In-Person Delivery

Instructional Course Design Guidelines

All learning occurs in scheduled face-to-face class sessions

Designed for courses where every learning experience occurs in person. Each guideline is adapted to maximise what only live human presence makes possible: real-time reasoning, structured controversy, peer accountability, live coaching, and the shared experience of thinking together in the same room.

Curiosity	Adaptability	Responsible/Ethical Use	Critical Thinking	Human-Centered Thinking
Problem Framing	Communication	Empathy	Resilience	Divergent Thinking

Support tools and systems Production, organisation, synthesis, formatting, aggregation, and logistics.

Instructor judgment and presence Every decision requiring expertise, context, stakes, and accountability.

1. Cognitive Load
2. Retrieval & Transfer
3. Performance vs. Learning
4. Motivation
5. Judgment & Curiosity
6. Course Design
7. Metacognition

SECTION 1

Cognitive Load and Offloading

1 Open every class with a cold attempt before any instruction begins

In fully in-person courses, the instructor is present for every learning moment. That presence must not be used to reduce struggle: it must be used to observe it, name it, and make it productive. Beginning every class with a cold attempt before any instruction is the highest-leverage cognitive load decision available.

Problem Framing | Resilience | Divergent Thinking | Critical Thinking

Assignment design requirements:

- Open every class with a 5-to-8-minute silent cold attempt: a problem or question students work on before any instruction.
- Design the cold attempt to connect to something students genuinely care about, requiring them to consider real stakes.
- Allow multiple valid approaches so students must choose and commit to a direction before discussion begins.
- Use the cold attempt responses to calibrate what the class actually knows before proceeding, not what the schedule assumes.

Embedded reflection and goal prompts:

- Before you begin: What is your instinct about this problem? Where do you expect to get stuck?
- After 5 minutes: What did you try? Where did you stop? What does that stopping point reveal?
- Personal goal: Name one thinking habit you are committing to practice in today's session.
- End of class: Did your initial approach prove correct, wrong, or something more complicated? What caused any shift?

Support tools and systems

Generate cold-attempt problems with multiple valid paths for each class session. Produce the full session problem bank. Draft the post-cold-attempt discussion guide calibrated to common student responses.

Instructor judgment and presence

Read cold attempt responses in the room and decide in real time how to use them: which approaches to surface, which misconceptions to address first, and whether the planned session agenda needs adjustment based on what you see.

2 Define and explain resource-use expectations at the start of every class

In-person courses have the advantage of verbal, relational norm-setting that async and hybrid formats cannot replicate. Resource-use policies land differently when they are explained in person, with space for questions and a visible pedagogical rationale delivered by someone students can look at.

Responsible/Ethical Use | Critical Thinking | Adaptability | Communication

Assignment design requirements:

- Explain the resource-use policy verbally on day one and return to it briefly whenever a new assignment type is introduced.
- Map each in-class task to a permission level and announce it at the start of the activity, not in advance.
- Use closed-resource in-class tasks as live demonstrations of what independent cognition actually looks and feels like.
- Make ethical-use reflection part of every supported or open in-class activity: brief verbal or written, before leaving.

Embedded reflection and goal prompts:

- What is the purpose of doing this without external support right now, in this room, with these people?
- When you chose not to use a resource during today's closed activity, what drove that choice?
- What does responsible use of external support look like for someone in your intended field or profession?
- How does knowing your peers are also working without support change how you feel about working independently?

Support tools and systems

Draft the verbal resource-use policy explanation and in-class activity labels. Generate ethical-use reflection prompts for in-class use. Produce the in-class permission level quick-reference card for students.

Instructor judgment and presence

Deliver the resource-use policy as a genuine pedagogical conversation, not a compliance announcement. Answer questions in the room. Use the policy as an ongoing live norm, not a one-time statement.

3 Use in-class process sharing to make thinking visible and gradeable

In-person courses have the richest possible medium for process sharing: verbal explanation, real-time questioning, whiteboard work, and peer response. Process artifacts in fully in-person courses can take live forms that written logs cannot replicate.

Critical Thinking | Communication | Resilience | Adaptability | Human-Centered Thinking

Assignment design requirements:

- Require students to narrate their process for at least one problem per class: thinking aloud while others listen.
- Use whiteboard process mapping: students sketch their reasoning path before presenting an answer.
- Assign written process logs for major assignments, but supplement them with live verbal presentation in class.
- Use process sharing as graded participation, not optional discussion, so it is taken seriously.

Embedded reflection and goal prompts:

- Where in your process did you make a judgment call you would now make differently after hearing the class discussion?
- What did hearing someone else's reasoning process reveal about your own that you had not noticed?
- How did presenting your process change your relationship to your own answer?
- What does your process today tell you about how you think when no one is watching?

Support tools and systems

Generate verbal process-narration prompts and whiteboard mapping templates for each class session. Draft the graded participation rubric for process sharing activities.

Instructor judgment and presence

Facilitate process narration so it feels generative rather than evaluative. Use what you hear in students' process sharing to understand where the class is, not just to assess individual performance.

