why?
Yes, it will be a typical teaching style for this course.
6. What would you like me to focus on during the observation?
Effectiveness of teaching and materials to achieve the objectives stated above #1.
7. Are there other things that I should be aware of prior to the observation?
Review the course materials in Box and Canvas website.

Course Review Form
(to be completed by the IAB Reviewer)

Course Objectives and Course Content

Are the course objectives appropriate and measurable? Yes, specific goals are stated in the syllabus and correlating lesson plans/materials correspond to objectives.

Is the course content current with industry practice? Yes, this content is current with industry practices.

Other Comments and Suggestions:

Instructional Methods

Is the course text (and syllabus) appropriate from an industry perspective? Yes, text is industry appropriate, however text is outdated for new innovative techniques used in the industry

How is Canvas being used in the course? Canvas is used to organize and distribute all coursework, assignments, and for grading.

Other Comments and Suggestions:

Classroom Observation

How are classroom learning activities organized? Learning activities were presented at beginning of class period, and broken down into clear, concise, identifiable goals.

What teaching strategies are being used? Teaching techniques used were: real-world examples, PowerPoint usage, handout usage, lab assignment, and quiz taking in class.

What is the level of student interaction? Student interaction was particularly high due do the real-life examples used. Students were asking questions regarding the topic, Subsurface Utility Engineering, as well as implications for industry practices.

What types of questions are being asked? Both theoretical questions and real-world scenario questions were asking in class.

What things went well, or not so well, for this instructor or the class? To my knowledge, this class session went very well due to the student involvement and the topics discussed in class. Based on the questions asked, students seemed to grasp the content and its applications in the professional world. The professor also demonstrated very good understanding of the subject matter, and good prepwork including real construction drawings. The combination of learning techniques proved to be effective based on the level of student interaction.

Other Comments and Suggestions:

Course Review Form: CEMT 34200 Construction Cost and Bidding (3 cr.)
Instructor: Matt Ray

May 12, 2020

Reviewer Allen C. Galloway, MPA, Chairman IUPUI CM IAB

Course Objectives and Course Content

Are the course objectives appropriate and measurable? Yes

Is the course content current with industry practice? Yes

Other Comments and Suggestions: I believe the instructor is meeting ACCE SLO requirement's 4, 7, 10 and 14.

Instructional Methods

Is the course text (and syllabus) appropriate from an industry perspective? Yes

How is Canvas being used in the course? Canvas used to inform students of grades, quizzes and related course materials.

Other Comments and Suggestions: Because of the COVID-19 Pandemic I was not able to sit in on a class.

Classroom Observation

How are classroom learning activities organized? Because of the COVID-19 Pandemic I was not able to sit in on a class.

What teaching strategies are being used? Lecture and lab. Once COVID-19 Pandemic closed IUPUI down online classes were established. I have not heard from students how this effected there learning outcomes.

What is the level of student interaction? Instructor tries to reach out to students and elicit discussion on topics presented.

What types of questions are being asked? Questions related to lectures topics.

What things went well, or not so well, for this instructor or the class? I believe the students really liked the class and believed they received real industry examples and case studies.

Other Comments and Suggestions: If the instructor continues to interject relevant and up to date industry concepts, he will maintain the student's interest and motivation to learn.

Course Review Form
(to be completed by the IAB Reviewer)

CMGT 25000 - Mechanical and Electrical Systems
Fall 2020 – John Homer
Reviewed by Matt Burress

Course Objectives and Course Content

Are the course objectives appropriate and measurable?

The objectives of this class and this lesson are appropriate for the course. It is not reasonable for students to be experts in both mechanical and electrical systems after a 1 semester class but from the 3 classes I was able to observe this semester, this course does a good job of giving them background behind how mechanical and electrical systems are selected, designed and implemented in construction projects so that they have a basic working knowledge of these systems and could converse intelligently about them in the course of their future employment. This is what I would expect of a construction industry professional just entering the workforce after receiving their degree. The rest of their education in this area will be gained as work experience.

Is the course content current with industry practice? The instructor did a nice job of explaining all of the types of systems typically used in the construction industry and how they work. It is not likely that a student would encounter a mechanical or electrical system that was not discussed in this course.

Other Comments and Suggestions:

I think the remote nature of teaching this course during Covid has severely limited the options available to the instructor to keep the class interesting. Also the fact that the university has pushed this class to a once weekly session makes the session tedious for the students.

Regardless of how the class is broken up, teaching the class entirely from powerpoints using Zoom is not going to fit the learning style of every student. In non-Covid times, I think the students would benefit greatly from field trips to the mechanical and electrical rooms of the ET building for real world examples of air handling units, multi-zone units, boilers, chillers, remote condensing units, VAV boxes, transformers, MDPs and the like. The more the class can be related to the students own experience, the better. Due to the limitations of education in a Covid environment, I think the instructors options are very limited in this respect. I also believe this class could benefit from being taught in twice weekly sessions instead of one 150 minutes long marathon class.

