



Course Workflows: Streamlining Teaching with AI Support

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We will review current best practices for ethically embedding AI into postsecondary course workflows, and to explore how instructors are using AI in their work. Participants will engage with practical and responsible strategies that can make use of AI tools while staying true to educational values and maintaining best practices.



Overview

Course Workflows: Streamlining Teaching with AI Support

- Context, Values, Decision-making
- Three Practical Strategies
 - AI in course development
 - AI for rubrics
 - AI and feedback
- Next Steps

Context, Values, Decision-making

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Context...

AI can be course prep, communication, and design support;
AI is not a grader, a surveillance tool, or a substitute for
expert instructor judgement.

We recommend:

- Maintaining transparency about your use of AI. Clearly communicate to students how and why AI tools are being implemented, ensuring they understand the benefits and limitations
- Staying accountable for GenAI outputs. Ensure that you maintain oversight of all course materials and teaching processes by reviewing AI-generated outputs for accuracy and relevance
- Emphasizing responsible AI use by integrating discussions on ethical implications into your curriculum, fostering a culture of critical thinking and ethical awareness

See <https://www.yorku.ca/teachingandlearning/gen-ai/for-faculty/>

Values...

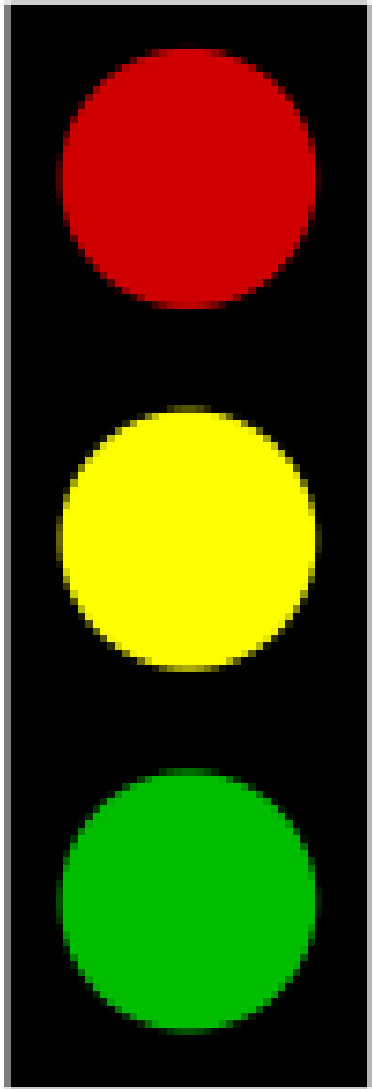
Respond to the quiz:

What two values do you most want to protect in your approach to AI?
What is one worry you have about using AI as part of your workflow?

Let's discuss:

What might values-aligned use look like for you?

Decision-making...



Red (not recommended): grading decisions, uploading student work, surveillance, AI detection tools

Yellow (with caution): anything that shapes assessment design or student behaviour needs strong oversight and transparency

Green (doable today): no student data, low/no stakes components that are easy to verify and support clarity and consistency

Three Practical Strategies

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Strategy 1: AI in Course Development

- Purpose: reduce planning time and improve course coherence
- Inputs:
 - Course description and learning outcomes
 - Major course topics
 - Key assessments
 - Important constraints and contexts (course duration, sessional dates , modality, etc.)
 - Guardrails (no AI detectors, no student work uploads, no AI grading, etc.)
 - Key readings (optional)
- Outputs:
 - 2-3 meaningfully distinct course sequencing options, each with:
 - A weekly work plan for the instructor
 - A weekly work plan for students
 - Flags on any potential spikes in workload for students or instructors
 - 3 suggested adjustments to improve [course alignment/instructor workload/student workload/supports for students/course communication]

Strategy 1: Let's try it

Prompt: “I’m teaching a 12-week 1st year math course, Problems, Conjectures, and Proofs. The course description is: “Extended exploration of elementary problems leading to conjectures, partial solutions, revisions, and convincing reasoning, and hence to proofs. Emphasis on problem solving, reasoning, and proving.” The main assessments are 4 problem set assignments 35%; midterm 20%; final exam 30%; participation 15%. Our textbook is Mathematical Reasoning: Writing and Proof by Sundstrom. I don’t want to use any AI detectors, upload any student work to an AI or the internet, or use AI for grading. I have 2 TAs and 1 grader. Can you provide the following: 2 meaningfully distinct course sequencing options, each with: a weekly work plan for the instructor; weekly work plan for students; flags on any potential spikes in workload for students or instructors; 3 suggested adjustments to improve course alignment.”

