

ACCE Student Learning Outcomes and Associated **Direct** Assessment Measures

Course	Course Learning Outcomes	Assessment Method	2017-2018 Analysis				
			Attained?	Action Plan	Term	N	Percentage of students Obtaining 80% in 2018-2019
CM 160	Write a technical report on specifications	Report	No	Dedicated more time in reviewing assignment description in class. Placed emphasis on the importance of credible sources and citations using APA style.	S19	18	83
CM 214	Case study involving ethical situation	Case Study	No	Provide high level case study writing example	F18	23	51
CM 216	Write a technical report on equipment	Term Paper	Yes	Dedicated more time in reviewing assignment description in class. Placed emphasis on the importance of credible sources and citations using APA style.	S19	9	67
CM 450	Write a paper on a construction topic	Term Paper	Yes	Continue to reinforce good writing practices	S19	10	94
CM 160	Prepare and present project outcomes	Presentation	Yes	Allowed students to work on their presentations in class for three class periods. Encouraged group work and peer teaching in other blueprint reading assignments to build their print reading skills prior to completing this presentation independently.	S19	20	80
CM 401	Prepare and present project outcomes	Presentation	---	This is a new assessment	S19	5	85
CM 320	Use an OSHA standard manual	Test	Yes	Will continue to stress on the use of OSHA standard manual to find applicable standard	F18	21	95
CM 320	Identify the applicable construction OSHA standards	Assignment	Yes	Provide more practices on finding applicable OSHA standard	F18	21	57
CM 438	Identify role of OSHA in jobsite accident and injury prevention	Assignment	No	Continue to emphasize on the role of OSHA and OSHAAct in preventing jobsite injuries	S19	33	97
CM 100	Calculate Earth Volume using end-area average method	Test	---	This is a new assessment.	F18	33	91
CM 233	Estimate construction quantities (Quantity take-off)	Quiz	Yes	Increase class practice assignments on quantity take-offs	F18	12	58
CM 233	Prepare and submit competitive bids	Project	No	Increase class practice assignments	F18	12	67
CM 233	Describe different types of construction project estimates	Quiz	Yes	Increase class practice assignments. Review web-based Dodge project estimated costs.	F18	11	64
CM 233	Apply costs and price job direct costs	Quiz	No	Increase class practice assignments	F18	12	67
CM 233	Apply costs and price job indirect costs	Assignment	No	Increase class practice assignments on overhead cost items and use of Microsoft Excel for data processing.	F18	10	70

CM 318	Estimate construction quantities (Quantity take-off)	Test	No	Provide an overview of the Math used in calculating quantities.	S19	17	59
CM 318	Estimate the direct costs (Materials, labor, and equipment) of a work item	Test	---	This is a new assessment.	S19	16	63
CM 100	Perform CPM calculations	Test	---	This is a new assessment.	F18	32	69
CM 394	Create a project schedule using CPM method	Assignment	---	This is a new assessment.	F18	12	58
CM 394	Create a project schedule using PERT method	Assignment	---	This is a new assessment.	F18	12	67
CM 394	Create a project schedule using precedence diagram method	Assignment	---	This is a new assessment.	F18	12	17
CM 394	Create a resource leveled project schedule	Assignment	---	This is a new assessment.	F18	13	77
CM 150	Discuss ethics in business environment	Quiz	Yes	Students discussed 'ethics' case studies in class	F18	27	96
CM 160	Write a paper on ethics in construction	Term Paper	No	Dedicated more class time to reviewing assignment guidelines and responding to student questions.	S19	18	88
CM 214	Prepare a paper on ethics in industry	Case Study	No	Provide sample writing of professional case study	F18	23	48
CM 331	Ethics in Construction and general enterprise	Assignment	No	Provide sample and case study on Ethic with different enterprise cases	S19	14	81
CM 150	Read and interpret construction documents	Test	No	Dedicated two class periods to reading and interpreting the same set of prints	F18	27	85%
CM 160	Read and interpret construction drawings	Final exam	No	Dedicated one week of class time to reading and interpreting the same set of prints.	S19	21	95
CM 160	Lines, symbols, abbreviations and graphic vocabulary used in working drawings	Quiz	Yes	Dedicated one class period to this practice assignment that allowed use of multiple symbols, lines, abbreviations and graphic vocabulary. Encouraged group work and peer teaching on selected assignments.	S19	20	40
CM 160	Use of the Architect's scale	Assignment	Yes	Dedicated one class period to this practice assignment; conducted one-on-one tutoring sessions for struggling students in class	S19	16	93
CM 216	Provide IBC occupancy classifications for building projects	Quiz	Yes	Students researched different IBC occupancy classifications in a free IBC document online	S19	8	87
CM 318	Demonstrate the ability to read and analyze project plans and specifications.	Assignment	---	This is a new assessment.	S19	15	73
CM 100	Calculate equipment spread production	Test	---	This is a new assessment.	F18	32	31
CM 160	Composition and use of construction materials and products	Quiz	No	Student researched and completed presentation on five construction materials	S19	19	84

