

**Program Learning Outcome of Bachelor of Chemistry Education Programs
with Regard to IQF Level 6 and EQF Level 5**

EQF	IQF	Program Learning Outcome (PLO)	
		CODE	DESCRIPTION
EXPERTISE COMPETENCY			
Knowledge Aspects			
Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles.	Have a general command of the theories of a particular discipline and in-depth command of theoretical concepts of a particular part of the discipline, and are capable of formulating a solution to a procedural problem.	PLO 1	Understand theoretical concepts and applications of chemical structure, dynamics, energy, separation, analysis, synthesis, and characterization (content knowledge).
		PLO 2	Understand educational theories, learner characteristics, and professionalism (pedagogy knowledge), as well as the ability to integrate chemistry concepts with pedagogical knowledge and information technology in teaching (technology pedagogical and content knowledge).
		PLO 3	Able to comprehend the principles of Occupational Safety and Health (OSH), laboratory management, and the use of chemical equipment and instruments.
		PLO 4	Able to grasp the fundamentals of the scientific method and academic integrity in research and scholarly work.
Skill Aspects			

Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialized field of work or study	Capable of planning and managing resources under their responsibility, and evaluating their work in a comprehensive manner by using science, technology, and/or arts to produce organizational strategic development steps.	PLO 5	Able to plan, manage, and evaluate chemistry learning under quidded in school by applying the TPACK (Technological, Pedagogical, Content Knowledge) approach and digital competencies relevant to chemistry learning and daily life.
		PLO 6	Able to plan and manage educational institutions and/or laboratories, as well as innovative and adaptive small-scale businesses, while adhering to OHS (Occupational Health and Safety) principles and/or environmental issues in chemistry and chemistry education
	Capable of making an appropriate decision based on information and data analysis, and capable of giving a direction in choosing various solution alternatives independently and ingroup	PLO 7	Able to solve chemistry education problems through guided research and present findings in scholarly work following academic standards and integrity.
SOCIAL COMPETENCY: General Skills and Attitude Aspects			
Manage complex technical or professional activities or projects, taking responsibility for a decision. Making in unpredictable work or study context Take responsibility for managing the	Capable of applying their field of expertise and using science, technology, and/or arts in their field to solve problems and capable of adapting to the situation encountered.	PLO 8	Able to demonstrate independent, high-quality, and measurable performance by applying logical, critical, systematic, and innovative thinking in the development or implementation of knowledge and technology, while adhering to scientific ethics to produce strategic and precise solutions in chemistry and chemistry education based on data analysis, and describing the results in the form

professional development of individuals and groups.			of verified, plagiarism-free products/works.
	Be responsible for their own work and can be given responsibility for the achievement of the outcome of organizational work.	PLO 9	Able to work in teams and evaluate group work outcomes as a leader/member responsibly, while building networks with relevant parties inside and/or outside the institution.
		PLO 10	Demonstrate devotion to God Almighty, uphold human values based on morality and ethics, and act as a responsible citizen in accordance with Pancasila, respecting diversity, caring for society and the environment, obeying the law, and contributing to improving societal and national quality of life through the chemistry education profession.
		PLO 11	Demonstrate sincerity, commitment, and dedication in developing students' attitudes, values, and abilities, grounded in the wisdom of tropical rainforests and their environment, while internalizing academic norms, professional responsibility, independence, resilience, and entrepreneurship for the benefit of students and society at large.