Adjust: Where might we want to push the AI (or ourselves) to go deeper? (E.g. supports for students with mixed math backgrounds; strategies to enhance Universal Design for Learning in heavy workload times, etc.)

Consider: What might we gain or lose by considering/combining different approaches to course sequencing?

Strategy 2: AI for Rubrics

- Purpose: Draft or refine rubric language so criteria are observable, fair, and explainable to students
- Inputs:
 - Assignment description and learning outcomes
 - Your priorities (e.g. quality of argument more important than grammar) and/or draft criteria
 - Common student pitfalls
- Outputs:
 - 2-3 meaningfully distinct draft rubrics, each with:
 - Criteria and levels presented in a grid
 - Descriptions of what good work looks like for each criteria
 - Student-facing explanation
 - 3 suggested adjustments to improve [course alignment/instructor workload/student workload/supports for students/course communication/equity/student anxiety]
 - 3 suggested supports to pair with it (e.g. exemplars, checklists, in-class practice, etc.)

Strategy 2: Let's try it

Prompt: “In the course I described above, the assignments ask students to respond to 3 or 4 specific questions. You don't need to worry about those – I will provide them later. For each assignment, I want to assess student ability to communicate their conjectures and conclusions and their logical reasoning. Each question in the assignment is weighted the same. I also need to assign some marks for correctly following assignment instructions. Students often struggle to clearly connect the given information with the conclusion they arrive at. Can you provide the following: 2 meaningfully distinct draft rubrics, each with: criteria and levels presented in a grid; descriptions of what good work looks like for each criteria; student-facing explanation; 3 suggested adjustments to improve student anxiety; 3 suggested supports to pair with it (e.g. exemplars, checklists, in-class practice, etc.)?”

Adjust: Where might we want to push the AI (or ourselves) to go deeper? (E.g. ways to encourage discipline-specific learning; ideas for thinking more creatively about grading, etc.)

Consider: What might we gain or lose by inviting AI to draft rubrics?

Strategy 3: AI and Feedback

- Purpose: Save time while improving consistency and usefulness of feedback.
- Inputs:
 - Assignment description and learning outcomes
 - Rubric criteria or uploaded rubric
 - Your priorities (e.g. preferred tone, length, purpose of feedback)
 - Common issues
- Outputs:
 - Comment bank of marginal feedback comments keyed to each rubric criteria, which can be tailored for individual students
 - Samples of summative feedback in brief (1-2 sentence) and expanded (4-6 sentences) formats.

Strategy 3: Let's try it

Prompt: “In the assignment I described above, I will be using the second rubric you generated to evaluate student work. I want my feedback to be warm and direct, and to avoid deficit framing and separate language proficiency from concept mastery where appropriate. Can you provide the following: a comment bank of 3-5 marginal/in-line feedback comments keyed to each rubric criteria, which can be tailored for individual students and representative of typical student challenges with this type of work; 3 meaningfully distinct samples of summative feedback in brief (1-2 sentence) and expanded (4-6 sentences) formats?”

Adjust: Where might we want to push the AI (or ourselves) to go deeper? (E.g. replacing generic phrases with specific references to student work; targeted suggestions for next steps, etc.)

Consider: What might we gain or lose by starting with an AI generated comment bank?

Making it yours

Select one strategy you'd like to try in your teaching (course planning, rubric drafting/revision, feedback bank, something else).

1. Think back: what were the top values you wanted to protect? Where can this strategy help support them?
2. What was your top concern? What safeguard can you use?
3. What will you tell your students?

Next Steps

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Universal prompt template

Role: Act as a teaching support assistant for a [course level + context].

Context: Here are the constraints: [weeks, class size range, modality, key diversity/access needs to consider].

Task: Create x meaningfully distinct versions of [specific output].

Format: Provide it as [table/bullets/rubric grid].

Additional checks:

- Flag any ambiguity or hidden expectations.
- Suggest accessibility and equity improvements.
- List what I should verify manually.

Using AI to support teaching work – Additional resources/tools

- [Strategic Module for Rubrics, Tasks and Inclusive Education \(SMARTIE\)](#). University of Calgary.
 - This tool allows educators to generate various course components such as descriptions, learning outcomes, corresponding EDIA-aware (Equity, Diversity, Inclusion, and Accessibility) learning activities, and even procure recommendations for rubric redesigns. Account required.
- [Assessment Partner](#). McMaster University.
 - Generate impactful assessments, including MCQs, short-form questions, and more, with an AI partner grounded in pedagogical best practices and guided by you. Account required.
- [More Useful Things: AI Resources - Prompts for Instructors](#). Ethan Mollick.
 - A bank of higher ed-specific prompts licensed for re-use under Creative Commons.