Instructional Methods

Is the course text (and syllabus) appropriate from an industry perspective?

The three classes that I witnessed were appropriate to the topic and current industry practice.

How is Canvas being used in the course?

Canvas is being used appropriately for classwork. My observations were all performed via zoom and I did not personally utilize Canvas although it was made available to me.

Other Comments and Suggestions:

Class lectures were all via powerpoint presentations but they did follow the topics in the course text and appropriate coursework was assigned from the text that directly tied in with the lectures.

Classroom Observation

How are classroom learning activities organized?

This class was taught entirely via zoom due to Covid. The zoom presentations were organized logically to coordinate with the applicable chapters of the text.

What teaching strategies are being used?

Due to limitations of remote learning, this class is taught exclusively in a lecture style format with students able to ask questions during the presentation of the course material.

What is the level of student interaction?

The level of student interaction was very low during the courses that I observed. This is primarily due to the lecture style presentation of the course material. When student feedback was solicited or when technical difficulties occurred though the students were quick to interact so I am confident they were engaged and following along with the material. The students did not seem to want to ask questions during the zoom meetings. After speaking with teachers from several courses, this seems to be a mindset of the current generation of college students who apply peer pressure on their peers to keep questions in class to a minimum. I am not sure the teacher could do anything to counteract this pressure in a class that is taught exclusively through a remote learning platform.

What types of questions are being asked?

The students were prompted for questions at several times during the course lecture but no students chose to ask questions during the electrical lecture. The remote nature of the class coupled with the pre-disposition of the students not to ask questions made questions in rarity in the three lectures that I observed. Once again any time the students were asked to confirm what they were seeing on their screen, they were quick to reply so even though they were not asking questions, they were engaged with the presentation.

What things went well, or not so well, for this instructor or the class?

The instructor has done a good job of covering relevant material in the class and presented it well. The one weakness that I observed was the lack of interaction. This is through no fault of the teacher and in my opinion cannot be remedied until classes return to in person instruction.

Other Comments and Suggestions:

I see two opportunities for improvement with this class.

The first opportunity is to reduce the drudgery and “marathon nature” of a 150-minute-long class that only meets once a week. Regardless of whether this class meets remotely or in person next semester, I feel it could benefit from being split in to two 75-minute-long classes. If this is not done, I would recommend a 10-minute break be inserted near the middle of the class to allow students to get refreshments, do bio breaks and chat in the zoom session. This will provide a much-needed mental break while also allowing some personal interaction among the students. The teacher could also use this to ensure students are understanding the material.

The second opportunity is to increase student participation and interaction. This will be much tougher if the class remains virtual but one possible route would be for the instructor to review homework problems during class. Students could be picked to explain their approach to the answer and force some discussion. This could even be accomplished immediately before or after the break to further break up the lecture. A field trip or some sort of lab project could also be used to further change things up and allow for a more collaborative class session. Simply visiting a mechanical room on campus, soldering using a pro-press gun, vacating refrigerant or anything along those lines related to HVAC and electrical that is hands on will be remembered long after the class is completed. I am sure the IAB and their member companies would be more than happy to provide any resources needed to help make these field trips an experience to be remembered.

Overall, I think the instructor is doing a remarkable job under less-than-ideal circumstances. In short, my suggestions for improvement would be to break up the class and, once students return to campus, bring back some of the interactive class content that is missing in remote learning. I am sure these issues and solutions could be applied to almost all the classes that are currently being taught through remote learning.

IUPUI
Construction Management Course 38000
Infrastructure Planning, Engineering, and Economics Fall 2020
Course Review
Industry Reviewer by Allen C. Galloway, MPA

Course Description: 3 Credit Hours, Tuesday 6:00 pm to 8:30 pm, Online & ET 310

Instructional Method: This is a 100% on-line course with some classroom time in ET 310. All assignments and course materials are posted in Canvas. Because of COVID course was changed to online course. Instructor teaching style somewhat hard to evaluate since class was not face-to-face this semester.

ACCE Student Learning Outcome: Student Learning Outcomes were not explained to students. This needs to happen before course work begins.

Course Learning Outcomes: SLO's were not presented to students at start of class. SLO explanation to students needs to be done before course work starts.

Course Learning Outcomes in Relations to Student Learning Outcomes: SLO were not presented to students.