4 Use class sessions to connect concepts; use short readings or videos between sessions

In fully in-person courses, class time is too valuable to spend on content delivery. Foundational content delivery belongs in short readings or recordings completed before class. Class time belongs to connection, synthesis, and application, which only live human presence makes possible.

Curiosity | Adaptability | Critical Thinking | Problem Framing | Communication

Assignment design requirements:

- Assign short readings or brief videos before each class session, each ending with a question to bring in.
- Open every class session with the questions students brought from the pre-class material.
- Use class time to connect, synthesise, and apply: not to re-explain what the pre-class material already covered.
- Vary pre-class format (reading, video, podcast, case) to build adaptability and prevent rote preparation habits.

Embedded reflection and goal prompts:

- What question from the pre-class material are you most hoping today's session will help you answer?
- After class: Which connection between ideas could not have emerged from the pre-class material alone?
- How does coming to class with a question, rather than waiting for content, change your experience of the session?
- What question do you still have after today? Where will you take it?

Support tools and systems

Generate pre-class material with carry-forward questions for each session. Draft class opening discussion guides built around those questions. Produce session synthesis prompts for use at the close of each class.

Instructor judgment and presence

Do not re-explain the pre-class material in class. Trust the preparation. If students did not prepare, make that visible through the cold attempt rather than defaulting to re-teaching.

SECTION 2

Retrieval and Transfer Practices

1 Open every class session with a live retrieval exercise, not a review lecture

In-person courses have the richest possible retrieval environment: social, time-pressured, immediately discussable. Retrieval practice in a live setting is more powerful than in any other format because the discussion that follows immediately reveals why students remembered what they remembered and missed what they missed.

Curiosity | Resilience | Adaptability | Critical Thinking

Assignment design requirements:

- Open every class with a 5-minute retrieval exercise: free recall, mini problem, or verbal explanation to a partner.
- Display or discuss class-level responses before moving on: what did the group remember well and what was consistently missed?
- Ask students to record a study intention based on what the retrieval revealed, before the main session begins.
- Rotate formats: individual writing, partner recall, whiteboard brainstorm, no-notes verbal explanation.

Embedded reflection and goal prompts:

- What did the retrieval exercise reveal about what you actually retained from last session?
- What surprised you about what the class as a whole remembered or missed? What does that pattern tell you?
- What specific action will you take before next class to consolidate what today's retrieval exposed as a gap?
- What connection between last session and today did the retrieval exercise surface unexpectedly?

Support tools and systems

Generate retrieval question banks across formats and difficulty levels for each class session. Draft the class-level discussion guide for post-retrieval debriefs. Produce the session-opening retrieval activity deck.

Instructor judgment and presence

Use the retrieval discussion to understand why students missed what they missed, not just to note that they did. Adjust the day's session plan based on what retrieval reveals about where the class actually is.

2 Use in-class time for interleaved problem-solving, not blocked practice

In-person courses can use live problem-solving sessions for interleaved practice at its most powerful: students work on mixed problems together, in real time, with peers and an instructor present to probe reasoning, surface confusion, and redirect misconceptions as they occur.

Adaptability | Critical Thinking | Problem Framing | Resilience | Divergent Thinking

Assignment design requirements:

- Design all in-class problem sets as interleaved: mixing current and prior concepts without category labels.
- Assign blocked practice as pre-class or post-class homework; reserve class time for interleaved discrimination.
- Circulate during in-class problem-solving and probe reasoning, not just answers: how did you decide to approach this?
- Tell students explicitly why in-class sets are harder than homework: framing the difficulty sustains effort.

Embedded reflection and goal prompts:

- Which problem felt most disorienting in class today? What did you do when you did not recognise the approach?
- Where did you have to choose between frameworks in class? Walk through your reasoning for choosing as you did.
- How did working on this with peers nearby change your approach compared to working alone at home?
- Which prior mistake did today's in-class set help you identify that homework practice had not revealed?

Support tools and systems

Generate interleaved in-class problem sets and blocked homework practice sets for each unit. Produce the framing statement explaining why in-class problems are harder. Format cumulative review problem sets.

Instructor judgment and presence

Circulate continuously during in-class problem-solving. Probe reasoning, not just correctness. Use what you hear to decide which problems to debrief publicly and which to address individually.

3 Use live sessions for far-transfer tasks with real human contexts and real-time discussion

Transfer tasks reach their full power in live settings because students can challenge each other's reasoning, encounter perspectives they had not considered, and negotiate what the underlying schema actually requires when applied to a genuinely unfamiliar human situation.

Empathy | Human-Centered Thinking | Communication | Adaptability | Critical Thinking

Assignment design requirements:

- Assign near-transfer tasks as homework; use class time for far-transfer tasks set in human contexts.
- Design far-transfer tasks around professional dilemmas, community problems, or cross-cultural scenarios.
- Have students work in small groups on the far-transfer task, then present their reasoning to the class.
- Close the far-transfer debrief by asking: what was structurally the same, and what was humanly different?

Embedded reflection and goal prompts:

- Who is affected by this problem in the live context you worked on today? How did that change what the concept required?
- What assumption from your homework near-transfer task had to be questioned in today's far-transfer context?
- What did your group's discussion surface about the concept that you would not have reached working alone?
- What did today's human context teach you that the homework problem could not have provided?

