UCLouvain

lmat2320c

2026

Didactics and epistemology of mathematics

4.00 credits	22.5 h + 7.5 h	Q1

Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	Voir Partims
Main themes	Voir Partims
Learning outcomes	

Evaluation methods	In this Partim LMAT2320C, students are evaluated as follows:
	• continuous evaluation conducted during the semester (5% of the grade): preparations, readings, active participation in the course; this part of the note will be used for each session and cannot be performed;
	• a written examination during the January (and/or September) session, with open questions and closed book, covering both
	  • on the concepts of didactics and epistemology covered in the course (one-sided checklist authorized (60% of the grade),
	  • on the concepts to be taught in the 2nd and 3rd grades in mathematics, in transitional education (basic and general mathematics) and qualification (10% of the mark);
	• the mandatory report of the listening internship, to be submitted on Moodle before the first day of the exam session (25% of the grade).
	
	In the event of a mark less than or equal to 7/20 in at least one of the parts between the examination on the concepts of didactics, the examination on the concepts to be taught and the report of the listening course, the principle of the absorbing mark is applied to this course unit. In other words, in this case, the overall score will be equal to the minimum of the scores of these three parts. Attendance at the course is required. From the 2nd unjustified absence or in the event of preparations not carried out on time, the mark for the continuous assessment part will be set to 0. In addition, course holders may, pursuant to Article 72 of the general regulations for studies and examinations, propose to the jury to oppose the registration of a student who has not attended at least 80% of the courses or who has not carried out a compulsory activity, during the January and/or September session.
	The use of generative AIs in the context of the work to be produced in this teaching unit is not allowed, unless otherwise stated. In this case, if he/she uses generative AI, the student is required to systematically and explicitly indicate all the parts that have been the subject of AI use, specifying whether the AI has been used to search for information, to write the text or to correct it. In addition, the sources of information must be systematically cited in accordance with bibliographic referencing standards. The student also remains responsible for the content of his or her production, regardless of the sources used.

Teaching methods	The course is largely based on interactions with students. Students will be encouraged to become actively involved, for example in problem solving and in the research and analysis of teaching sequences. Attendance at the course is therefore essential and mandatory. Readings and preparations will be offered to enrich and deepen the reflection and interactions between students and teachers. Students will also be required to carry out an observation internship in various upper secondary classes.
Content	This course unit is made up of • the course corresponding to the Partim LMAT2320A, • and a 10-hour listening internship in mathematics classes in upper secondary school. The course consists of "equipping" students to teach mathematics at the upper secondary level (basic mathematics options and general mathematics only). The aim here is not only to present the didactic and epistemological elements relating to the teaching of mathematics but also to ensure the transfer and appropriation of these tools by future teachers. We will address conceptual frameworks in mathematics didactics as well as didactic tools for analyzing teaching/learning situations or student productions, and will deal with the construction of mathematical knowledge in students through the study of themes of the secondary school curriculum, addressing, for example, questions such as: • Why offer students research activities on a problem, and how can this type of activity be managed in such a way as to promote student engagement, reflection, and learning? • How can we exploit students' representations and errors to teach mathematical concepts and theories? • How can we identify the epistemological obstacles related to learning? • What types of learning situations can be offered in a math class? • How can we promote in students a real ability to reason and argue in mathematics?

	• What should we pay attention to when assessing student learning? • …
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) - Physics	PHYS2A	4		
Teacher Training Certificate (upper secondary education) - Geography	GEO2A	4		
Teacher Training Certificate (upper secondary education) - Biology	BIOL2A	4		
Teacher Training Certificate (upper secondary education) - Chemistry	CHIM2A	4		
Master [60] of Education, Section 5 : Engineering	DSIR2M5	4		
Master [120] of Education, Section 4 : Physics	PHYS2M4	4		
Master [60] of Education, Section 5 : Physics	PHYS2M5	4		