Methods of Assessment (Assignments):

- Assignments
- Quizzes
- Mid-Term Exam
- Final Exam

SLO: Report Content (ACCE Student Learning Outcome):

Indirect Measure: Survey

Direct Assessment: Assignments, Quizzes, Mid-Term Exam, Final Exam

Observations:

- ***Indirect Measure and Direct Assessment were met.***
- ***A letter grade was given.***
- ***Learning outcomes and their relationship to the Student Learning Outcomes were not covered in the course.***
- ***There was no description of methods used to assess student learning of Course Learning Outcomes.***

Recommendations:

- ***Program should review with instructors ACCE Student Learning Outcomes, method of assessment for each Student Learning Outcome containing the most recently reported evaluation of the results, resulting actions, and a follow-up of these actions on student performance including the dates of evaluation, actions taken, and follow-up assessment.***
- ***Explanation to students of assessment tools were not provided to demonstrate students' ability to meet each Student Learning Outcome.***
- ***Students should be instructed in "Construction Ethnics" during course.***

Allen C. Galloway, MPA

**Classroom Observation Information Sheet
(to be completed by the course instructor)**

Instructor: Marvin L. Johnson

Date: November 4, 2020 – (Peer Review - November 9, 2020)

Course No. and Title: CMGT 44000 – Project Management Capstone

8. What are the goals for the class that I will observe?

Students are required to apply the knowledge and skills, acquired during their construction management program of study, to simulate the construction management process on an actual construction project.

The instructor will provide instructions and assignments that will encourage the students to interact as teams, role playing as construction business units, preparing for a pre-construction presentation to members of the Construction Industry Advisory Board (CM IAB).

All activities, scheduled for the entire semester, are specifically designed to emphasize and reinforce collaboration, time management, professionalism and confidence while preparing their formal oral presentation.

9. What are the plans for achieving these goals? Student are required to;

- a. Create written communications appropriate to the construction discipline,
- b. Create oral presentations appropriate to the construction discipline,
- c. Create a construction project safety plan,
- d. Create construction project cost estimates,
- e. Create construction project schedules,
- f. Analyze construction documents for planning and management of construction processes,
- g. Apply construction management skills as a member of a multi-disciplinary team,
- h. Apply electronic-based technology to manage the construction process,
- i. Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process,
- j. Understand construction risk management,
- k. Understand construction quality assurance and control

10. What teaching / learning activities will take place?

Please refer to the Semester Schedule for a complete list of Lectures, Assignments and Due Dates. This schedule is discussed with the students at the beginning of the semester, and any modifications or adjustments made to the schedule are communicated to the students with Canvas.

11. What have students been asked to do in preparation for this class?

- a. Review the semester schedule and to acknowledge any potential conflicts with the Instructor,
- b. Listen to all lectures and ask questions if clarifications are required, and
- c. Participate at every class session in order to demonstrate their understanding and comprehension of assignments and expectations.

12. Will this class be typical of your teaching style? If not, why?

Yes, this is my typical teaching style.

13. What would you like me to focus on during the observation?

The effectiveness of my teaching style, and the appropriateness of the materials and assignments to achieve the goals stated in #1 above.

14. Are there other things that I should be aware of prior to the observation?

No other items at this time.

Course Review Form – CMGT 440
(Completed by the Jared Redelman - IAB Reviewer)
November 9th, 2020

Course Objectives and Course Content

Are the course objectives appropriate and measureable?

Yes.

Is the course content current with industry practice?

Yes.

Other Comments and Suggestions:

The course appears to provide a good overall experience of working together with a team to accomplish a goal.

Instructional Methods

Is the course text (and syllabus) appropriate from an industry perspective?

Yes. The class appears to provide a good overall perspective of what it takes to bid and pre-plan a project.

How is Canvas being used in the course?

Assignments are published on canvas, but not submitted through canvas. Grades are posted on canvas as well.

Other Comments and Suggestions:

Classroom Observation

How are classroom learning activities organized?

There was a good amount of individual work during the class session where the teams could discuss their projects together and finalize the details of their presentations. I liked hearing them talk amongst themselves challenging each other on project cost, schedule, and crew makeup for the activities of the project.

What teaching strategies are being used?

Marvin seems to have a good balance of providing the students with enough information to complete the work being asked of them, but not too much to not make them not struggle a little bit working through details. There appears to be a good amount of “real world” scenarios where the students need to problem solve on their own to accomplish their work. During the working session Marvin was available for questions and helped solve some problems.

What is the level of student interaction?

Students appear to be engaged in the classroom session. They are paying attention and asking good questions. Marvin does a nice job keeping students engaged by calling out names, asking questions, and keeping discussion on topic.

What types of questions are being asked?

Students are asking detailed questions about logistics of the presentations and events surrounding the day of the presentation.

What things went well, or not so well, for this instructor or the class?

Marvin does a good job with steering the conversations of the group in the right direction so the students come to their own conclusions. He doesn't directly give them too many answers. He is good with challenging the students to make their deadlines and holds them accountable when they don't. I appreciated him asking direct questions to the students when they were missing parts of an assignment. I think from an improvement standpoint the students should be better aware of scheduling practices and how number of crews can affect schedule performance. There seemed to be quite a bit of confusion surrounding activity durations based on the estimate and how adding crews would affect the schedule durations of some activities.

