CE 594O: Special Topics Construction Engineering & Management: Highway and Heavy Construction

Course Description:
Studies in highway and heavy construction.

Course objectives (course designed to):
Familiarize students with the special skills required in the Heavy-Civil area of the construction industry. Give students the analytical tools to compete for and manage projects in that arena. These include unit price estimating, linear scheduling, and asset management fundamentals for highways, bridges, and engineered facilities on both domestic and international projects.

Course Outcomes (students should be able to):
1. Develop ability to create project management plans and processes for heavy civil projects.
2. Apply cost, schedule, and contract administration tools to heavy civil projects such as: highways, bridges, water treatment plants, etc.
3. Develop ability to perform and document quantity surveying accurately by applying standard estimating techniques to specific construction projects and produce the engineer’s estimated quantities for heavy civil bid packages.
4. Understand how to develop unit prices based on crew-based and production-based pricing and apply those to properly bid on engineer’s estimated quantities.
5. Understand specialized scheduling techniques such as linear scheduling.
6. Understand fundamentals of infrastructure asset management.