

Guidelines for Guest Lecturers at the University of Houston College of Pharmacy

It's not about the amount of content delivered in a classroom session but how much students learn deeply and later apply

- **Goals and objectives:** Goals are overarching, while objectives should be measurable in an assessment.
 - When preparing your lecture, begin with the end in mind. Each course has a set of proficiencies so these should be used as a guideline as to how to write your lecture objectives.
 - The experts say to write “objectives” for each lecture rather than all lectures within the same topic.
 - Ask “What is it that I want the student to be able to master by the end of class?” and “How would I assess whether or not these objectives have been met?” Let’s consider the examples below:
 - “Student will be able to list all of the dosages for an anti-hypertensive drug.” Your lecture should instruct them on ways to master this. You might assess by inserting a clicker question in the classroom session or writing an exam question for the next exam.
 - “Based on their mechanism of action and body physiology, the student will be able to list all of the side effects of each anti-hypertensive class of drugs”. You might assess by asking the student to diagram how each the physiological effects of the drug also inadvertently impacts other organ systems.
- **The Classroom Session:**
 - Studies have shown that students learn best when they have a break in the lecture. Use a clicker question or pose a thinking question and allow a few minutes for students to process before initiating a discussion.
 - A study published in the Spring of 2014 in the Proceedings of the National Academy of Sciences showed that active learning or a combination of active learning and the more traditional lecture increased student learning significantly. The classroom session could be entirely active or a blend of active and lecture. Activities could include:
 - Clicker questions
 - A short activity
 - Discussion
 - Other active learning (for example, graphing, drawing, mind maps, one minute paper, where content is processed and written out).
 - PowerPoint presentations: Students will access lecture slides on their laptops. Laptops are required. All PowerPoints should be posted 48 h before class to allow students to print, if they so desire.

- Format: What works very well and what the students prefer is a **white** background, with black lettering in one of the common formats (Ariel, Calibri, Times Roman). Font size should be no less than **28** pt.
- If the information you want to impart will not fit the slide with a font size of 28 or greater, split into two slides **OR** think about whether or not you may have too much information.
- Bullet text should be minimal and used only to cue you as to what you want to tell the student. They should not be the text you want to read to the student. Students tell us time and again, they do not want to attend lectures where instructors merely read the content. They would also prefer the content delivered by an instructor is:
 - An elaboration of assigned reading rather than a rehashing of it
 - Material not available in textbooks
 - Relevant to the pharmacy profession
- Be aware of “**cognitive overload**”. What is cognitive overload? It’s when there are too many words, patterns, photos, videos or animations that draw the students’ attention away from what you are telling them. Think about trying to write a letter of recommendation with a championship football game on. This is cognitive overload. How much concentration could you give to either?
 - While reading the slide is **undesirable**, you want your spoken words to work in sync with the slide. If you use the bullets to simply cue, there should be minimal cognitive overload.
 - If you must show an animation or video, stop talking, then show the learning tool. Be sure to discuss what was shown.
- A few words about figures and other imagery on slides:
 - Often, a picture is “worth a thousand words”. For example, signaling pathways are best shown as a figure and then discussed. If you can annotate while discussing, all the better. This technology (annotating your slides) should be available in each classroom.
 - One image per slide, unless it’s absolutely necessary to have more than one. For example, if you wanted to compare the staining of an antigen before and after a treatment, it might be helpful to show these together, rather than flip back and forth between two slides.
 - No clip art. Ever. Remember that cognitive overload! If the image is not essential to explaining content, leave it off.
- Recording the lecture:
 - Students often ask if they may record the lecture. The college has a policy regarding recordings. The default is, lecture is automatically recorded. There are some courses where lecture is not recorded and you should ask the course coordinator. If you do not want to be recorded or the course you teach in is not recorded, then any student wishing to record should request

permission to record before recording images, the full lecture or just the audio. Keep in mind that some recordings will be posted to a Dropbox account to which you have no access.

Resources:

Freeman, S. et al. 2014. Proceedings of the National Academy of Sciences. "Active learning increases student performance in science, engineering and mathematics". 111(23): 8410-8415.

<http://www.pnas.org/content/111/23/8410>