AI for Construction Workflows

GAIN THE ADVANTAGE — SAFELY AND PROFESSIONALLY
(2 SESSIONS X 3.5HRS EACH)

Course Overview

This hands-on course teaches construction office staff how to leverage AI tools like Claude and Microsoft Copilot to improve efficiency, accuracy, and decision-making in their daily work. Participants learn practical applications for document creation, specification analysis, communication, and construction management tasks while addressing privacy concerns and building confidence with AI technology. This course is ideal for construction office staff who want to work smarter, save time on repetitive tasks, and enhance the quality of their deliverables using AI tools.

Who Should Attend

Designed for construction management staff including project coordinators, project managers, estimators, administrators, and anyone who handles documentation, specifications, RFIs, submittals, scheduling, or client communication on construction projects.

Course Format

Duration: 2x3.5-Hours back to back days

Delivery Method: Instructor Led Online via Teams

Materials Provided:

- Course workbook (PDF)
- Prompt template library for construction tasks
- Privacy best practices checklist
- Quick reference guide
- Sample construction documents for exercises

Pre-Requisites

- No formal prerequisites are required
- Participants should have experience working in a construction office environment
- Access to a laptop with internet connection
- Access to Claude (free accounts work), and Microsoft Excel with Copilot.

Learning Outcomes

1. Understand what AI can and cannot do, and address common misconceptions
2. Apply information privacy best practices when using AI tools
3. Write clear, effective prompts for construction-specific tasks
4. Use AI for document creation, analysis, and management
5. Leverage Microsoft Copilot within Office 365 applications
6. Analyze and cross-reference project specifications using AI
7. Develop multi-step AI workflows for complex construction tasks
8. Recognize AI limitations and apply appropriate quality control

Session 1 – AI Fundamentals and Core Applications (3.5 Hours)

MODULE 1 – INTRODUCTION & DEMYSTIFYING AI (45 MINUTES)

- What is AI? (Simple, non-technical explanation)
- Common myths vs. reality about AI in construction
- Overview of AI tools: Claude, Microsoft Copilot, ChatGPT
- Emerging tools: Bluebeam MAX AI, Datagrid
- Your domain knowledge + AI capabilities = competitive advantage
- Activity: Group discussion - What tasks consume most of your time?

MODULE 2 – INFORMATION PRIVACY & BEST PRACTICES (45 MINUTES)

- What information is safe to share with AI
- What should never be shared (proprietary data, PII, confidential information)
- Best practices for redacting and anonymizing information
- Privacy comparison: Claude, Microsoft Copilot, and other tools
- Understanding free vs. paid versions and their privacy implications
- Developing company guidelines for AI use
- Activity: Review realistic scenarios and identify what needs redaction

BREAK (15 MINUTES)

MODULE 3 – EFFECTIVE PROMPTING FUNDAMENTALS (60 MINUTES)

- The 4 components of a good prompt: Role, Task, Details, Format
- Construction-specific prompting techniques
- Examples: weak vs. strong prompts for construction tasks
- How to refine AI outputs through follow-up questions
- Live Demonstration: Real-time prompting with refinement
- Activity: Practice writing prompts for your own tasks (25 min)

MODULE 4 – HANDS-ON: DOCUMENT CREATION & MANAGEMENT (45 MINUTES)

- Using AI for common documentation tasks
- Adapting templates to specific project needs
- Quality-checking AI outputs
- Scenario 1: Draft an RFI regarding technical details
- Scenario 2: Transform rough meeting notes into formal minutes
- Scenario 3: Create professional email communications
- Key Takeaway: Always review and add your expertise

Session 2 – Advanced Applications and Integration (3.5 Hours)

AI NEWS & UPDATES (5 MINUTES)

- Recent developments in construction AI
- Emerging tools and platforms
- Great resources to keep up to speed

MODULE 5 – MICROSOFT COPILOT INTEGRATION (45 MINUTES)

- Understanding Copilot's integration with Microsoft 365
- Using Copilot in Excel, Word, and Outlook
- When to use Copilot vs. Claude vs. other tools
- Applications: Budget analysis, email management, report formatting
- Live Demonstration: Copilot in action across Office apps
- Activity: Practice with Copilot or guided walkthrough (15 min)

MODULE 6 – WORKING WITH PROJECT SPECIFICATIONS (50 MINUTES)

- Uploading and analyzing specification documents with AI
- Cross-referencing specs with submittals, RFIs, and drawings
- Quickly extracting relevant requirements
- Identifying conflicts and ambiguities
- Best Practices: When to verify, what to trust
- Live Demonstration: Specification Q&A with real documents
- Activity 1: Find specific requirements in sample specs (10 min)
- Activity 2: Prepare an RFI using specification references (8 min)
- Activity 3: Create a compliance checklist from specs (7 min)

BREAK (15 MINUTES)

MODULE 7 – CONSTRUCTION-SPECIFIC APPLICATIONS (60 MINUTES)

- Application 1: Schedule analysis and recovery planning (20 min)
- Scenario: 3-week schedule slip in sitework

- Create impact analysis and stakeholder communication
- Application 2: Submittal review checklists (15 min)
- Generate comprehensive checklists for specific trades
- Standardize processes across projects
- Application 3: Safety & compliance (15 min)
- Daily safety briefings and incident reports
- Site-specific safety checklists
- Application 4: Cost management (10 min)
- Variance analysis and budget presentations
- Change order justifications

MODULE 8 – ADVANCED TECHNIQUES & WORKFLOWS (45 MINUTES)

- Developing multi-step AI workflows
- Example Workflow: Monthly owner report creation
- Building and saving prompt libraries for recurring tasks
- Iterative refinement techniques
- Combining different AI tools effectively
- Activity: Complex change order management scenario (20 min)
- Draft notifications, create documentation, prepare talking points
- Group collaboration and discussion

MODULE 9 – TROUBLESHOOTING, ETHICS & THE FUTURE (30 MINUTES)

- Recognizing AI limitations and errors (hallucinations, outdated info)
- Red flags to watch for in AI outputs
- Ethical considerations and professional responsibility
- What AI cannot replace: relationships, judgment, accountability
- The Future: AI integration roadmap
- Tier 1: Ready-to-use tools (today)
- Tier 2: Embedded AI in construction software (rolling out)
- Tier 3: Custom AI development platforms (advanced/enterprise)
- Staying current as AI evolves

MODULE 10 – ACTION PLANNING & WRAP-UP (15 MINUTES)

- Individual Action Planning:
- Three tasks to start using AI for immediately
- One workflow to develop over the next month
- One remaining concern or question
- Resources for continued learning
- 30-day follow-up plan
- Q&A and course evaluation