Other Comments and Suggestions:

Overall this appears to be a great class that prepares the students well for challenges and struggles they will meet in their careers. I like Marvin's general hands-off approach and only providing information as needed or when detailed questions are asked. This forces the students to dig in more and bounce ideas off each other and solve the problems on their own.

Classroom Observation Information Sheet (to be completed by the course instructor)

Instructor: Michael Conley

Date for the observation: 3/11/2022

Course No. and Title: CMGT15000

1. What are the goals (lecture objectives) for the class that I will observe?
To learn about different different coordinate systems that students will need to be aware of in the industry when looking at/using northings, eastings, and elevations for site control and topographic information analysis.

2. What are the plans for achieving these goals?
We will review different coordinate systems through lecture involving terms/definitions, explanations of the various coordinate systems, videos explaining why coordinate systems are needed, and a lab to bring coordinates into a real world survey application.

3. What teaching/learning activities will take place?
A lecture followed by a laboratory exercise outside in teams.

4. What have students been asked to do in preparation for this class?
Read the releation textbook information.

5. Will this class be typical of your teaching style? If not, why?
Yes

6. What would you like me to focus on during the observation?
The information in lecture will be used to perform a real world example of coordinates outside with survey equipment in teams during the lab. This provides real world experience of the coursework that can be used in industry, such as locating and checking control points that may be used to help establish finish floor elevations or measure cut and fill volumes.

7. Are there other things that I should be aware of prior to the observation?
No

Course Review Form

(to be completed by the IAB Reviewer before the end of the semester)

Overall Course Review

Course Objectives and Course Content (materials)

1. Are the course objectives appropriate and measurable? Yes, by utilizing field work and labs students took the classroom work out into the field and reproduced the lecture thru an assignment by laying out the coordinate points. The objective was for students to translate the lecture data into real world application.
2. Is the course content (materials) current with industry practice? Yes, the lecture and lab witnessed would be utilized to lay out a concrete slab or foundation limits. Utilizing coordinate systems could also be used to layout park trails or to quantify cut and fill cross sections.
3. Other Comments and Suggestions on how this course can be improved: One recommendation would be the use of a GPS handheld or GPS robotic station. These are often used on larger layout sites where it is not practical to reestablish control points in multiple locations

Instructional Methods

4. Is the instructional method appropriate from an industry perspective? Yes, the instructor had a good mix of material lecture, instructional videos, and hands on application
5. How is Canvas being used in the course? Canvas is used to post assignments, resources, and assignment scores and grades. Also to reply information such as assignment changes or handouts
6. Other Comments and Suggestions: Instructor walked around the different lab team stations and answered questions. One team had an issue, turned out the instrument was not level. The instructor explained the issue and watched the students correct the error.

Classroom Observation

1. How are classroom learning activities organized? Lecture started off with a review of the midterm and instructor answered questions and solved problems on the board to explain how problems were to have been solved. Next, instructor presented new material and then showed an instructional video on global maps and how coordinates are used. Instructor presented the lab and had students go outside for lab work
2. What teaching strategies are being used? Teaming, Visualizations, using technology in lab and classroom, inquiry-based instruction
3. What is the level of student interaction? Higher than normal due to the hands on lab in the field. Instructor made his way around to each team answering questions and making sure each student performed the different roles of the survey crew
4. What types of questions are being asked? Several students had midterm questions. Instructor asked questions as to why coordinates are needed and how they relate to layout.

5. What things went well, or not so well, for this instructor or the class? The students that seem to understand the work moved quickly thru the exercises. There were a couple students that seemed to struggle with leveling the instrument and obtaining data points
6. Other Comments and Suggestions: No other comments

Classroom Observation Information Sheet (to be completed by the course instructor)

Instructor: Dave Devine

Date for the observation: April 19, 2022

Course No. and Title: CMGT 36000 Strength of Materials

1. What are the goals (lecture objectives) for the class that I will observe?

Select lightest shape for beam design (wood or steel W-shape)
Compute beam deflection using appropriate equations
Recognize buckling as a failure mode
Recognize composite materials

2. What are the plans for achieving these goals?

Lecture with PowerPoint slides covering subject matter. Working example problems on board with students engaged to determine intermediate values, check other values, and find relevant data such as moment of inertia value.

Demonstration of buckling concept using foam "column"

3. What teaching/learning activities will take place?

Worked examples, demonstration, and discussion during lecture

4. What have students been asked to do in preparation for this class?

Worked solutions and homework assignments previously for design of horizontal beam member.