Support tools and systems

Generate homework near-transfer tasks and in-class far-transfer tasks using human contexts. Draft small-group facilitation guides and whole-class debrief questions. Produce marking guides distinguishing schema-based reasoning from surface pattern-matching.

Instructor judgment and presence

Select human contexts for live transfer tasks that are authentic and that genuinely complicate the concept. Facilitate small-group discussion without resolving ambiguity prematurely: the productive confusion is the point.

4 Design class sessions as the third, fourth, and fifth visit to core concepts

In fully in-person courses, the live session is the most powerful return visit in the spacing sequence. It should never be the first visit to a concept: it should always be building on prior exposure, using the live environment to do what prior exposure could not.

Communication | Adaptability | Curiosity | Resilience | Human-Centered Thinking

Assignment design requirements:

- Treat each class session as a scheduled spaced return, not an introduction, by requiring pre-class preparation.
- Vary the format of each in-class return: first as a problem set, then peer teaching, then an applied case, then a live debate.
- At the peer teaching stage, student pairs explain the concept to each other with no notes: the teaching is the review.
- Connect the applied case to the real problem each student identified in week one.

Embedded reflection and goal prompts:

- How has your understanding of this concept changed since you first encountered it? What specifically is different?
- What could you explain to someone else today that you could not have explained on first encounter?
- How does this concept connect to the real problem you identified at the start of the course?
- What gap remains after today's session? What is your specific plan for closing it before the next class?

Support tools and systems

Generate the spacing calendar coordinating pre-class preparation with in-class return visit formats. Draft peer-teaching activity guides. Produce applied case materials connecting concepts to student-identified real problems.

Instructor judgment and presence

Never re-explain something students were supposed to have encountered in pre-class preparation. Make non-preparation visible through the session's activities rather than defaulting to a full lecture to cover for it.

SECTION 3

Performance vs. True Learning

1 Use class sessions to test live reasoning, not to receive polished work

In-person courses have the most direct access to live reasoning of any delivery format. Every class session is an opportunity to assess genuine understanding through think-alouds, oral responses, live problem-solving, and spontaneous explanation, none of which can be meaningfully faked.

Communication | Resilience | Adaptability | Critical Thinking | Human-Centered Thinking

Assignment design requirements:

- Schedule at least two formal oral examinations or think-alouds per term as graded assessment events.
- Use spontaneous live probing in every session: call on students to explain their reasoning, not just their answer.
- Pair any major take-home assignment with an in-class follow-up question probing the same concept from a new angle.
- Use whole-class live problem-solving sessions where reasoning is visible: no private calculation, reasoning is spoken aloud.

Embedded reflection and goal prompts:

- What did being asked to explain your reasoning aloud reveal that your written work had not shown?
- Where did you feel confident in your live explanation? Where did you notice uncertainty you had not been aware of?
- What is the gap between what you submitted in writing and what you were able to explain live? What does that gap mean?
- What will you do differently to prepare for the next moment when you are asked to reason aloud in this course?

Support tools and systems

Generate oral exam question banks using novel human situations. Draft in-class live probing question banks keyed to each major topic. Format the oral assessment schedule and logistics.

Instructor judgment and presence

Create a classroom culture where being asked to explain your reasoning is normal, not threatening. Call on students regularly, not randomly: use cold calling as a teaching tool, not a punishment.

2 Use class time for live revision coaching, not just assignment handback

In-person courses can make revision a live, coached, social process. Instead of returning work and moving on, class sessions can be used to coach revision in real time: students work on their drafts while the instructor circulates, probing reasoning and modelling revision decisions.

Critical Thinking | Communication | Resilience | Adaptability | Responsible/Ethical Use

Assignment design requirements:

- Return major assignments during class and use the remainder of the session for live revision coaching.
- Have students identify the weakest element of their own work and write a revision plan before leaving the room.
- Use the revision session to circulate and probe: why did you make this choice, and what would you change now?
- Assign the revised version as homework, due before the next class, so revision has immediate consequence.

Embedded reflection and goal prompts:

- What did the live coaching conversation change about your revision plan that written feedback alone could not?
- Where did your own judgment conflict with the feedback? How did the in-class conversation help you resolve it?
- What does your revision plan reveal about how you understand the difference between strong and weak work?
- What does today's revision session tell you about the kind of thinker you are and the kind you are becoming?

Support tools and systems

Format the in-class revision session activity guide. Generate revision plan prompts and probing questions for instructor use during circulation. Produce the revision annotation rubric.

Instructor judgment and presence

Use circulation during in-class revision to understand patterns of misunderstanding across the room. Make revision decisions visible by thinking aloud occasionally: here is what I would change and here is why.

3 Use unannounced in-class checks as a regular and expected cultural norm

In-person courses can make unannounced checks a genuine cultural expectation rather than a surprise. When students know that any class might include a brief check, they maintain continuous engagement rather than cramming before announced assessments. The unpredictability is the pedagogy.

