From the many different styles and methods of teaching I have been exposed to and critically reflected upon as an student, and from my own experience as a tutor for about five years, I have been developing a teaching philosophy based on the following premises:

- **The process of learning and managing new knowledge**: I have found it very beneficial to visibly incorporate the specific topics of a given subject into the broader dynamic of learning mathematics and handling new knowledge. Teaching a course should not be limited to communicating the contents in the syllabus only but also comprise training in the skill of handling new information. For example, it is very common for students to forget details about definitions and basic properties a few weeks after the semester ends. Teaching them techniques to readily retrieve forgotten information is very valuable. This can be achieved, for instance, by exercising the mind in producing examples and counterexamples to new definitions in class, showing them how to quickly find items in a textbook, and informing them about available resources (bibliography, websites, people, etc.).

  It is also important to exhibit how the new material being taught relates to previous courses, so that different subjects do not appear isolated but rather forming part of the same discipline. Developing this picture of mathematics as a whole from an early stage is specially advantageous for students pursuing a career in the field. Mentioning connections with future courses and other sciences or specialties is also valuable for this purpose of contextualization.

  Another good lesson for students to learn is that concepts in mathematics are often flexible in terminology and notation. One object can have very different definitions and students must get used to this heterogeneity and learn how to transfer between different versions of the same notion.

- **Classroom environment and confidence**: A friendly classroom environment and an easy to approach lecturer are key elements for students to actively participate in class. Enough confidence must be inspired in the group so that the so-called “stupid questions” can be asked without hesitation. Uncertainty about basic notions are frequently the cause of further confusion and must be addressed as soon as they arise. Moreover, these apparently trivial questions help other students to better clarify their own understanding of the ideas discussed.
To stimulate such an atmosphere it helps to repeatedly ask the students for questions, present situations where vague understanding can lead to different conclusions, and ask naive questions oneself so as to lead by example and make it feel a normal behaviour.

- **Motivation and encouragement:** Motivating new topics in class always helps to make the subject more appealing to students. Mentioning what the material is useful for, relating an anecdote or some interesting historical facts, commenting on curiosities, or even telling a joke somehow related to the contents, can aid in breaking the monotonous character of lectures and engage audience interest.

An even more challenging task is to retain everyone’s attention throughout the duration of a lecture. In addition to the above tactics, little but significant details like making eye contact, maintaining an adequate speed and tone of voice, allowing interruptions at any time, making pauses to let students read and think about what is on the slides or blackboard help keep them attentive. When students are able to follow every step of an exposition it is more likely that they will stay focused, so I always strive to present things as clearly and easily as possible.

When difficulties emerge students can become rapidly discouraged. It is the job of the teacher to support them and explain how ordinary it is to not understand something or to get stuck on a problem. Very often concepts have to be reviewed and re-learned many times before they become fully assimilated and understood. The human mind needs repetition to solidify familiarity.

- **Customization:** Not all students have the same aptitudes or take the same attitudes toward studies. It is usual to have reserved students who do not like to participate much or ask their questions aloud in class. Even though encouraging them to share and get actively involved in class is advisable, students should not be forced. A preferred way is providing them with alternative resources to enable them to succeed. This can be done by allowing time at the end of the lectures to ask questions more privately, promoting consultation hours, solving queries by email, etc.

Getting to know all the members of your class is very beneficial, so that the feedback given can be tailored to each individual student according to their capacities and strengths. Knowing the interests of each person is helpful. For example, students interested in research might find it useful to know about open problems related to the subject, new results in the field or further readings of recent articles.

Customization in this sense also applies to the lecturer. Creating a personal style in conformity with individual talents leads to a natural way of teaching and working with the students. Additionally, I try to adapt desirable skills from good lecturers to my own style rather than duplicate them in an unnatural way.

I am continually testing, challenging and incorporating new elements into my teaching philosophy in order to grow as an educator. I learn new things from every course I teach, and always seek feedback from students or colleagues to improve my teaching performance in and out of the classroom.