5. Will this class be typical of your teaching style? If not, why?

Yes, typical for this course

6. What would you like me to focus on during the observation?

Observe student attention (can any stay off their phone/device); Comment on student and instructor interaction, does interaction add to or distract from class atmosphere; Is level of subject matter appropriate for class, too easy or too difficult? [students are not studying structural engineering but concepts in class are relevant to construction and may be used in subsequent classes as well as in working career]

7. Are there other things that I should be aware of prior to the observation?

Class is small, less than 10 students, arrival of students on time has been an issue all term as well as basic attendance also.

Course Review Form

(to be completed by the IAB Reviewer before the end of the semester)

Overall Course Review

Course Objectives and Course Content (materials)

1. Are the course objectives appropriate and measurable?
Yes, the class schedule & objectives were presented at the beginning of class.
2. Is the course content (materials) current with industry practice?
Taught classroom concepts & did state various ways they apply to the industry.
3. Other Comments and Suggestions on how this course can be improved:

Instructional Methods

4. Is the instructional method appropriate from an industry perspective?
The instructor used whiteboard to draw examples of lesson content along with textbook and visual content. Used classroom props to show lesson.
5. How is Canvas being used in the course?
Used to distribute materials, lesson plans, assignments, etc. with dates
6. Other Comments and Suggestions:
Better explain high-level understanding of element before diving in-depth into calculations.
Students may have more context if they pre-read materials

Classroom Observation

7. How are classroom learning activities organized?
Introduction > Objectives > Lessons > Material > Example Calcs
8. What teaching strategies are being used?
Asking students questions, getting them involved
9. What is the level of student interaction?
Moderate Student interaction. Some were making comments, some were quiet.
10. What types of questions are being asked?
Questions on specific objectives that were presented during lesson.
11. What things went well, or not so well, for this instructor or the class?
Most students were not on time, Instructor did wait till a majority of students arrived before starting class.
12. Other Comments and Suggestions:

Classroom Observation Information Sheet
(to be completed by the course instructor)

Instructor: **Bill White**

Date for the observation: **February 16, 2022; 9:00 – 12:40 pm**

Course No. and Title: **CMGT 11000 - Introduction to Construction Management
Lecture and lab sections**

1. What are the goals (lecture objectives) for the class that I will observe?

Review commercial construction industry segment via guest presentation and cover new material.

2. What are the plans for achieving these goals?

Host / facilitate guest lecture / presentation, present prepared slides, in-lab activity.

3. What teaching/learning activities will take place?

Lecture –

First half: Presentation by guest speaker: Andy Lock re: commercial construction.

Second half: Reading quiz on assigned textbook units and lecture over same material.

Lab –

In-lab construction document reading re: sections and elevations.

4. What have students been asked to do in preparation for this class?

Standard class request: read the assigned units prior to class

5. Will this class be typical of your teaching style? If not, why?

Yes.

6. What would you like me to focus on during the observation?

Class engagement, lecture material, in-lab activities.

7. Are there other things that I should be aware of prior to the observation?

No.

Course Review Form

(to be completed by the IAB Reviewer before the end of the semester)

Course Reviewer: Allen C. Galloway, MPA

Course: CMGT 11000, Introduction to Construction Management

Instructor: Bill White

Overall Course Review

Course Objectives and Course Content (materials)

1. Are the course objectives appropriate and measurable? Bill has done a great job of identifying SLO associated with this class. SLO is in syllabus per ACCE requirements. Direct and indirect assessment is also produced for ACCE accreditation.
2. Is the course content (materials) current with industry practice? Yes: Bill does a great job introducing first year students to the construction industry.
3. Other Comments and Suggestions on how this course can be improved:

Instructional Methods

4. Is the instructional method appropriate from an industry perspective? Yes
5. How is Canvas being used in the course? The course is managed by canvas. Bill does a great job notifying students about anything on the course through canvas.
6. Other Comments and Suggestions:

Classroom Observation

13. How are classroom learning activities organized? Yes
14. What teaching strategies are being used? Lecture, in-class quizzes and out of class assignments.
15. What is the level of student interaction? Student engagement is high as a result of teaching style.
16. What types of questions are being asked? Questions are aligned with course textbook and supplementary materials assigned for that lecture.
17. What things went well, or not so well, for this instructor or the class? Bill does a great job in keeping student interest at a high level.
18. Other Comments and Suggestions: None.

