1. General advice

This is a collection of tips about preparing and giving a nice presentation mostly motivated by what we saw during the course. Take this with a grain of salt; they reflect mostly our personal preferences. You should always have in mind that your presentation must adjust to the specific audience, and to your own preferences. Having said that...

Before you actually sit down and start making slides (or preparing some notes), make sure you have a story to tell – there should always be a point to what you are telling, a conclusion. Ask yourself what it is you want to tell, and try to figure out the level of detail you can give to the topic while still fitting the talk into the time slot.

Sometimes it helps to start at the end and think backwards to come up with a clear path of steps that will take you to the conclusion. Then its just a matter of filling the gaps. Generally speaking it is best to have less content and explain it well, rather than having too much content and rushing thought it – this is not nice for the audience, and it also makes your life more difficult, (though this is less true the shorter the presentation is...) One of the advices we gave many times was to be bold when choosing the material for you and the audience. Focus on the important things and try not to get sidetracked on related issues which are tricky and unfamiliar to you, but in the end not crucial.

Following these steps you will have a more structured presentation, but also it will be easier to prepare it. Keep in mind that the slides or your notes are just a tool and that likely you do not only want to have a nice set of slides, but you also want to give a nice talk.

It is usually a good idea to start a presentation with a quick summary of what you will do. This will make it easier for the audience to follow the talk, and get how the different parts interconnect, how they build up to something. Make sure to establish some milestones in the presentation so there is a sense of progress – don’t hesitate to remind the audience whenever you reach one of these milestones. Avoid going into unnecessary details that don’t add to the actual progress towards the conclusion. Likewise, its also a good idea to save a minute or two at the end for some conclusions, to highlight what the main points of the talk were. This is the take-home message: make sure to tell the audience what they should remember from your talk.

As you go along your presentation it is usually a good idea to give out some candy once in a while. This can be many things: talk about an example, picture or simulation that illustrates some point you just made; if you are using slides, change to the blackboard and do a short derivation or sketch, for instance, to give some intuition about some more abstract point (make sure the math is right, though; always make sure the math is right). In general it is always good to give some intuition about what you are saying, or to connect what you say to something you know the audience is already familiar with. The point is to keep it relevant, short, interesting, and self-contained. People tend to lose track of what is going on in presentations quite fast (especially if it is something they are not too familiar with) so doing this gives them a change to jump back in. It also makes the presentation less inaccessible, and less monotone (which might be the reason the audience is dozing off in the first place...).

As a side note, if you plan on doing a live demo, make sure you practice it a few times on the computer that you will use during the presentation to avoid technical kerfuffles.

Especially towards the middle of the presentation it is a good idea to have a change of pace, even if it just means you tell a little joke. This is important mostly because it gives you some time to think about where you are in your plan (how much time you have), it gives you a chance do drink some water, and to relax for a bit. Asking if anyone has any questions also works well. It is a good opportunity to decide if you should slow down (or talk about something extra that you had planned), or speed up (or maybe better even, skip talking about something). But most importantly, if the joke is good and people laugh, that will wake up anyone that is literally sleeping.

If you are giving a slides presentation make sure the slides are not too overloaded. Write the slides just that by looking at them you know what you should be saying at that point. Give people time to actually look at the slide before moving on. Using colours or setting things to bold helps make the text less boring and easier to scan. Avoid going back with the slides; if there is something you want to remind people of, then you should either have repeated it in the current slide or written it on the whiteboard.
when you first showed it; it’s even better to just write it on the whiteboard at that moment, rather than skipping thought slides. This is another way of saying that you can use the whiteboard to keep results, definition, models, formulas, etc., that you will/might return to later. Also, it usually helps to number the slides; if people want to ask you something later on they can just tell you the slide number.

If you are giving a blackboard presentation, be tidy. Plan ahead, write things on the board as if you were writing on paper (don’t write things here and there, keep things ordered), write titles to what you are doing, when proving a result write the result on the board (at least the assumptions and conclusion), if you plan on doing sketches it is a good idea to reserve part of the board just for this (a place where you can write in a messy way). Most importantly, don’t write on top of things you have already written; just imagine that if you had an huge board so that you never had to erase anything, that you would be able to retrace all the computations from start to finish. You are also advised to prepare a small handout with the statements of the results, auxiliary results, formulas that are too long to write down on the board, useful identities, etcetera. Make it short so you don’t have the audience reading the handout instead of looking at the presentation. This also helps you in terms of time.

Unless there is good reason for it, never change notation during a presentation. Most of the time it is unnecessary, and it will understandably confuse the audience. And \LaTeX is your friend; whatever time it takes you to learn how to typeset in \LaTeX, it is worth it. Your slides will look clear and tidy with very little effort.

You don’t have to (and shouldn’t) speak continuously during your presentation. It is very tiring for you and for the audience: give people time to interiorise what you say. If you have a tendency to talk too fast, doing some derivations on the whiteboard slows you down a bit. Also, you are doing your presentation: you don’t have to justify to the audience the choices you made, or say that you don’t understand something too well (or at all), or that something could have been done better, or that you are skipping something you planned on talking about. Saying these things will not help you in any way: the choices you made are made; if you don’t understand something well before you start the presentation then it’s too late and you should either avoid talking about it or have dedicate more time to understanding it; things can always be made better, just try to improve it next time; saying you need to skip things because you are late will only cost you more time.

Last but not least, practice is important. We mean this in two ways. Practice your presentation enough times to feel comfortable and so that you don’t forget things (although you will always forget things), and avoid making changes too close to the presentation time. Most people tend to go a bit faster when giving the presentation (as opposed to when they practice) so be aware of this. Also, the number of slides is a good predictor for how long the presentation will take, so don’t try to make too many slides. Some people are more comfortable speaking in public than others. For those who are comfortable, try not to steer too much off track; for those that are less comfortable, practice well so you know what you want to say, and use the slides as a safety net to keep you going. If you tend to get nervous then practicing well and understanding the material well will give you confidence, which helps. But practicing is also important in the sense that you will have to give (and watch!) many presentations before you get good at it, and practicing your own presentation several times before giving it contributes to this.

Don’t beat yourself down if it doesn’t go swimmingly, but also be aware that you can always improve.