

### Preparing for Section:

1. Review the relevant course/lecture content/lab manual to anticipate what potential problems you and your students might encounter and how you might prevent or respond to them.
2. Establish specific goals for the section and determine how you will share them with students. Consider how the goals relate to other class topics.
  - a. What skills will students develop during this session?
  - b. What concepts will they be able to practice or apply? If you are not the instructor of record, work together with them and other TAs on this.
3. Prepare an outline of the activities, including how much time each should take. How will you assess students' or groups' progress?
  - a. If the procedures are new to you, complete the exercises yourself. This will allow you to anticipate where students have questions, and familiarize yourself with any equipment and procedures. Keep in mind it will take students longer than it will take you.
4. Prepare an introduction. What background theory or procedures will students need before they can participate on their own? Do students need all of the information at the beginning of the section, or can you introduce important ideas at different points throughout the process? How will you connect the content covered with lecture content and/or with real-world applications?
5. Decide how you will assess your students' learning during the section. How will you be able to tell if the learning goals are being achieved?
6. Prepare questions that you can ask the students at different points in the procedure to stimulate their thinking and encourage deeper understanding of the activity.
7. Communicate with students about any preparation they should do prior to arriving (reading material, pre-lab activities, pre-lab questions, etc.).
8. Prepare a handout that highlights the key theoretical, procedural, and safety points.

## Facilitating Section:

1. Write the goals and the outline for the day on the board (and leave them there the whole time). Include the approximate time for each part. Start on time; starting late encourages students to arrive late.
2. Introduce the activities, including concepts, procedures, and safety issues. Briefly introduce/review the topic, why it is important, how it relates to the lecture, and any real-world applications, especially those that connect to students' lives and interests.
3. Demonstrate any new techniques or methods (to the whole class or in small groups). If appropriate, let students demonstrate the equipment or set up materials for their peers.
4. If you're able, walk around and check in with students and groups to monitor their progress. Help students budget their time appropriately by letting them know what they can finish later and what they need to finish during the section.
5. Divide your time between all groups. Instructors tend to focus their time with students who are most demanding or most sociable, so try to distribute your attention equitably.
6. Ask students to explain concepts to each other to help them understand and to make sure everyone in the group is understanding before moving on. When a student asks you a question, consider first asking the other students in the group what they think. Try to identify where they are stuck and help them move forward by asking a series of questions and encouraging them to help each other.
7. Encourage deep understanding. Ask students questions that make them think deeply about what they are doing and why, rather than just asking if they have any questions.
  - a. For example, ask them why their results might be different than expected, how the procedure they are doing relates to the theory they have learned about in class, or if their answer is reasonable and why or why not.
8. Bring the whole class together throughout the section to reinforce key concepts, clarify common points of confusion, and ask questions that require deeper thinking and analysis.
9. Wrap up the time with a class-wide discussion, rather than allowing students to leave as soon as they are finished. The large group discussion can reinforce the goals and require students to synthesize their knowledge. Consider asking students to share discoveries, interpretations, or connect the activities with course concepts or real-world applications.
10. Take note of any problems or concerns so you can correct them for other sections.