Classroom Observation Information Sheet **(to be completed by the course instructor)**

Instructor: Dr. Dan Koo

Date for the observation: April 05, 2022

Course No. and Title: CMGT 41000 Equipment and Field Operations

1. What are the goals (lecture objectives) for the class that I will observe?

Chapter 9

Calculate excavator productivity and balance equipment

Chapter 10

Understand the difference between various types of trucks

Ability to calculate the number of trucks required to keep excavating equipment working at capacity

2. What are the plans for achieving these goals?

Lecture with PowerPoint slides covering types of equipment and description of the field operation

Introduce the calculation methodology and use the example to ensure the learning

3. What teaching/learning activities will take place?

Hand out for calculation problem example

4. What have students been asked to do in preparation for this class?

Review the powerpoint slides

5. Will this class be typical of your teaching style? If not, why?

Yes, typical for this course

6. What would you like me to focus on during the observation?

Observe How effectively students understand the materials and applying to solve productivity problems

7. Are there other things that I should be aware of prior to the observation?

Due to the guest lecturing on March 29th, chapter was not completed. Two chapters shall be covered and compressed to meet the schedule.

Course Review Form

(to be completed by the IAB Reviewer before the end of the semester)

Overall Course Review

Course Objectives and Course Content (materials)

1. Are the course objectives appropriate and measurable?
Yes each class is based around a chapter. Dan gives an explanation and breakdown of the equipment in each chapter and how it applies to real world construction. Within each chapter, there are calculations for each type of equipment.
2. Is the course content (materials) current with industry practice?
Yes, all the equipment can be found on a construction site and the calculations are common depending on what industry you are working in.
3. Other Comments and Suggestions on how this course can be improved:
Dan does a great job explaining the equipment and how each piece of equipment works. He gives great examples for what the equipment does and what information is required to properly calculate how to estimate for equipment use.

Instructional Methods

4. Is the instructional method appropriate from an industry perspective?
Yes, the breakdown of equipment gives you insight into how the equipment is utilized on the construction site. The calculation problems and examples provide the necessary information to determine what equipment is used and how long you will be using it. Different equipment is more or less effective depending on your project and Dan gives great information to determine this relative to industry standards.
5. How is Canvas being used in the course?
Canvas is used to give students a notice of what is expected from them for each class and what they can expect each class to be about.
6. Other Comments and Suggestions:
The information presented in CMGT 41000 is great practice for real world construction calculation problems. I believe it teaches you to gather all the necessary information and then apply that information to a calculation to determine what equipment you need to complete a project.

Classroom Observation

19. How are classroom learning activities organized?
Dan gives an explanation of the equipment for each class and then follows up with a calculation problem for that equipment.
20. What teaching strategies are being used?
Powerpoint slides, videos, examples, calculations

21. What is the level of student interaction?
Students are asked to review the chapter prior to class, take notes during powerpoint, and then work through a calculation problem.
22. What types of questions are being asked?
Calculation questions for estimating equipment usage.
23. What things went well, or not so well, for this instructor or the class?
I thought the class was very well organized and explained well despite Dan having to play catch up with two chapters due to the guest speaker the week prior.
24. Other Comments and Suggestions:
Very informative class and great real world construction application.

**Classroom Observation Information Sheet
(to be completed by the course instructor)**

Instructor: Marvin L. Johnson

Date: 9/28/2022

Course No. and Title: CMGT 35000 – Materials Testing – Section 22603

1. What are the goals for the class that I will observe?

Each lab is a hands-on application or demonstration of the failure characteristics of different construction materials under tension, compression, and / or shear stresses. Labs are designed to assimilate the behavior of construction materials under extreme forces or stresses, and to determine failure loads when stresses exceed the support or bearing capacity of each material tested.

2. What are the plans for achieving these goals?

The plans are to follow ASTM designations for different test or lab activities, and to illustrate the consequences for not following proper testing procedures. By emphasizing which tests are performed in the field versus those done in a lab environment, students are taught the importance of providing jobsite access to testing personnel.

3. What teaching / learning activities will take place?

The instructions for each lab are covered during the lecture portion of the class session before all lab activities. This always includes a description of the equipment, tools and supplies required to perform the lab, as well as an explanation of all safety issues relative to the specific lab activity.

The lab activity is the learning component that demonstrates the purpose of the lab and the results that should be expected and hopefully achieved.

4. What have students been asked to do in preparation for this class?

All students are instructed to read the lab materials prior to coming to the lab session. Prior to the lab activity, a short discussion addressing the lecture (provided by a different instructor) to determine some of the relative subject matter covered during a previous lecture.

5. Will this class be typical of your teaching style? If not, why?

This class will be typical of my normal teaching style.

6. What would you like me to focus on during the observation?

I would like for you to focus on teaching style, delivery method, student attention to details, equipment used during the lab activity, and anything else you may observe.

7. Are there other things that I should be aware of prior to the observation?

Nothing out of the ordinary should be anticipated.

After a specific date has been selected, I can provide more detailed information concerning the specific lab activity scheduled for that date.

