Revised ELOs 2020 for ==Ph.D.== Science and Technology Education

Revised ELOs	Sub-ELOs
ELO 1: Display moral and ethical behavior for science and technology educators	1.1 Display moral and ethical behavior that aligns with the code of conduct for science and technology educators 1.2 Follow the ethical code of conduct in educational research
ELO 2: Apply principle in science and technology education to design and implement learning activities in science and/or technology classes appropriately	2.1 Adopt instructional sciences to improve learning in science and technology education 2.2 Design learning activities for science and/or technology classes 2.3 Implement the designed activities to improve learning in science and technology education 2.4 Evaluate students' learning achievement
ELO 3: Synthesize solutions to learning problems in the field of study	3.1 Analyze learning problems in the field of study 3.2 Apply ELO 2 to synthesize new ways and/or means to solve the learning problems
ELO 4: Conduct science and technology education research by integrating knowledge in the field of study	4.1 Propose a research project in science and technology education predicated on educational research methodology 4.2 Conduct science and technology education research 4.3 Publish an international peer-reviewed research article

ELO 5: <mark>Create</mark> innovations in science and technology education consistent to knowledge in the field of study and social contexts	5.1 Display ability to search for existing innovations in science and technology education consistent to knowledge in the field of study 5.2 Analyze strengths and weaknesses of the existing innovation 5.3 Propose an innovation to improve the existing ones 5.4 Use the created innovation for others' benefits and/or applicable to social contexts
ELO 6: <mark>Enhance</mark> knowledge of oneself	6.1 Classify criteria for self-evaluation 6.2 Reflect oneself against the criteria 6.3 Evaluate oneself validly and reliably 6.4 Use metacognitive processes to improve knowledge of oneself
ELO 7: Display the ability to control and improve oneself	7.1 Display the ability to control oneself 7.2 Display the ability to improve oneself
ELO 8: Display leadership quality and ability to effectively collaborate with others	8.1 Display leadership quality to effectively collaborate with others 8.2 Display ability to effectively collaborate with others