Faculty Course Assessment Report
North Dakota State University
Department of Construction Management and Engineering
CM&E 301 – Construction Technology and Equipment – 4 Credits
Spring 2011– Eric Asa

Catalog Description: This course provides a discussion of construction techniques; analysis of equipment costs; production; methods of equipment selection; earthworks; dewatering systems; and aggregate production.

Grade Distribution:

A	B	C	D	F	W	Total
7	47	14	1	1		70

Modifications Made to Course: A new book was introduced with a new set of notes. Brian Abeld came to the class and made a 45 minutes presentation on the construction of wind power towers. Brian is an NDSU alumnus (one of my past students) and a Business Development Manager at Mortenson Construction. It was very rewarding to see him explain to the students the very things (type and number of equipment to use, costs, productivities, equipment matching and others) that he was taught 5 years ago.

Course Outcomes Assessment ACCE: (matrix content)
1.1 Communication
4.21 Civil – building construction. Civil - earthworks, highway construction
4.36 Equipment applications and utilization
4.37 Comparative cost analysis
4.38 Assembly techniques and equipment selection
5.13: Labor and equipment productivity factors
5.15: Job direct and indirect costs
5.35: Capital equipment, depreciation and expensing.

Communications Component: The students were required to form groups to work on their final project. Each group was asked to work on the group project and write a group. Each member of the group was expected to contribute to the success of the project. Each group made about a 7-minute presentation on their approach to the project to the entire class. Their class mates asked them questions at the end of their presentations. Each group turned in a project report at the end of the semester.

Ethics Component: Not applicable

Contemporary Issues Component: The class material covered earth moving, civil/highway construction, building construction, wind tower construction and others. The students were introduced to the current version of IRS 946 (How to Depreciate Property) as part of the coursework.

Student Feedback: The students indicated their interest in other (unconventional) forms of construction since the building construction industry is in a downturn. Some students have experience in various aspects of construction but they did not know how to select the best equipment, get the processes right or calculate the costs and productivities. Some could not believe how much information a project manager on a DOT project for instance, had to assimilate. The ND DOT manuals are in two volumes and are several hundreds pages long. Other forms of construction – tunnel boring, industrial construction will be introduced in the course in the coming Spring semester.

Advisory Board or Industry Feedback:

Reflection: I believe the course was very good for the students because it made understand construction processes, productivities, cost estimates and making choices (in terms of construction equipment and economics). I would introduce the project in the middle of the semester and ask for a two-part project report with feedbacks. I believe this will enhance learning in the course.

Proposed Actions for Course Improvement: A two-phase project will be used in the next offering of the course. This will enable students spend more time on the projects, interact with others more and enhance their use of the course materials and concepts in a real-world environment. I will cut down on the lecturing and introduce project-based concepts into the course.