Resilience | Adaptability | Communication | Critical Thinking | Problem Framing

Assignment design requirements:

- Plan 4 to 6 unannounced checks per term, excluded from the syllabus.
- Use formats that require live construction: whiteboard, handwritten paragraph, verbal explanation to a partner.
- Keep them low-stakes at 2 to 3 percent of grade maximum so anxiety does not override their diagnostic function.
- Debrief class-level patterns in the session following each check: not individual results, but what the class reveals.

Embedded reflection and goal prompts:

- What did this check reveal about your understanding that you had not expected it to reveal?
- How did you respond when you were uncertain? What does your response tell you about yourself as a learner?
- Who outside this classroom would care about the concept you just tried to demonstrate? How would you explain it to them?
- What specific action will you take before next class to address what today's check revealed?

Support tools and systems

Generate in-class check prompt banks across formats and topics. Draft the post-check class debrief guide. Produce the participation tracking template for check-in grading.

Instructor judgment and presence

Deploy checks when you sense that student confidence exceeds understanding: trust your live reading of the room. Use the debrief to make the class's collective pattern of understanding visible without exposing individuals.

4 Model reasoning publicly and grade it explicitly in class and on assessments

In-person courses offer the most powerful context for modelling reasoning: the instructor can think aloud live, make errors visibly, and demonstrate the messy reality of expert thinking. This is the most direct way to communicate that reasoning quality is what the course values.

Critical Thinking | Responsible/Ethical Use | Communication | Human-Centered Thinking

Assignment design requirements:

- Model reasoning live in every class session: pick a hard problem and think through it aloud, including false starts.
- Include a reasoning quality dimension in every rubric worth at least 25 percent of the total mark.
- When an answer is correct but the reasoning is flawed, address it publicly in the debrief as a class learning moment.
- Provide model answers after major assessments that expose the reasoning path in full.

Embedded reflection and goal prompts:

- What did watching the instructor reason through a hard problem reveal about how expertise actually works?
- Where in your own work did you move from evidence to assumption without noticing? What triggered that shift?
- What specific reasoning move from today's live demonstration do you want to build into your own practice?
- Set one reasoning goal, in the language of this discipline, for your next major assessment.

Support tools and systems

Draft model answers exposing full reasoning paths. Generate rubric templates with reasoning dimensions. Produce feedback comment banks keyed to common reasoning errors in this discipline.

Instructor judgment and presence

Model reasoning with genuine uncertainty intact. Do not perform thinking: actually think in front of the class. Include moments where you make an error or revise: the revision is the pedagogical content.

SECTION 4

Intrinsic Motivation

1 Build choice and personal investment into in-class activities, not just assignments

In-person courses can embed choice and autonomy into the live session itself, not just in take-home assignments. When students can choose their approach, their case, or their partner in class, autonomy becomes a daily experience rather than an occasional design feature.

Curiosity | Problem Framing | Divergent Thinking | Communication | Human-Centered Thinking

Assignment design requirements:

- Offer at least one open-choice element in every class session: approach to a problem, case to analyse, or peer to work with.
- Ask students to write a personal learning intention in week one and surface it in live sessions at mid-term and end.
- Use student-chosen real problems as live case material: the class analyses problems students identified as meaningful.
- Build one fully open-ended class project that connects to a genuine personal or professional interest.

Embedded reflection and goal prompts:

- Why did you choose the approach or case you chose today? What does that choice reveal about your interests?
- Revisiting your learning intention in class: how has what you thought you wanted to learn changed?
- What did analysing your own real problem with the class's input reveal that you could not have seen alone?
- Who outside this room would benefit from what you are learning? How does that awareness change how you engage today?

Support tools and systems

Generate in-class open-choice activity options for each session. Draft the personal learning intention prompt and live mid-term review activity. Produce rubrics applicable across different student-chosen contexts.

Instructor judgment and presence

Create genuine choice, not the appearance of choice. If all options lead to the same outcome, students will recognise it. Read personal learning intentions before sessions to understand what students are personally invested in.

2 Anchor every class session to a real problem someone in the room has named

In-person courses have the rarest and most powerful resource: actual people in the room with actual problems. Using those problems as live case material makes abstract concepts immediately consequential and transforms the classroom from a simulation into a genuine problem-solving community.

Empathy | Human-Centered Thinking | Communication | Problem Framing | Responsible/Ethical Use

Assignment design requirements:

- In week one, every student identifies a real problem they care about. These become the course's case library.
- Rotate through student-identified real problems as live case material across the term.
- When concepts are introduced, ask immediately: whose problem in this room does this concept most directly address?
- At least twice per term, invite a community member or practitioner whose problem is live and unresolved.

Embedded reflection and goal prompts:

- Whose problem in the room did today's concept most directly illuminate for you? Why that one?
- What assumption did you bring to the concept that working on a real person's problem challenged?
- How does knowing that your learning directly connects to a problem someone in this room is living with change your investment?
- What would it cost the person whose problem this is if the concept were never applied to it?

Support tools and systems

Build the student real-problem case library from week-one submissions. Generate session prompts connecting each concept to the case library. Draft facilitation guides for live case analysis using student-submitted problems.

Instructor judgment and presence

Handle student real problems with care: they are personal, and being used as class material requires real respect. Get explicit permission and offer anonymisation. The richness of real problems is worth the care they require.