CM 190	Locate construction material	Report	No	The construction material will be located by the student during site and construction material store	S19	23	85
CM 190	Advancement in construction material	Final exam	Yes	Encourage students to stay up to date on new construction material through documentaries and newsletters	S19	23	85
CM 216	Describe primary and secondary site investigation strategies	Quiz	Yes	Class discussions on site investigations; students conducted a 2-day construction site observation project and presentation.	S19	12	100
CM 216	Develop a site layout plan for a construction project	Assignment	Yes	Dedicated one lecture period for students to work on their site layout plan in class; students conducted a 2-day construction site observation project and presentation.	S19	12	50
CM 224	Prepare a topo survey as a team effort	Project	No	Continue to emphasize and encourage team efforts	F18	8	75
CM 233	Utilize pricing techniques and price databases (R.S. Means)	Quiz	Yes	Increase class practice assignments that allow students' application of R.S. Means cost data	F18	12	67
CM 318	Utilize Revit to generate quantity take-off	Test	---	This is a new assessment.	S19	17	76
CM 318	Estimate construction quantities using eTakeoff	Test	---	This is a new assessment.	S19	17	53
CM 318	Generate a cost estimate using Sage Estimating	Test	---	This is a new assessment.	S19	16	81
CM 394	Update project schedule using MS Project	Project	Yes	No changes made.	F18	13	100
CM 394	Create a project schedule using precedence diagram method and MS Project	Project	Yes	No changes made.	F18	13	100
CM 224	Prepare a topographic map	Project	No	All students submit topo map – not group	F18	6	67%
CM 214	Calculate right triangle parameters	Exam	No	In class worksheets to reinforce concepts	F18	9	22%
CM 224	Differential Leveling Exercise	Lab	Yes	No changes made	F18	6	67%
CM 150	Describe roles and responsibilities of different personnel	Quiz	No	Dedicated two class periods to group assignment on reviewing roles and responsibilities described in a project manual for a commercial project to encourage peer teaching	F18	31	96
CM 160	Concepts, roles and responsibilities of different personnel	Assignment	No	Dedicated one class period to reviewing a sample subcontractor agreement and developing a sub agreement for an assigned scope of work (CSI division) for a specific project.	S19	18	88
CM 438	Identify different methods of project delivery system	Test	No	This is a new assessment	S19	10	40
CM 438	Understand roles & responsibilities of key construction personnel	Test	No	This is a new assessment	S19	10	10

CM 450	Recommend a project delivery method	Assignment	Yes		S19		
CM 394	Analyze project risk using PERT method	Assignment	---	This is a new assessment.	F18	12	67
CM 438	Understand various risks associated with construction operations	Test	No	This is a new assessment	S19	10	20
CM 100	Analyze a project cash flow	Test	---	This is a new assessment.	F18	31	29
CM 394	Create a normal, least-cost, and crash project schedule	Assignment	---	This is a new assessment.	F18	12	50
CM 216	Describe testing techniques for different building materials	Test	No	Lecture; Class discussions	S19	11	90
CM 190	Ability to design and conduct experiments, as well as to analyze and interpret data of the concrete lab test	Lab	Yes	Give more laboratory work	S19	23	85
CM 438	Understand the principles and practices of quality control and assurance in construction	Test	No	This is a new assessment	S19	10	70
CM 100	Calculate schedule and cost variances	Quiz	---	This is a new assessment.	F18	31	82
CM 394	Analyze project status using Earned Value Management	Test	---	This is a new assessment.	F18	11	23
Lab							
CM 100	Understand basics of construction contracts	Quiz	---	This is a new assessment.	F18	31	84
CM 150	Describe the basics of contracts	Quiz	No	Dedicated two class periods to team discussions on different basics of contracts related to different real-life scenarios	F18	29	9
CM 160	Development of subcontract agreement	Assignment	No	Dedicated one class period to reviewing a sample subcontractor agreement and developing a sub agreement for an assigned scope of work (CSI division) for a specific project.	S19	18	88
CM 450	Present the pros and cons of different forms of organizations	Assignment	Yes	Reinforce discussion on business formation	S19	6	100
CM 216	Describe sustainable materials and methods	Report	Not assessed	Students participated in LEED Platinum Proximity Hotel sustainability tour (field trip); Students reviewed Platinum Hotel sustainability features document; students reviewed LEED program documents.	S19	11	90
CM 460	Research Sustainable Solutions to the Built Environment from Lessons Learned Mimicking Nature	Papers/Exams	Yes	Continue Using YouTube Videos, Ted talk and Engaging Others	S19	9	89

CM 190	Design and conduct experiments of concrete test	Lab	Yes	Keep the hand on the construction material in the lab by mixing and experience the curing process and the crushing.	S19	23	87
CM 331	Calculate the centroid and the moment inertia	Assignment	Yes	Keep working on sample and case study on moment of inertia cases	S19	14	81
CM 331	Determine the load on columns using load tracing	Assignment	No	Keep working on sample and case study on load tracing cases	S19	14	82
CM 331	Retaining structure overturning and sliding stability	Assignment	Yes	Keep working on sample and case study on Retaining structure and wall cases	S19	14	85
CM 448	Calculate the bearing capacity of soils for foundation design	Final Exam	Yes	Continue to emphasize and encourage student to solve several examples	F18	15	65
CM 448	Analyze and design shallow and/or deep foundations	Final Exam	No	Will keep in class work and more lab work	F18	15	83
CM 448	Analyze and calculate the vertical stress increment in soils	Test	Yes	Continue to emphasize and encourage student to solve several examples	F18	15	75
CM 412	Calculate a wall U-factor given specific building materials	Assignment	No	Place more emphasis on U-factor calculation	S19	13	91
CM 412	Calculate heating and/or cooling loads	Final Exam	No	This is a difficult topic for the students. Will solve more problems in class	S19	13	69
CM 412	Determine dew point temp., relative humidity & humidity ratio	Assignment	Yes	Have more practice exercises in class	S19	10	68
CM 412	Select appropriate material of construction for HVAC system	Test	Yes	More emphasis will be placed on selection of HVAC materials.	S19	13	77