Some general ideas about giving talks

Besides learning mathematics, this class is also supposed to help you learn how to give good talks. So I wanted to share with you some remarks regarding structuring and delivering talks. These are, in some sense, a compilation of remarks that I have received over the years and I have benefited from them immensely. I am sharing them with you hoping that you may find some of them useful and pay it forward by sharing these with your peers and mentees in the future. Although some of these points only apply in the academic setting (e.g board work), there are many other components here that are universally applicable to any talk that you may give.

1. If you have a handout, please make it concise and make it at most a single page. Treat it as a list of topics (with maybe a one line description), some important notations, symbols, definitions, formulas, etc.
2. When you are giving the talk, you should (for the most part) assume that the handout does NOT exist. By that I mean, if you have an important definition or a theorem, you SHOULD plan on writing it out on the board (and not expect the audience to look it up on the handouts).
3. When you make an important claim or statement that you want to discuss, carefully write down that statement on the board (with a label - say CLAIM or THEOREM or PROPOSITION, etc). That way, it is easier for the reader to distinguish between, say the Theorem and its Proof.
4. Try to split up your talk into sections and give a heading to each section. When you start a section in your talk, write out the section heading on the board. This will make the flow of ideas clear to you as well as the audience.
5. Another crucial point is careful and clear board-work. When you write on the board, you should try to write things as if the reader is only going to read from top to bottom. So avoid writing in random places on the board so that one is forced to read in a zigzag fashion.

   A related point: if you think that the board has too much horizontal space, draw vertical lines on the board and split up the board into 2 columns and use one column at a time.
6. If you think you are introducing a tricky concept, work in an example and make space for an intelligent question that YOU will ask the audience. Wait a few seconds and encourage the audience to respond - this will make sure that the audience is engaged with your talk. If the audience gives the right answer, acknowledge and praise them. Otherwise, acknowledge that you asked a tricky question and give them the answer on your own.

The question that you ask should be such that the answer is quick, small, and intuitive but tests the understanding. An example of the above activity could be what I (sort of) did at the end of the class today with the last example of subspace topology on [1,2].

7. It is always helpful to give a practice talk or two before your actual talk. During the practice talks, you should also try to practice the board work by planning it out and writing out the talk somewhere (on a piece of paper, pretending that it is the board, or use one of the boards in the Mathematikon for practice).