

## TIP SHEET: Efficient Lesson Planning for Preceptors and Lab Instructors

*"Teaching preparation can be more like a gas than a liquid or a solid. In other words, it will fill all the space available to it if you let it. At some point, you have to put a box around it and say, 'enough.'"*

*– Dr. Kim Needy, Industrial Engineering, University of Arkansas.*

One of the most common challenges that AIs face is time management. Graduate students have research and writing to do, experiments to run and archives to visit, conference presentations to prepare, fellowships and jobs to apply for—to say nothing of our commitments beyond the professional sphere. Leading a precept is hard, and for those who want to do it well, preparation can be take a lot of time. What do the experts say about how to be the teacher you want to be while staying on top of your other work—and staying sane?

### Concrete Steps:

- Limit the amount of time you'll devote to preparation, and commit to focusing during that time:
  - Set aside a dedicated block of lesson-planning time in your weekly calendar.
- Begin your lesson planning by reminding yourself that precept/lab is a place where students should be working harder than you are: this is their time to practice skills and synthesize material, not your time in the hot seat.
- Ask first – what do I want my students to be able to *do* by the end of this session?
  - *This might require you first to do some thinking about what you want students to be able to do at the end of your course. How can you backtrack from there?*
  - *What's the most important skill for students to master at this point in the semester?*
  - *For example, what will students be asked to do on the final assessment?*
    - *Take an exam?* What would qualify as an original and compelling exam response? Can you show students it's in their interest to practice the skills required? How can you practice one or more of those skills in this precept?
    - *Write a paper?* During this lesson, how can you key your students in on the conceptual moves and qualities of analysis that will prove to you that they've learned something?
    - *Present a project?* Chances are, a project will require students to show mastery at several skills at once: research, writing, graphic design, describing methods, etc. Can you break the project down into its composite skills in order to focus on just one this week in precept?
- Then ask – how can I get students to practice this skill during precept/lab?
  - Think about your non-majors: those who need the clearest instructions and the most support.
  - *How can I model what I want them to do? Can I describe it as I'm doing it?*
  - *What kind of activities would encourage (or even force!) students to practice these skills?*
    - How can I make it **fun** for students to practice these skills?
    - How might I describe the connection between the fun and the course goals – or do I want to ask the students to reflect on the connection after the activity?

### Acknowledge common anxieties → and reframe the issue:

- Will my students see me as knowing enough?
  - ⑦ My role is to help students practice seeking their own solutions.
- How am I going to cover all this material?
  - ⑦ What skills can I help students build so they can work through material on their own?
- Will my students see me as a legitimate authority?
  - ⑦ How can I present myself to students as someone eager to help them practice the methods of my discipline, rather than the arbiter of right answers?

## **Problem-based classroom activities:**

### **“How can I figure out if my students are understanding the content without a test?”**

To informally get a sense of what your students know there are a couple things you can do:

- “*Notecard survey*”: Have your students write down one thing they are still confused about on a notecard and hand it in with or without names on it. Use this to inform your next lesson’s content or alter how you are teaching the material.
- “*This is not a test*”: Have your students answer questions about what you have just taught but not for a grade during the last 5 mins of class. This will take the pressure off your students during this informal assessment and help you see what they know.

### **“How can I have a student-centered and active classroom if I am teaching a problem-based course?”**

- “*Think. Pair. Share.*” Assign one large problem. (THINK) Have students individually work on this at their desks for a bit, (PAIR) then pair up with someone next to check their answers, (SHARE) finally have one group share their solution on the board for everyone and “teach” the class by walking through the steps.
- “*Dueling chalk boards*”: Most problems can be solved multiple ways and still be correct. Have students work on a problem individually or in a small group at their desk. As the AI, walk around to see how different groups are progressing. Pick two groups who are doing it differently to show two different ways to solve the problem at the board. Discuss as a group each approach.
- “*Jigsaw*”: Break a complex problem down into smaller parts. Assign different parts to different small groups in the class. Have them work to solve the smaller problems, then have them present their group work at the board and bring it together to solve the larger problem at hand.
- “*Do. Reflect. Apply*”: (DO) As the AI you can work through a problem while modeling your thinking process. (REFLECT) Ask the class to come up with a list of steps for solving a more general version of this problem. (APPLY) Have them use these steps to solve a problem on their own. [This can be paired with an approach above.]

### **“I am worried that they won’t have the “right” answer by the end of class if I let them struggle through it on their own or that I won’t finish covering the content. What do I do about that?”**

*Take advantage of Blackboard.* Post an annotated version of your solutions to Blackboard for your students to study in their own time. Use the time in class to let them struggle through the steps—it is one of the best ways for them to grasp the material, but one of the hardest for them to do on their own time. Remember that there are other places students learn (lecture, office hours, on their own)