3 Use live sessions to deliver mastery-oriented feedback in conversation, not on paper

In-person courses have the most powerful feedback medium available: a live conversation. Feedback delivered in dialogue, where students can respond, push back, and ask questions, is fundamentally different from written feedback, and should be used as the primary developmental tool.

Resilience | Communication | Adaptability | Critical Thinking | Responsible/Ethical Use

Assignment design requirements:

- Schedule brief individual or small-group live feedback conversations for every major assessment.
- Use a two-strengths-and-a-next-step structure for live conversations: two specific strengths, one concrete next action.
- Offer revision opportunities on at least two major assessments per term so live feedback has somewhere meaningful to go.
- Ask students to state their revision plan aloud before leaving the feedback conversation: this activates commitment.

Embedded reflection and goal prompts:

- What did the live feedback conversation reveal that written feedback alone could not have communicated?
- What in the feedback surprised you? What did it confirm that you had already suspected?
- What is the specific next step this feedback asks of you? State it aloud and write it down.
- How does receiving feedback in a conversation change how you think about giving feedback to others in your future field?

Support tools and systems

Draft the live feedback conversation guide using the two-strengths-and-a-next-step structure. Generate first-draft talking points from rubric criteria and student work. Format the revision plan prompt for use at the end of each feedback conversation.

Instructor judgment and presence

Hold live feedback conversations with genuine attention: this is the most personal and powerful thing you do in the room. Listen more than you speak. The student's response to feedback is itself diagnostic information.

4 Model expertise live, including its uncertainty, errors, and revision

In-person courses offer the rarest educational experience: a human expert thinking in real time in the same room. The live think-aloud, with genuine uncertainty and visible revision, makes expertise aspirational rather than intimidating and shows students that development is a process, not a destination.

Curiosity | Resilience | Divergent Thinking | Adaptability | Critical Thinking

Assignment design requirements:

- Conduct a live think-aloud on a hard problem in every class session: no script, genuine reasoning, visible errors.
- Share annotated exemplary student work from prior terms and discuss what makes the reasoning strong.
- Use live expert-novice comparison: present two responses to the same question and discuss the differences with the class.
- Invite practitioners to class for unscripted conversation about how they still navigate uncertainty in their work.

Embedded reflection and goal prompts:

- What did today's live think-aloud reveal about how expertise actually works that a recording could not have shown?
- What did the instructor get wrong or revise today? What does watching that process tell you about your own errors?
- What specific reasoning move from today's session do you want to build into your own practice?
- How far are you from the exemplary work shown today? What is the most important specific gap to close?

Support tools and systems

Draft live think-aloud facilitation prompts. Generate annotated exemplar analyses and expert-novice comparison materials. Research and compile practitioner speakers for live session visits.

Instructor judgment and presence

Think aloud genuinely: the value is in the authentic process, not the performance. Allow yourself to be wrong in front of students and revise visibly. This is the most powerful pedagogical act available in an in-person course.

SECTION 5

Judgment and Curiosity Development

1 Use class sessions for live source critique and collective error taxonomy-building

In-person courses can make source critique a live, social, intellectually charged activity. The class critiques together, challenges each other's findings, and builds a shared taxonomy of disciplinary error that no individual student could construct alone.

Critical Thinking | Responsible/Ethical Use | Human-Centered Thinking | Empathy | Communication

Assignment design requirements:

- Assign a source critique for homework; use the class session to debrief and challenge each other's critiques.
- Project the source in class and work through it collectively, calling on students to identify specific errors.
- Build the class error taxonomy live on the board over the term, adding to it from each critique session.
- Include a human-stakes question in every critique session: who would be harmed if this analysis were acted upon?

Embedded reflection and goal prompts:

- What did the live critique discussion reveal about the source that your homework analysis had missed?
- Where did another student's critique challenge your own reading? How did you respond to being challenged?
- What bias or assumption in the source mirrors something in your own prior work in this course?
- What would it take for you to produce an analysis that this class could not critique in the same ways?

Support tools and systems

Generate source critique materials for homework use and live session projection. Draft live critique facilitation guides. Produce the growing class error taxonomy template for board display.

Instructor judgment and presence

Facilitate live critique so it challenges without demoralising. Model what respectful but rigorous academic critique looks and sounds like. Shape the taxonomy in real time so it builds toward disciplinary insight.

2 Use structured controversy in every class as the vehicle for contested questions

In-person courses are the only format where structured academic controversy reaches its full power. The experience of arguing a position, switching sides, and synthesising in real time with real people requires the live social dimension that only in-person delivery provides.

Divergent Thinking | Empathy | Responsible/Ethical Use | Problem Framing | Human-Centered Thinking | Critical Thinking

Assignment design requirements:

- Use structured academic controversy in every class that involves a genuinely contested question.
- Students argue a position, switch sides and argue the opposing position, then synthesise toward a defensible stance.
- Design ethical dilemma cases where every option has a documented human cost: grade reasoning, not the option chosen.
- Use update-your-position assignments: students state a position before class, revise it in class, record the revision.