**Course Review Form
(to be completed by the IAB Reviewer)**

**10/13/2022
Josh Agee Comments**

Concrete Mixing & Testing

Course Objectives and Course Content

Are the course objectives appropriate and measurable? **They appear to be appropriate for a lab course.**

Is the course content current with industry practice? **Suggest having applicable ASTM/ACI standards referenced. Students were instructed to oil cylinders and beam molds however ASTM does not allow oiling single-use cylinder molds, only re-usable molds like the beams.**

Other Comments and Suggestions: **The video shown was very good at demonstrating the appropriate way to perform the slump test.**

Instructional Methods

Is the course text (and syllabus) appropriate from an industry perspective? **Again, I would recommend adding the appropriate ASTM/ACI documents to the course text.**

How is Canvas being used in the course? **Canvas was referenced when notifying the students of a change to the course schedule – the new schedule will be uploaded to Canvas.**

Other Comments and Suggestions: **It might be helpful to give students some more “tips and tricks” to batching and testing concrete. I’d recommend not trying to dump the full blue pan in the mixer and use a scoop to lighten the load so less material is spilled on the floor. Discuss the procedure a little more thoroughly to hopefully help students understand the procedure prior to physically doing the work.**

Classroom Observation

How are classroom learning activities organized? **Broken up in different material types**

What teaching strategies are being used? **Direct involvement with students in the lab answering questions and providing direction.**

What is the level of student interaction? **It seemed like each student within the groups participated in at least one step of the process. I didn’t notice anyone not actively involved in the work. Some were more physical in the work, while others were technical by providing direction/taking notes/etc.**

What types of questions are being asked? **Technical questions and advice on concrete consistency, striking off cylinders, etc. Some students weren’t sure of the procedure(s) and asked direct “how-to” questions.**

What things went well, or not so well, for this instructor or the class? There was some slight disorganization with the groups overlapping at the scale(s) and all within the same area doing different things, but overall, it seemed to go well.

In the Mixing Concrete instructions shown on the screen prior to going to the back, it mentioned a batching “sacrificial” mix to coat the inside of the mixer – initially I thought not doing that step was part of the slump problem with Group 1 and needing to add more water. I think “buttering” the mixer would be a good first step to show all of the students what a 4 +/-1” slump looks like so they have an idea what their concrete should look like as they are batching it.

Other Comments and Suggestions: One group seemed more prepared than the others with the written procedures available, they were reading each step prior to performing it and taking detailed notes of their results. Another group seemed very disorganized and more or less “winging it” by trying to remember the proper procedures. All the groups seemed to keep track of their work with pictures, which may lend to not needing to take notes.

Overall, I think the class went well and I’d be more than willing to come back and assist anywhere I would be a benefit. As discussed, I’m more concrete focused so anytime there is a concrete topic I’m happy to help any way I can. As a concrete person, I would recommend sharing the opportunity to get ACI Field Testing certified with the students – I think there is a free or discounted rate for students as well. <https://www.indianaaci.org/>

I used to be the instructor for the certification course and can typically prepare someone for the exam in 1 full day. I used to take about 5 hours for classroom instruction, then around 2 hours for hands-on instruction with a trial batch of concrete. I’d be willing to help facilitate this if it is something anyone is interested in.

Classroom Observation Information Sheet (to be completed by the course instructor)

Instructor:
Bill White

Date for the observation:
Monday, September 26, 2022

Course No. and Title:
CMGT 12000 Materials & Methods

8. What are the goals (lecture objectives) for the class that I will observe?
 - a. **Present fundamental concepts related to concrete**
 - b. **Present how concrete is used and managed on a construction worksite**

9. What are the plans for achieving these goals?
 - a. **Utilize Powerpoint presentation to present material**
 - b. **Use Top Hat to ask questions, assess material comprehension & promote lecture engagement**
 - c. **Use Top Hat to assess reading comprehension**
 - d. **Present videos video demonstrations**

10. What teaching/learning activities will take place?
 - a. **Top Hat questions during lecture**
 - b. **Random questions & answers**

11. What have students been asked to do in preparation for this class?
 - a. **Read the assigned material that appears on the course schedule for that day**

12. Will this class be typical of your teaching style? If not, why?
 - a. **Yes, it will be typical.**

13. What would you like me to focus on during the observation?
 - a. **Observe student engagement and instructor / student interaction.**

14. Are there other things that I should be aware of prior to the observation?
 - a. **This class meets once per week and is an unusually long lecture. We've set it up this way to provide enough time to go on field trips within the scheduled class time. The 2-1/2 hour length is always a challenge to retain students' engagement / interest for the entire period.**

Course Review Form

(to be completed by the IAB Reviewer before the end of the semester)

Completed By Jared Redelman (9/26/22 Classroom Observation)

Overall Course Review

Course Objectives and Course Content (materials)

7. Are the course objectives appropriate and measurable?
 - a. Yes, I feel these objectives are achievable and applicable to this course.
8. Is the course content (materials) current with industry practice?
 - a. Yes, the materials utilized in this course are with industry practice.
9. Other Comments and Suggestions on how this course can be improved:
 - a. None related to objectives or content.

