

[22.5h] 2 credits

Teacher(s): Christiane Hauchart
Language: french
Level: 2nd cycle course

Aims

This course is an extension, for students of the mathematics teacher-training option, of the mathematics teaching methods course, and complements the work placements. It aims to prepare future secondary mathematics teachers so that they can provide teaching that will be meaningful to their pupils and that will meet the requirements of the curriculum.

Main themes

This course draws attention to the specific characteristics of learning mathematics, through the study of specific secondary mathematics material and of different kinds of approach to it. In particular, it deals with questions such as the construction of mathematical knowledge and the guiding threads involved in learning mathematics: - how can one draw on everyday notions in order to construct the formalised mathematical concepts that they prefigure? - is the method of strict deduction (which is the basis of mathematics) the only one that can serve to guide this work (cf., for example, spiral teaching : a learning progressing through successive stages, of an increasing generality)? - do methods exist for solving mathematical problems (cf. Polya)? It involves examining the development of mathematics in history and the role of history in the teaching of mathematics, as well as those authors who have written on the nature of mathematical activity. The intrinsic connection between mathematics and physics will be emphasised. In addition, the course includes a critical look at mathematics curriculum in secondary education and the preparation of sequences of lessons. Students will be encouraged to become actively involved, for example in researching and analysing documents, planning lessons, and solving problems. Interaction with secondary teachers.

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Obligatory course for teacher-training students taking the mathematics option. Should be followed after the course on mathematics teaching methods and after the course on general teaching methods.