Embedded reflection and goal prompts:

- What was it like to argue the opposing position with full commitment in front of your peers? What did you discover?
- Whose interests were made visible in today's controversy that your initial position had ignored?
- What would you need to believe or see to genuinely hold the position you were assigned to argue?
- How does your own background, identity, or experience shape how you read this problem in this room with these people?

Support tools and systems

Generate live controversy case materials and structured controversy facilitation guides. Draft the ethical dilemma case library. Produce the position-update recording template for in-class use.

Instructor judgment and presence

Facilitate structured controversy with genuine attention to the social dynamics in the room. Ensure students argue their assigned positions with real commitment, not ironically. Manage the synthesis so it is genuine, not a formulaic compromise.

3 Pursue student wonder questions live in real time

In-person courses can do something no other format can: let a student's genuine question drive the whole class for a period, with everyone present to witness and participate in the investigation. This makes curiosity communal, consequential, and intellectually visible.

Curiosity | Divergent Thinking | Problem Framing | Communication | Adaptability

Assignment design requirements:

- Collect wonder questions at the end of every class: one question today raised that the student still wants answered.
- Open the next class with the most generative questions read aloud and invite the class to investigate them together.
- Once per term, dedicate an entire class session to student questions with no prepared agenda.
- Maintain a physical or projected class question board that everyone can add to and reference across the term.

Embedded reflection and goal prompts:

- What question did today's class raise that you did not expect to have?
- Why does your wonder question matter to you? What would change if the class could answer it together?
- What did following a classmate's question reveal about the material that the planned session could not have provided?
- Which question on the class board resonates most with you right now? What does that resonance reveal?

Support tools and systems

Generate session-closing wonder question prompts. Build the class question board template for physical or projected display. Aggregate questions between sessions and generate follow-up resources for the most common threads.

Instructor judgment and presence

Engage with student wonder questions as genuine intellectual invitations, not as digressions to be managed. The class session where a student's question drives the agenda is often the most memorable of the term.

4 Model epistemic practices live and ask students to do the same

In-person courses offer the live modelling of epistemic practices that no other format can provide. When an instructor changes their mind in front of students, acknowledges uncertainty, or revises a position in response to a student's argument, it demonstrates that these are not rhetorical moves but genuine intellectual practices.

Responsible/Ethical Use | Critical Thinking | Adaptability | Curiosity | Divergent Thinking

Assignment design requirements:

- Dedicate one early session to how experts in this discipline think: evidence standards, argument quality, live debates.
- Model intellectual humility in every class: share a view you have revised and walk through the mechanism live.
- Ask students to publicly share a moment when evidence changed their position during a live session.
- Build a position-revision live activity into the course: students state and revise positions in real time with evidence.

Embedded reflection and goal prompts:

- Describe a belief you came into class with today that shifted during the session. What specifically shifted it?
- What would it take for you to change a position you currently hold in this field, in front of this class?
- Who in today's discussion held the opposite view from you? What was the strongest version of their argument?
- How will you apply this discipline's way of knowing in decisions you make in your life outside this room?

Support tools and systems

Draft the live epistemic practices session facilitation guide. Generate position-revision activity prompts for live use. Produce the intellectual humility modelling template for instructor reference.

Instructor judgment and presence

Model epistemic practices authentically: actually change your mind when a student makes a good argument. If you cannot do this in the room, you are not modelling intellectual humility, you are performing it.

SECTION 6

In-Person Course Design

1 Use every minute of class time for what only live presence makes possible

In-person class time is the scarcest resource in the course. Every minute spent on something that could have been a reading, video, or recorded explanation is a minute taken from what only live human presence makes possible: real-time debate, spontaneous reasoning, live critique, and the experience of thinking together.

Communication | Empathy | Adaptability | Critical Thinking | Human-Centered Thinking | Divergent Thinking

Assignment design requirements:

- Audit every class activity and eliminate anything that does not require live presence to achieve its purpose.
- Move all content delivery to pre-class readings or short recordings: class begins where pre-class preparation ends.
- Design every class session around one hard, human question that requires live reasoning and cannot be googled.
- Use the final 5 minutes of every class for a structured close: one thing you are leaving with and one question you are carrying forward.

Embedded reflection and goal prompts:

- What happened in today's class that could not have happened in any other format?
- What did coming prepared with pre-class material change about your experience of the live session?
- What question are you carrying out of today's class that you did not walk in with?
- What would you lose from your learning in this course if it moved entirely online?

Support tools and systems

Generate pre-class materials with carry-forward questions for each session. Draft session facilitation guides for hard, human questions. Produce the structured session-close activity template.

Instructor judgment and presence

Protect class time fiercely. Resist the pull to re-explain or to fill silence with content delivery. Let the room work: student-to-student discussion, live problem-solving, and genuine uncertainty are not failures of class management, they are the course.

2 Use cold-calling and live probing as regular teaching tools, not disciplinary measures

In-person courses can make live reasoning visible through regular, expectation-setting cold-calling and probing. When students know they may be asked to think aloud at any time, they maintain continuous engagement. When it becomes a cultural norm, it ceases to feel like evaluation and starts to feel like learning.

