Implementing BIM Management and Process Optimization Strategies in Construction Management

As the construction industry rapidly continues to adopt technology and BIM practices, we need to ensure that Construction Management curriculum prepares students for what is expected after graduation. We currently have two Building Information Modeling Courses in the curriculum that focus mainly on learning software, and while this will be essential for students graduating from the Construction Management program, there remains room to improve the courses as the industry adapts. Adding curriculum geared more toward managing the BIM process and learning process optimization skills will not only benefit a higher percentage of students, but will also keep the Construction Management program’s courses up to date.

Key Words: BIM, process optimization, curriculum, management

Industry Perspective

Transformation of the BIM Process
- 3D Coordination now standard
- BIM process now deals with information
- Adoption of 4D, 5D, and 6D processes

Issues Facing the BIM Process – What Should Be Taught
- Communication between all parties involved in the BIM process
- Getting subcontractors to effectively follow the process

Current Curriculum Software Effectiveness

Proposed Modules

Emphasis on Team Learning
Each team member will play the part of either the general contractor, subcontractor, or owner in each module.

Model Based Takeoffs
Using Revit and Vico Office, students will work through the 5D process of using a model to perform takeoffs.

6D Data Mining
Using Revit, Vico Office, Revit Express Tools and Microsoft Excel, students will explore through several levels of data in a model. Using this process, Excel spreadsheets will be created containing the required information from the owner.