

Achievement of the PLOs in recent four academic years (2020/2021 – 2023/2024)

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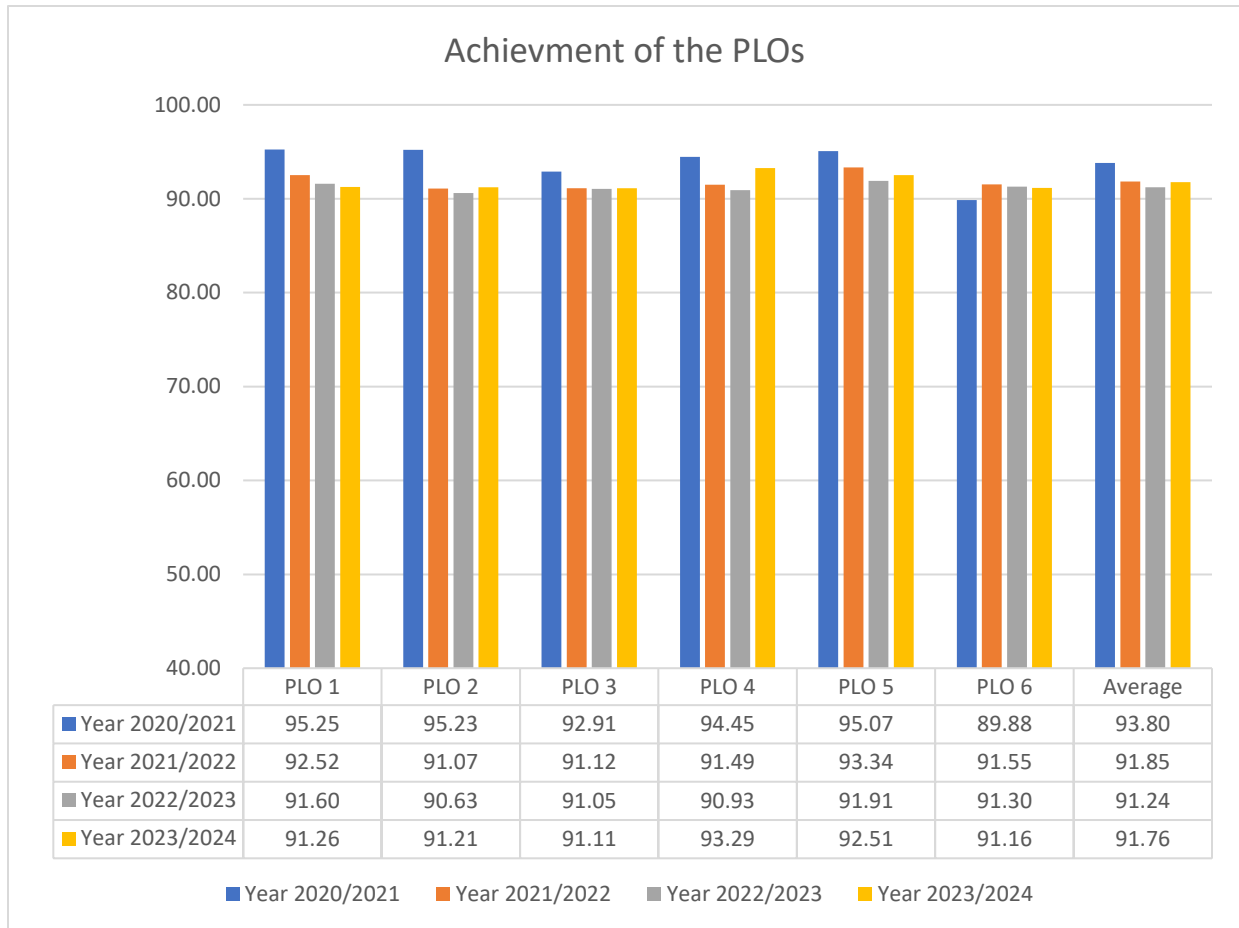
The Programme Learning Outcome (PLO) of the Doctoral Programme in Mathematics, Faculty of Mathematics and Natural Sciences, Universitas Gadjah Mada, and the Learning Experience Formulation.

