School of Applied Technologies

Construction Management Advisory Committee

Date: April 24, 2015

Called to order: 12:10 pm **Adjourned:** 1:20 pm

Chairperson: David Ruff **Recorder:** Jennifer Woods

Members present from industry: **Dino Franco,** NM AGC Highway Chapter; **Michael Rife,** Associated General Contractors; **Mark Russell,** UNM

Members present from CNM: **John Bronisz,** Dean, Applied Technologies; **Tom George,** Instructor; **David Ruff,** Instructor, Department Chair

Next scheduled meeting: August 28, 12:00. This may change because of Convocation on that day.

I. Welcome/Introductions: David Ruff opened the meeting, no introductions needed, because everyone knows each other.

II. Minutes: Move to approve, seconded, minutes from fall 2014 approved

III. Reports:

- David Ruff reports that we need new committee members. Hopefully, we can get companies that have hired our students to become more involved. Purpose of advisory committee is to look at new trends in technology, and all industry input is valuable to the school.
- We are in the process of doing our ACCE (American Council for Construction Education) re-accreditation and self-evaluation. This will happen in February, 2016. On May 1 our self- evaluation is due to ACCE. A visiting team from ACCE will come here in the fall (September or October). One of the criteria for evaluation is our industry participation in advisory committees, so we will need members to meet with the visiting team.
- Mark mentioned that there is an ACCE meeting in July in Kentucky, and it is a great way to get help preparing for the evaluation.
- Tom spoke about changes in the assessments. They are moving to SLOs (student learning outcomes.) **(Please refer to the attached document).** This document shows the first pass at the evaluation.
- David added that the visiting team will be evaluating us on the old model, which is a prescriptive model, and requires a certain amount of contact hours in certain areas; those contact hours would be mapped to the courses. So after this, our next accreditation cycle will be using the new method of assessing SLOs.
- ABET (Accreditation Board for Engineering and Technology) is now starting to assess construction management programs, for 4-year colleges. UNM is looking at this now. This is because it is a headache to use multiple assessment methods. There is a question about how the CNM program will articulate with UNM if the methods are different. Retention of knowledge needs to be assessed.
- David would like to revisit our exit competencies. He asked the committee about their impressions of CNM exit competencies:
  - Mark says ethics should be considered.

School of Applied Technologies

- Safety is another issue. Michael also mentioned how safety does not seem to be considered in the exit competencies, although we teach 30-hour OSHA for construction.
- At UNM, Mark says that safety is assessed in the capstone class, where the students have to design a safety plan.
- Ethics could be assessed in Part A of competencies.

IV. Old Business

- Enrollment has been disappointing. In 2007 we had 140 to 150 declared majors. Now we are at 100.
- Mark mentioned the NSF grant that is available for increasing enrollment. It is a collaboration between high schools, community colleges and universities.
- David said that we need to get better at creating a pipeline between these entities. Part of the problem may be in the dual credit programs. We have the course called Survey of Applied Technologies (AT 1005), which does not dwell very long on construction.
- Blending high school students with the college students is a better strategy, rather than running a separate dual credit class, which may not have enough students enrolled to make. The high school kids actually feel like they are in college, and they perform better. High school students have to coordinate around the college schedule.

V. New Business

- Our relationship with UNM has improved. We have a new Memorandum of Understanding which includes a reverse articulation. It has been difficult to establish a "2 + 2" relationship. The reverse articulation means that a student can take an equivalent course at UNM and receive credit for that course if he comes to CNM.
- Tom created a crosswalk document showing all of the UNM courses for a Bachelor degree, and the CNM courses that will transfer to UNM. **(Refer to the attached document).** For students who for some reason cannot graduate from UNM, reverse articulation works well. We should also explore a better fit between CM and the Architectural Drafting program.
- We talk about time, value and money in our equipment and methods class, and calculate ownership and operating costs. There is no value engineering component.
- Outreach to High Schools is really important.
- We don't recruit international students. The few we have had are here to upgrade their skills, because some of their credentials for working here are being questioned.
- David asked, what employment opportunities are out there right now? There is concern that the NM economy is still dragging. Mark said that he has been approached by two homebuilders looking for students. Jaynes is also looking for two interns. He recommended LinkedIn as a way to get the word out.
- Dino said that the DOT has no funding for highway projects.
- Group was reminded about the Job Connection Center for posting new jobs. Faculty can get into big trouble if they recommend a particular student to an employer.
- Next meeting tentatively scheduled for August 28, although this may conflict with Convocation.