Resilience | Communication | Adaptability | Critical Thinking | Problem Framing

Assignment design requirements:

- Establish cold-calling as a cultural expectation in week one: you may be asked to reason aloud at any time.
- Use cold-calling to probe reasoning, not to catch students out: the question is always how did you get there, not just what is the answer.
- Cold-call students who have been quiet as well as those who volunteer: inclusion is an instructional decision.
- Create a safe-to-be-wrong culture by responding to errors as learning data, not as failures.

Embedded reflection and goal prompts:

- What did being asked to reason aloud today reveal that you had not expected?
- How does knowing you might be called on at any time change how you prepare for and engage in class?
- What did you notice about how you responded when you were uncertain? What does that response tell you?
- How would you describe the culture of this classroom around being wrong or not knowing? What does that culture make possible?

Support tools and systems

Generate live probing question banks for each session. Draft the week-one cultural expectation-setting facilitation guide. Produce the cold-calling response protocol for common student responses including uncertainty and error.

Instructor judgment and presence

Cold-call as a teaching act, not a disciplinary one. Respond to uncertainty and error with genuine curiosity: what were you thinking, and where does the thinking go from here? The culture you create in week one around being wrong determines the intellectual environment for the whole term.

3 Use small-group and whole-group discussion as the primary mode of engagement

Discussion is the in-person course's unique pedagogical advantage. When designed well, it develops communication, empathy, divergent thinking, and human-centered reasoning simultaneously, because students must engage with real people holding real views in real time.

Communication | Empathy | Adaptability | Critical Thinking | Human-Centered Thinking | Divergent Thinking

Assignment design requirements:

- Design every class around a discussion arc: individual thinking, small-group exchange, whole-class synthesis.
- Use structured discussion protocols (think-pair-share, Socratic seminar, fishbowl) to give discussion productive form.
- Assign discussion facilitator roles that rotate across students: leading, recording, synthesising, and challenging.
- Grade discussion participation on reasoning quality and peer engagement, not frequency of speaking.

Embedded reflection and goal prompts:

- What did you hear in today's discussion that changed how you were thinking about the question?
- Where did you feel the pull to agree with the group even when you had a different view? What did you do?
- Whose contribution today pushed your thinking most? What specifically did it do to your reasoning?
- What would you say now to someone who was not in today's discussion about what the class discovered together?

Support tools and systems

Generate discussion question banks and structured protocol guides for each session. Draft the rotating facilitator role instructions. Produce the discussion participation rubric focused on reasoning quality and peer engagement.

Instructor judgment and presence

Facilitate discussion by asking questions, not by answering them. Resist the pull to resolve ambiguity or summarise too early. The silence after a hard question is productive: let it work before filling it.

4 Build explicit independent work norms into an environment that is inherently social

In-person courses create the paradox of independence: students are surrounded by peers but some tasks require unaided individual cognition. Making the rationale for independent work explicit in a live social environment is more powerful than in any other context, because students can discuss it together.

Resilience | Responsible/Ethical Use | Critical Thinking | Adaptability | Problem Framing

Assignment design requirements:

- Designate explicit independent work periods within class sessions and explain why those periods are independent.
- Use silent individual work as a regular feature of every class: cold attempts, retrieval exercises, and reflection prompts.
- Create shared norms around independent work by doing it together in the room, making collective effort visible.
- Revisit the rationale for independent work in the live session when students are most likely to feel the pull toward peers.

Embedded reflection and goal prompts:

- What did working independently in a room full of peers reveal about what you actually know versus what you rely on others for?
- At what point during the independent work today were you most uncertain? What did you do with that uncertainty?
- How does completing this independently in a social environment change what you think about your own capabilities?
- What would you need to develop to feel genuinely confident working at this level of independence in your future field?

Support tools and systems

Draft the rationale language for in-class independent work periods. Generate independent work activity templates for cold attempts, retrieval, and reflection. Produce the shared norms discussion guide for week one.

Instructor judgment and presence

Enforce independent work periods consistently and explain why every time. Do not rescue students from uncertainty during independent work: circulate and observe, but resist the pull to help before they have genuinely tried.

SECTION 7

Metacognition and Self-Regulation

1 Make the fluency-familiarity trap visible in the room, not just in written explanation

In-person courses can expose the fluency-familiarity trap in real time, in front of peers, in a way that makes the gap between feeling of knowing and actual knowing viscerally tangible. When a student discovers in class that they cannot reconstruct what they were sure they understood, the lesson lands differently than any written explanation could.

Critical Thinking | Resilience | Responsible/Ethical Use | Adaptability | Problem Framing

Assignment design requirements:

- Use live close-the-notes exercises in every class: students put everything away and explain the concept from memory.
- Follow the exercise with immediate peer comparison: what did each of you include, and what did one of you miss?
- Teach the fluency-familiarity distinction explicitly in the first class and return to it when the gap surfaces live.
- Use live error-identification exercises: class analyses a projected flawed explanation together.

Embedded reflection and goal prompts:

- What felt fluent before the exercise that turned out to be hazier when you had to reconstruct it in front of others?
- What did your peer include that you had missed? What does that gap reveal about how you were studying?
- How does discovering a gap in class, with peers present, feel different from discovering it alone? What does that difference teach you?
- What is the cost, in your future field, of presenting with fluency what you do not genuinely understand?

