


5.00 credits

30.0 h

Q2

**This biannual learning is being organized in 2026-2027**

|                             |  |
|-----------------------------|--|
| Language :                  | English  |
| Place of the course         | Louvain-la-Neuve   |
| Prerequisites               | Depending on the subject, mathematics skills at the level of the end of the Bachelor in Mathematics or first year Master in Mathematics.   |
| Main themes                 | The topic considered varies from year to year depending on the research interests of the course instructor.  |
| Learning outcomes           | <p><b>At the end of this learning unit, the student is able to :</b></p> <p>Contribution of the course to learning outcomes in the Master in Mathematics programme. By the end of this activity, students will have made progress in:</p> <ul style="list-style-type: none"> <li>• Show evidence of independent learning.</li> <li>• Analyse a mathematical problem and suggest appropriate tools for studying it in depth.</li> <li>• Begin a research project thanks to a deeper knowledge of one or more fields and their problematic issues in current mathematics. He will have made progress in:                             <ol style="list-style-type: none"> <li>1 • Develop in an independent way his mathematical intuition by anticipating the expected results (formulating conjectures) and by verifying their consistency with already existing results.</li> <li>• Ask relevant and lucid questions on an advanced mathematical topic in an independent manner.</li> </ol> </li> </ul> <p>Learning outcomes specific to the course.<br/>The course aims to initiate research in the field under consideration. Specific learning outcomes vary depending on the field.</p> |
| Evaluation methods          | Oral exam.   |
| Teaching methods            | Oral lectures.   |
| Content                     | Introduction to symplectic geometry and to methods of quantization: geometric quantization, deformation quantization, pseudo-differential analysis and microlocal analysis.  |
| Inline resources            | Written notes, in english, on Moodle.  |
| Faculty or entity in charge | MATH   |

| <b>Programmes containing this learning unit (UE)</b> |                        |         |              |   |
|--|------------------------|---------|--------------|---|
| Program title  | Acronym                | Credits | Prerequisite | Learning outcomes   |
| Master [120] in Mathematics                          | <a href="#">MATH2M</a> | 5       |              |  |