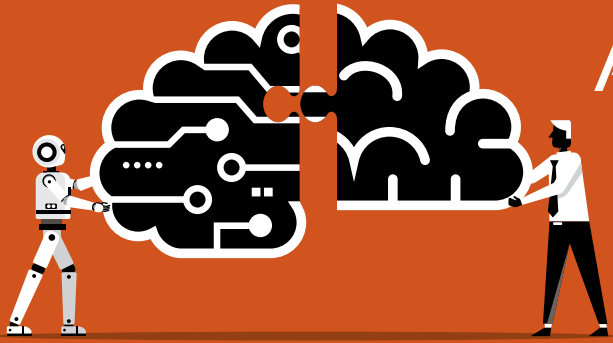




AI AND CURRICULUM DEVELOPMENT FOR CTE

20 Ways to Use AI as a Thought Partner

Artificial intelligence can assist in several ways with curriculum development in career and technical education.

Content and Materials Design

- **Mapping Standards:** Aligning course outcomes with industry certification requirements.
- **Generating Case Studies:** Creating localized workplace troubleshooting problems for students.
- **Drafting Technical Content:** Creating procedural guides and step-by-step equipment operation documents.
- **Developing Safety Protocols:** Writing safety guidelines and hazard checklists.
- **Compiling Resource Lists:** Locating current open-source manuals, digital blueprints, and schematic diagrams.

Assessment and Evaluation

- **Creating Rubrics:** Generating detailed grading criteria measuring precision, speed, and safety compliance.
- **Designing Practical Exams:** Writing scenario-based questions to test critical thinking during hands-on tasks.
- **Automating Quizzes:** Producing technical vocabulary tests and theory checks based on trade-specific modules.
- **Developing Diagnostic Scenarios:** Setting up simulated equipment malfunctions for students to troubleshoot.
- **Refining Competency Checklists:** Organizing performance skills milestones for programs from welding to nursing.

Workforce Alignment and Planning

- **Analyzing Labor Market Trends:** Scanning real-time regional job data to support continued course relevance.
- **Syllabus Structuring:** Organizing logical sequencing for multi-year certification pathways.
- **Integrating AI Literacy:** Embedding learning content on how generative design and machine learning impact specific trades.
- **Translating Abstract Concepts:** Converting complex principles into easy-to-understand analogies.
- **Supporting CTSO Integration:** Aligning projects with career and technical student organization competitive events.

Personalization and Delivery

- **Differentiating Instruction:** Modifying reading levels or generating audio-based overviews to respond to learner needs.
- **Developing Multilingual Aids:** Translating technical glossaries, safety instructions, and other content for English-language learners.
- **Formulating Peer Discussion Prompts:** Designing interactive forum topics.
- **Suggesting Remediation Steps:** Recommending tasks for extra practice based on student performance of specific competencies.
- **Optimizing Modular Pacing:** Structuring flexible learning blocks for students.