Here are the 6 PLOs that are formulated by the study programme: After completing the programme, the successful students become graduates who:

PLO-1	<p><b>Attitudes:</b> devote to God Almighty, uphold human values, internalize academic values and ethics, responsible for working in the area of expertise independently.</p>
	<p><b><i>Study Materials and Learning Experiences for Achieving PLO-1:</i></b></p> <ul style="list-style-type: none"> <li>● Compulsory Course: "Literature Review and Philosophy of Science"</li> <li>● Elective Courses.</li> <li>● Knowledge related to ethical literature review.</li> <li>● Activities in Studium Generale / Colloquium / Seminar / Conference (Reviewed in Monitoring and Evaluation (Monev) every semester started from the second semester).</li> <li>● Publication.</li> </ul>
PLO-2	<p><b>Knowledge:</b> are mastering philosophy of mathematics and one of the fields in mathematics (algebra, analysis, applied mathematics, statistics, computational mathematics, computational statistics).</p>
	<p><b><i>Study Materials and Learning Experiences for Achieving PLO-2:</i></b></p> <ul style="list-style-type: none"> <li>● Compulsory Course "Literature Review and Philosophy of Science".</li> <li>● Elective Courses.</li> <li>● Dissertation.</li> <li>● Publication.</li> </ul>
PLO-3	<p><b>Knowledge:</b> are able to think logically, analytically, inductively, deductively, and structured; having the ability to manage, lead, and develop research programs independently, and able to communicate their thoughts as well as his work to the scientific community and the general public.</p>
	<p><b><i>Study Materials and Learning Experiences for Achieving PLO-3:</i></b></p> <ul style="list-style-type: none"> <li>● Compulsory Course "Literature Review and Philosophy of Science".</li> <li>● Elective Courses.</li> <li>● Comprehensive examination.</li> <li>● Writing manuscripts</li> <li>● Activities in Studium Generale / Colloquium / Seminar / Conference</li> <li>● (Reviewed in Monitoring and Evaluation (Monev) every semester started from the second semester).</li> </ul>
PLO-4	<p><b>General Skills:</b> are able to create new concepts and/or new methods (original) in the field of mathematics that is recognized nationally and internationally.</p>

	<p><b><i>Study Materials and Learning Experiences for Achieving PLO-4:</i></b></p> <ul style="list-style-type: none"> <li>● Elective Courses.</li> <li>● Dissertation.</li> <li>● Publication.</li> <li>● Dissemination of the research such as in Studium Generale /Colloquium / Seminar / Conference (Reviewed in Monitoring and Evaluation (Monev) every semester started from the second semester).</li> </ul>
PLO-5	<p><b>Special Skills:</b> are able to apply mathematics according to their field of expertise to solve problems including those that require a multidisciplinary, cross-disciplinary, or transdisciplinary approach.</p>
	<p><b><i>Study Materials and Learning Experiences for Achieving PLO-5:</i></b></p> <ul style="list-style-type: none"> <li>● Elective Courses</li> <li>● Dissertation.</li> <li>● Publication.</li> <li>● Dissemination of the research such as in Studium Generale/Colloquium /Seminar/Conference (Reviewed in Monitoring and Evaluation (Monev) every semester started from the second Semester).</li> </ul>
PLO-6	<p><b><i>Life Long Learning:</i></b> have lifelong learning skills and being adaptive to the development of science and technology, especially in fields related to Mathematics and its applications.</p>
	<p><b><i>Study Materials and Learning Experiences for Achieving PLO-6:</i></b></p> <ul style="list-style-type: none"> <li>● Compulsory Course "Literature Review and Philosophy of Science".</li> <li>● Elective Courses</li> <li>● Dissertation.</li> <li>● Publication.</li> </ul>

Achievement of the PLOs in the recent four years is stipulated in the following diagram.



Based on the achievement, DP-Math encourages faculty members to enhance the teaching methods based on student-centered learning (such as PjBL – Project-Based Learning, PBL – Problem-Based Learning, Case-Based Learning, and Flipped Classroom) and allocate enough time to supervise the students every week. Monitoring and Evaluation (Monev) is conducted every semester by a Monev Team and Promotor Team to monitor the progress of each student’s research.

DP-Math also encourages students to carry out their research diligently and enthusiastically. Every student has to fill-out the attendance record and make a research logbook. The department provides facilities for students to support their research.