Effective Recitations
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Session Outline

• What are recitation sessions at Caltech?
• How to host awesome recitation sessions
• What NOT to do in a recitation session
• Planning your session
• How to design effective problems for your session
Learning Outcomes

You will learn:
- how to make the material come alive.
- what to do before and after the lecture
- how to help your students get the most out of the lecture.
- how to select topics and problems for your recitation.
What does a recitation involve?
How to host awesome recitation sessions?
How to host awesome recitation sessions?

- How to make the material come alive?
How to host awesome recitation sessions?

- How to make the material come alive?
  - Go for active over static
    \[ \mathbf{A} \cdot \mathbf{B} = a_1b_1 + a_2b_2 + \ldots + a_nb_n \]
  - Use GIFs, Youtube, Wolfram, etc.
How to host awesome recitation sessions?

- What to do after the lecture?
- The autopsy
- Maintain a notebook
How to host awesome recitation sessions?

▪ How to help your students get the most out of the lecture?

▪ Coursemap?
What NOT to do in a recitation session?
What NOT to do in a recitation session?

- Clearly
The Unforgiveable Curses

- Clearly
- Obviously

What NOT to do in a recitation session?
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- Obviously
- Trivially

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Warning! Watch out for “expert amnesia”

you are relative experts
Planning your Session

Learning Objectives

- What gap in knowledge must the students overcome to effectively understand the material?
- What skills must the students practice to effectively attempt their assignments?
- How would you best achieve the above?
  - Lecture, group discussion, group activities, etc.
As an effective TA, you need to focus on:

- Clarifying concepts and terminology
- Providing context to the material being discussed
- Confirm their confidence!
Planning your Session

Plan and Rehearse

• Do the homework
• Prepare more problems/examples than you need
• Write out your plan and rehearse it
Think of a time you were given a particularly challenging problem with a rewarding solution. What made that problem memorable?
Planning your Session – Effective Problem Solving

- Makes the concepts more tangible
- Can also provides avenues to challenge students who want to delve deeper into the material
- Know your audience – relate the material to things the students care about
- Funny and interesting problem statements have more sticking power
- Good problems emphasize key concepts with different perspectives
- Try to avoid problems that are exactly the same as the homework but with different numbers
Planning your Session – Effective Problem Solving

- There are many resources for problems/examples that already exist:
  - Discuss with your co-instructors or previous instructors
  - May reuse problems from previous years’ recitations, problem sets or exams
  - Look for other examples in textbooks or even online
  - Consider inspiration from your own area of research
Some Final Tips

- Think Pair Share
- Enjoy the Pause!
- Walk through solutions and avoid skipping steps when possible
- Plan, Rehearse and Repeat!
- Be Authentic!
Next Steps
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- Please visit https://teach.caltech.edu for more resources on teaching remotely
- Visit https://learn.caltech.edu for more resources on learning remotely