Support tools and systems

Generate live close-the-notes exercise prompts and peer comparison activity guides for each session. Draft the error-identification projection materials. Produce the fluency-familiarity live discussion guide.

Instructor judgment and presence

Use the live moment when students discover a gap as a teaching opportunity, not a grading moment. Make the experience of discovering a gap feel generative: this is useful information, not a failure.

2 Run live confidence calibration as a class activity, not just individual data collection

In-person courses can make confidence calibration a shared, visible, and discussable experience. When the class sees its collective calibration data displayed together, the social dimension of overconfidence and underconfidence becomes part of the learning.

Critical Thinking | Responsible/Ethical Use | Resilience | Adaptability | Human-Centered Thinking

Assignment design requirements:

- Collect confidence ratings via show of hands or live polling before and after key in-class activities.
- Display class-level calibration data live: where is the group most overconfident? What does that tell us?
- Run individual confidence calibration on graded assessments and bring aggregate data to the live session for discussion.
- Use persistent individual overconfidence as a signal for a one-to-one coaching conversation after class.

Embedded reflection and goal prompts:

- What did seeing the class's calibration data displayed together reveal that individual data could not?
- Where was the group most overconfident today? What does that pattern suggest about how we are all studying?
- What are the real-world stakes of acting on overconfident professional judgment in your intended field?
- What one preparation change does today's class calibration data suggest for the whole group?

Support tools and systems

Generate live polling calibration tools and class-level display templates. Produce the aggregate calibration discussion guide for use in class. Draft the one-to-one coaching conversation protocol for persistent overconfidence.

Instructor judgment and presence

Present class-level calibration data without shaming individuals. Frame it as information the whole class can use together. Hold coaching conversations with persistently overconfident students privately and frame them as investment in their success.

3 Use explain-it-to-someone-else as a live class ritual, not just an assignment prompt

In-person courses can make the explain-it-to-someone-else test a live class ritual that students practise repeatedly. When explanation happens in person, with a real peer responding in real time, the gap between what is understood and what is merely familiar becomes immediately and undeniably visible.

Communication | Curiosity | Critical Thinking | Adaptability | Human-Centered Thinking

Assignment design requirements:

- Use explain-it-to-a-partner as a regular 3-to-5-minute class activity after introducing any new concept.
- Rotate partners across the term so students explain to different audiences with different levels of familiarity.
- After partner explanation, debrief whole-class: what did your partner struggle to follow? What does that reveal?
- Assign before-and-after self-explanation at the start and end of each unit: written, then compared live.

Embedded reflection and goal prompts:

- What did your partner's confusion or question reveal about your explanation that you had not noticed?
- Where did you use vague language because you were not quite sure? How did your partner's response expose that?
- How does explaining this in person to a real, responding human differ from writing a self-explanation alone?
- Comparing your explanation today to your explanation at the start of this unit: what has specifically changed?

Support tools and systems

Generate explain-it-to-a-partner activity prompts for each session. Draft the whole-class debrief guide for after partner explanation activities. Produce the before-and-after self-explanation comparison template.

Instructor judgment and presence

Circulate during partner explanation activities and listen: what you hear reveals where the class's understanding is genuinely solid and where it is fluent but hollow. Use what you hear to decide which concepts need a live whole-group return visit before moving on.

4 Use class time for live learning audits and peer-accountable goal-setting

In-person courses can make the learning audit a social and accountable practice, not just a private journal. When students share their audit data with peers in the room and set goals publicly, self-regulation becomes a collective commitment rather than an individual aspiration.

Resilience | Adaptability | Curiosity | Critical Thinking | Responsible/Ethical Use | Communication

Assignment design requirements:

- Run a brief in-class audit at the start of each major unit: what do I genuinely understand, what am I avoiding?
- Immediately follow the audit with peer goal-setting: students share one goal with a partner and agree to check in.
- At mid-term, use class time for a full calibration and goal-revision session: what has the data revealed?
- At course end, students write a learning letter privately and share one paragraph in the final class session.

Embedded reflection and goal prompts:

- What do I genuinely understand well enough to teach? What do I recognise but could not reconstruct? What am I avoiding?
- What pattern in your audit data did sharing it with a peer in class help you see more clearly?
- How does stating your goal publicly in class change your commitment to it versus writing it privately?
- What will you do differently in your next learning context because of what you learned about yourself in this room?

Support tools and systems

Generate in-class audit prompts and peer goal-setting activity guides. Draft the mid-term calibration session facilitation guide. Produce the learning letter prompt and final session sharing protocol.

Instructor judgment and presence

Facilitate live audit and goal-setting with genuine attention to what students are revealing about themselves. Use what you hear during goal-sharing to identify students who are setting vague or uncommitted goals before those goals become missed milestones.

Research foundations: desirable difficulties (Bjork), retrieval practice (Roediger and Karpicke), self-determination theory (Deci and Ryan), cognitive load theory (Sweller), self-explanation effects (Chi et al.), metacognitive calibration (Dunning and Kruger), transfer-appropriate processing (Morris et al.), structured academic controversy (Johnson and Johnson), human-centered design (IDEO/Stanford d.school).