VI. Adjournment – Move to adjourn, seconded. 1:20 pm

Construction Management

Assessment of ACCE Student Learning Outcomes

Course	CNM Exit Competency	ACCE Student Learning Outcomes	ACCE Outcomes Accessed
CM 1105 - Construction Detailing	B, E	1, 2, 5	1
CM 1110 - Construction Materials and Techniques	A, B, E	1, 4, 6, 12	4
CM 1115 - Commercial Construction Theory	A, C, E	1, 2, 3, 5, 12	12
CM 1205 - Computer Aided Construction Drafting/Engineering	D, E	1, 5, 14	14
CM 1210 - Mechanical Electrical Systems and Construction	B, C, E	1, 4, 7, 14	7
CM 1215 - Construction Equipment and Methods	A, B, E	1, 2, 4	4
CM 1220 - Introduction to Construction Project Management	C, E	1, 3, 5	3, 5
CM 1305 - Construction Estimating	A, B, C, D, E	1, 2, 4, 5, 9, 14	2
CM 2105 - Construction Scheduling	A, B, C, D, E	1, 2, 10, 11, 14	10
CM 2115 - Computerized Estimating Techniques	A, B, C, D, E	1, 2, 4, 5, 9, 14	9
CM 2120 - Statics	B, E	6	6
CM 2205 - Construction Surveying	B, E	8	8
CM 2210 - General Contractor Preparation	A, C, E	1, 2, 3, 5, 11	11
CM 2215 - Estimating and Bidding	A, B, C, D, E	1, 2, 4, 5, 9, 14	
CM 2220 - Computerized Project Management and Scheduling	A, B, C, D, E	1, 2, 10, 11, 14	
CM 2995 - Cooperative Education			
CM 2997 - Independent Study			
CM 2998 - Internship			
CM 2999 - Construction Management Capstone Course			
OSH 2010 - Occupational Safety for Consruction - 30 Hour		13	13
ENG 1101 - College Writing			
MATH 1310 - Intermediate Algebra			
IT 1010 - Introduction to Computers			
ACCT 1111 - Accounting IA			
ENG 1119 - Technical Communications			
PHYS 1010 - Introduction to Physics			
COMM 2221 - Interpersonal Communication Studies			
BA 2240 - Business Law			
Approved Technical Elective			

CNM Exit Competency

A - Demonstrate knowledge and skills in basic business management and organization.

B - Demonstrate a firm understanding of how to read and interpret commercial and civil drawings and specifications.

C - Develop a systematic approach to construction cost estimation and project management techniques.

D - Illustrate proficiency in the use of computers and construction related software for CADD, estimating, project management, and basic office communication.

E - Apply relevant communication skills, project teamwork, and problem solving techniques in the construction industry work environment.

ACCE 2-Year Program Student Learning Outcomes

1. Demonstrate effective communication, both orally and in writing.
2. Apply mathematics, science, and business fundamentals utilized in the construction industry.
3. Discuss basic principles of ethics in the construction industry.
4. Recognize basic construction methods, materials and equipment.
5. Interpret construction documents (contracts, specifications, and drawings) used in managing a construction project.
6. Recognize the basic principles of structural design.
7. Recognize the basic principles of mechanical, electrical and plumbing systems
8. Use basic surveying techniques to layout a building.
9. Employ estimating and bidding process to construction projects.
10. Create a basic construction project schedule.
11. Describe basic principles of construction accounting.
12. Identify the fundamentals of contracts, codes, and regulations that govern a construction project.
13. Recognize basic safety hazards on a construction site and recommend standard prevention measures.
14. Demonstrate the ability to use current technology related to the construction process

UNM -- CNM Construction Management Course Numbering

Fall

Freshman Year

UNM Number	CNM Number	Description
Econ	105 or106	Econ 2200 or 2201	Intro to Macro or Micro Economics
Engl	110		Accelerated Composition
Math	121	Math 1315	College Algebra
EPS	101	Eps 1101	Intro to Geology
CE	130	CM 1105	Construction Detailing

Sophmore Year

Math	180	Math 1460	Elements of Calc I
Chem	121	Chem 1710	General Chemistry
Chem	123L	Chem 1792	General Chemestry Lab
Phyc	151	Phys 1510	General Physics
CE	279	CM 1210	Mech & Elect Systems
			Core Fine Arts Elective 1

Junior Year

CE	305		Infrast Mat Sci/Lab
CE	350		Engineering Economy
CE	376	CM 1305 + CM 2115	Cost Estimating
CE	478		Design Temp Structures
Mgmt	303		Managerial Accounting

Senior year

CE	455		Engr Project Management
CE	474		Prin Written Const Documents
CE	477		Project Controls
CE	495		Construction Internship
			Core Soc/Behav Sci Elective
Mgmt	300		Operations Management

Spring

Freshman Year

UNM Number	CNM Number	Description
CS	150L	IT 1010	Comput for Bus Student
Engl	120		Compisition III
Math	123	Math 1410	Trigonometry
CE	160L	CM 1205 + CAD 1101	Civil Engineering Design
CE	171	CM 1110	Const Material & Tech
			Core Humanities Elective

Sophmore Year

CE	283	CM 2205	Trans System Measure
CE	371		Structures for Construction
CJ	130	Comm 1130	Public Speaking
Engl	219	Eng 2219	Technical Writing
Mgmt	202	Acct 1110	Prin of Financial Acctg
Stat	145	Math 1330	Introduction to Statistics

Junior Year

CE	370		Const Methds & Equip
CE	377	CM 2105 + CM 2220	Construction Scheduling
			Core Humanitives Elective
			Core Second Lang Elective
Mgmt	310		Legal Issues for Managers

Senior year

CE	409		Engineering Ethics
CE	473		Construction Law
CE	475		Construction Safety
CE	497L		Design/Construction Integration
			Const Elective 2
			Mgmt Elective 2

Highlighted Classes Transfer to the UNM Construction Management Program