UCLouvain

lmat2320a

2026

Didactics and epistemology of mathematics - Part A (general questions)

3.00 credits	22.5 h + 7.5 h	Q1

Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	Voir Partims
Learning outcomes	
Evaluation methods	In this Partim LMAT2320A, students are assessed as follows: • *Continuous assessment* during the semester (5% of the final grade): preparations, readings, active participation in class. This part of the grade applies to each exam session and cannot be retaken. • *Written exam* during the January (and/or September) session: open-ended questions, closed-book format, but a one-sided handwritten cheat sheet is allowed. The exam covers didactic and epistemological concepts discussed in class (95% of the final grade). Attendance is required. From the second unjustified absence or in case of late preparations, the continuous assessment grade will be set to 0. Furthermore, under Article 72 of the general regulations on studies and exams, course instructors may propose to the jury to deny registration for the January and/or September session to any student who has not attended at least 80% of the classes or has not completed a mandatory activity. The use of generative AI for assignments in this course is not permitted unless explicitly stated otherwise. In this case, if a student uses generative AI, they must systematically and explicitly indicate all parts where AI was used, specifying whether it was for information retrieval, text writing, or correction. All sources must be cited according to bibliographic referencing standards. The student remains responsible for the content of their work, regardless of the sources used.
Teaching methods	The course is largely based on interaction with students. Students are expected to actively participate, for example, in problem-solving and in researching and analyzing teaching sequences. Attendance is therefore essential and mandatory. Readings and preparations will be proposed to enrich and deepen reflection and interaction between students and teachers.
Content	This course aims to equip students to become future mathematics teachers in upper secondary education. It not only presents didactic and epistemological elements related to mathematics teaching but also ensures the transfer and appropriation of these tools by future teachers. We will explore conceptual frameworks in mathematics didactics and didactic tools for analyzing teaching/learning situations or student productions. We will address the construction of mathematical knowledge among students through the study of secondary school curriculum topics, tackling questions such as: • Why propose problem-solving activities to students, and how to manage such activities to foster engagement, reflection, and learning? • How to use students' representations and errors to teach mathematical concepts and theories? • How to identify epistemological obstacles related to learning? • What types of learning situations can be proposed in a mathematics class? • How to foster students' ability to reason and argue in mathematics? • What should be considered when assessing student learning? **Partim A (LMAT2320A)** will focus on more general didactic questions and epistemological reflections related to mathematical content taught in 4th year of secondary school, as well as in basic/general mathematics and qualification sections. **Partim B (LMAT2320B)** will focus on more specific didactic questions and epistemological reflections related to mathematical content taught in scientific-oriented mathematics.
Inline resources	Available on Moodle UCLouvain, course code LMAT2320. The Moodle space contains documents presented and used during classes and allows students to submit their work. The Perusall platform is also used for readings.
Bibliography	Des ouvrages et publication scientifiques en relation avec les disciplines enseignées et avec la pratique seront présentés lors des cours. Les références seront disponibles sur Moodle.
Other infos	See Partims

Faculty or entity in charge	SC

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Learning outcomes
Teacher Training Certificate (upper secondary education) - Mathematics	MATH2A	3		
Master [60] of Education, Section 5 : Engineering	DSIR2M5	3		
Master [120] of Education, Section 4 : Mathematics	MATH2M4	3		
Master [60] of Education, Section 5 : Mathematics	MATH2M5	3		