Teaching Preconstruction with BIM 360

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Agenda

- Course Background
- BIM 360 Experience
- Student Feedback
- Q & A
The Course: CM220 Advanced Planning and Preconstruction
Course Specifics

• Graduate course (~200 level)
  • 3-hour block, 15 sessions
  • Using Canvas LMS
• First MSCM cohort
  • 9 students enrolled
    • diverse backgrounds (age, gender, experience, field of study)
• Completely online
Course Outline

- Learning Modules
  - LM 1 – Concepts & Framework
  - LM 2 – Collaborate with Autodesk Construction Cloud
    - LM 2.1 – BIM 360 Document Management
    - LM 2.2 – BIM 360 Model Coordination
    - LM 2.3 – Coordination & 4D Simulation with Navisworks Manage
    - LM 2.4 – Model-based QTO & Cost Estimate
- Integration Project
- Individual Research Paper
Document Management

- Document upload, distribution, and version control
- Plans vs. Project Files
- Business processes
  - Markups
  - Issues
  - RFIs
  - Submittals
- Activity: accountability
Model Coordination

- Concept of coordination space
- Automated clash detection
- Cross tabulation analysis
- Model and coordination issue update
- Compare with experience with Navisworks Manage
Project Management

- Centralized RFIs and Submittals tracking
- Report function
Model-based QTO & Change Management

• “I” in BIM
• Design iteration & change management *
• Compare experience across Revit Schedules & Quantities, Navisworks Manage Quantification, and Assemble Systems

* Best value overall by students’ selection
Integration Project

- Apply BIM 360 services in real world scenario
- Small multidisciplinary team collaboration to simulate business workflow to provide preconstruction services, including:
  - Document Management and Design Communication
  - Issues, RFIs, and Submittals Management
  - Design Coordination and Constructability Review
  - Project Phasing and Sequencing
  - Cost Modeling and Iterative Cost Estimate
  - Change Management
  - Sustainability and LEED Analysis
  - Site Logistics Planning
Individual Research

- Mini-paper with a topic on BIM 360 and preconstruction services
  - BIM 360 for constructability review and MEP/FP coordination
  - BIM 360 as a solution to design communication under COVID-19
  - Enhance OAEC communication in preconstruction with data visualization with BIM 360
  - Organizational readiness for integrated preconstruction services with BIM 360
Lessons Learned
Faculty Reflection

- Courseware extremely helpful
  - Clear learning objectives
  - “Run of show” for paced learning activity
  - Video tutorials valuable for a “flipped-classroom” model
- Balanced technical and non-technical content
  - Learning software vs. learning use cases
  - Multidisciplinary lens and teamwork is the key
Student Reflection

• Technology
  • Easy to set up and easy to use
  • Videos tutorials are helpful
  • Handouts & case studies are relevant

• Implementation
  • Common data environment highly valuable
  • Activity stream enhances accountability and alleviate disputes
  • Change management & quick insights
Thank you for a great semester with BIM 360! It rocks! Also thanks for always being there supporting us!
- Wei

Thank you very much for the support, Steve! I am thankful for the opportunity to learn more about BIM 360.
- Pablo

Thank you so much for allowing us the opportunity to "learn-by-doing." BIM 360 is fantastic, & I can't wait to see how AutoDesk continues to innovate for our industry! Thank you again for all your support!!
- Molly

Autodesk has created an amazing platform for construction professionals. Thank you, Steve for the opportunity and support to learn firsthand how the preconstruction process can be made more efficient. I look forward to implementing Autodesk products in my company. Thank you again.
- Joshua

Thank you so much for the support! I really enjoyed learning about BIM 360, and I am sure it will be very useful in my future career!
- Tolleman

I very much appreciate your support! When I think about project delivery, BIM 360 is the first thing to come to mind.
- Farid

Thank you for your support and patience, Steve! The possibilities are endless with BIM 360!
- Janelle

Thank you so much for your support and for providing us this opportunity, Steve! BIM 360 knowledge will be very useful in my future career.
- Elnaz
Questions?
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