Instructional Methods

10. Is the instructional method appropriate from an industry perspective?
 - a. Yes, I find the instructional method to be great. It is very practical and applies to current industry standards.
11. How is Canvas being used in the course?
 - a. I like the use of Canvas for this course. All communication appears to be on Canvas and it is updated regularly. Changes to office hours, all assignments, reading material, etc. all are posted to Canvas regularly. The students should be able to find anything they need there.
12. Other Comments and Suggestions:
 - a. None related to instructional methods.

Classroom Observation

25. How are classroom learning activities organized?
 - a. Classroom lectures utilize a powerpoint presentation with practice picture and video examples throughout the talking points.
 - b. There was a quiz at the beginning of class reviewing the reading assignment for that day. An online program call Tap Hat was utilized for the quiz making it engaging and interactive. The students had an allotted time to answer questions, then the correct answer was shown on the screen along with answers from the class. There was an opportunity to discuss the answers and learn in the moment.
 - c. A field report assignment was discussed during the observation. This assignment requires students to find examples of classroom discussions in their everyday life. The students are to take pictures of the examples and describe what they are and how they're used. Examples include cast in place concrete vs. precast concrete, or an expansion joint vs. construction joint, etc.
 - d. Frequent field trips are scheduled throughout the semester so students can see hands-on, practical examples of what is being discussed in the classroom.

26. What teaching strategies are being used?
- Use of real life examples are the best approach in my opinion, and were used often throughout the lecture.
 - Online questions utilizing Top Hat were used throughout the lecture. This was great with keeping students engaged and learning. Questions were based on material that is covered throughout the classroom discussion.
 - Pictures and videos are used frequently throughout the classroom instruction. This was very helpful in providing the students with a full understanding of concepts being discussed.
27. What is the level of student interaction?
- Students appear to be following along with the discussion, but there is minimal interaction.
 - Videos and pictures seem to help interaction as some students would speak up with comments/questions related to videos or pictures.
28. What types of questions are being asked?
- Only a few questions were asked during the classroom observation, but they were good questions related to the classroom discussion at the time.
 - One was a question related to fiber additive in concrete to replace rebar.
 - Another question was related a piece of wood used as a form for a concrete slab pour video shown in the class.
29. What things went well, or not so well, for this instructor or the class?
- I really like the format of the Top Hat quiz and questions used throughout the class. Questions are asked and time is given for students to provide their answers online. Results are immediately seen on the screen and the correct answer is shown and discussed. It seemed to be a great learning experience for the students.
 - The visual aids used in class were great. This provides a clear understanding of the details on what is being discussed. This includes both the use of pictures and videos. The examples used were practical and mostly from real life scenarios.
 - It would be good to increase the interaction with the students whenever possible. This is likely difficult due to the grade level and experience level of the students, but I would encourage the use of more open ended questions throughout the discussion.
30. Other Comments and Suggestions:
- Overall, I feel like this class is in a very good place. The students are learning from practical examples which they should easily be able to carry on throughout their future education and work experiences.
 - Continue to utilize the field trips to get students that hands-on learning experiences. I really like how these are incorporated into the curriculum.
 - I would encourage you to make contact with someone involved in the construction of the new IU Health hospital. It's not often you have a multi-billion dollar project just a couple miles up the road. Use that to your advantage over the next few years. Your students could gain so much from that opportunity.

Course Review Form

Course Reviewer: Allen C. Galloway, MPA
Course: CMGT 32000 Scheduling and Project Controls

Overall Course Review

Course Objectives and Course Content (materials)

13. Are the course objectives appropriate and measurable? **Brad has done a great job of identifying SLO outcomes. No specific SLO was on syllabus. I see the direct assessments on syllabus but no indirect were written.**

14. Is the course content (materials) current with industry practice? **Yes. Brad is a professional in this field, so his current employment experience brings real life examples into the class format.**

15. Other Comments and Suggestions on how this course can be improved:

Instructional Methods

16. Is the instructional method appropriate from an industry perspective? **Yes...but I would like to see this class go back to traditional face-to-face format.**

17. How is Canvas being used in the course?
The whole course is managed by canvas.

18. Other Comments and Suggestions:

Classroom Observation

31. How are classroom learning activities organized? **Yes**

32. What teaching strategies are being used? **A synchronous teaching format being used.**

33. What is the level of student interaction? **Only feedback are student email questions.**

34. What types of questions are being asked? **Questions are aligned with course textbook and supplementary materials assigned for course work.**

35. What things went well, or not so well, for this instructor or the class? **It is hard to judge this without directly communicating with students.**

36. Other Comments and Suggestions: