Learning Outcomes Descriptors and Programme Outcomes (P.O.) for Undergraduate Certificate (Level 4.5)

Undergraduate Certificate: The certificate (in a field of learning or a disciplinary area) qualifies students who can apply technical and theoretical concepts and specialized knowledge and skills in a broad range of contexts to undertake skilled or paraprofessional work and/or to pursue further study/learning at higher levels.

Descriptor	**Knowledge and understanding:** The graduates should be able to demonstrate the acquisition of:
P.O. 1.	knowledge of facts, concepts, principles, theories, and processes in broad multidisciplinary learning contexts within the chosen fields of learning in broad multidisciplinary learning,
P.O. 2.	understanding of the linkages between the learning areas within and across the chosen fields of study,
P.O. 3.	procedural knowledge required for performing skilled or paraprofessional tasks associated with the chosen fields of learning.
Descriptor	**General, technical and professional skills required to perform and accomplish tasks:** The graduates should be able to demonstrate the acquisition of:
P.O. 4.	a range of cognitive and technical skills required for accomplishing assigned tasks relating to the chosen fields of learning in the context of broad multidisciplinary contexts.
P.O. 5.	cognitive skills required to identify, analyse and synthesize information from a range of sources.
P.O. 6.	cognitive and technical skills required for selecting and using relevant methods, tools, and materials to assess the appropriateness of approaches to solving problems associated with the chosen fields of learning.
Descriptor	**Application of knowledge and skills:** The graduates should be able to demonstrate the ability to:
P.O. 7.	apply the acquired operational or technical and theoretical knowledge, and a range of cognitive and practical skills to select and use basic methods, tools, materials, and information to generate solutions to specific problems relating to the chosen fields of learning.
Descriptor	**Generic learning outcomes:** The graduates should be able to demonstrate the ability to:

P.O. 8.	listen carefully, read texts related to the chosen fields of study analytically, and present information in a clear and concise manner to different groups/audiences.
P.O. 9.	express thoughts and ideas effectively in writing and orally and present the results/findings of the experiments carried out in a clear and concise manner to different groups.
P.O. 10.	meet one's own learning needs relating to the chosen fields of learning.
P.O. 11.	pursue self-directed and self-managed learning to upgrade the knowledge and skills required for a higher level of education and training.
P.O. 12.	gather and interpret relevant quantitative and qualitative data to identify problems,
P.O. 13.	critically evaluate principles and theories associated with the chosen fields of learning.
P.O. 14.	make judgment and take decisions, based on analysis of data and evidence, for formulating responses to issues/problems associated with the chosen fields of learning, requiring the exercise of some personal responsibility for action and outputs/outcomes.
Descriptor	**Constitutional, humanistic, ethical, and moral values:** The graduates should be able to demonstrate the willingness to:
P.O. 15.	practice constitutional, humanistic, ethical, and moral values in one's life, and practice these values in real-life situations,
P.O. 16.	put forward convincing arguments to respond to the ethical and moral issues associated with the chosen fields of learning.
Descriptor	**Employability and job-ready skills, and entrepreneurship skills and capabilities/ qualities and mindset:** The graduates should be able to demonstrate the acquisition of:
P.O. 17.	knowledge and a basket of essential skills, required to perform effectively in a defined job relating to the chosen fields of study,
P.O. 18.	ability to exercise responsibility for the completion of assigned tasks and for the outputs of own work, and to take some responsibility for group work and output as a member of the group.
Descriptor	**Credit requirements**
P.O. 19.	The successful completion of the first year (two semesters) of the undergraduate programme of minimum 40 credit hours followed by an exit 4-credit skills-enhancement course,
Descriptor	**Entry requirements**
P.O. 20.	Certificate obtained after successful completion of Grade 12 or

	equivalent state of education.
P.O. 21.	Admission to the first year of the undergraduate programme will be open to those who have met the entrance requirements, including specified levels of attainment, in the programme admission regulations. Admission will be based on the evaluation of documentary evidence (including the academic record and/or evidence relating to the assessment and validation of prior learning outcomes) of the applicant's ability to pursue an undergraduate programme of study.

Learning Outcomes Descriptors and Programme Outcomes (P.O.) for Undergraduate Diploma (Level 5)

Undergraduate Diploma: The diploma (in a field of learning or a disciplinary area) qualifies students who can apply specialized knowledge in a range of contexts to undertake advanced skilled or paraprofessional work and/or to pursue further learning/study at higher levels.

Descriptor	**Knowledge and understanding:** The graduates should be able to demonstrate the acquisition of:
P.O. 1.	theoretical and technical knowledge in broad multidisciplinary contexts within the chosen fields of learning,
P.O. 2.	deeper knowledge and understanding of one of the learning areas and its underlying principles and theories,
P.O. 3.	procedural knowledge required for performing skilled or paraprofessional tasks associated with the chosen fields of learning.
Descriptor	**Skills required to perform and accomplish tasks:** The graduates should be able to demonstrate the acquisition of:
P.O. 4.	cognitive and technical skills required for performing and accomplishing complex tasks relating to the chosen fields of learning,
P.O. 5.	cognitive and technical skills required to analyse and synthesize ideas and information from a range of sources and act on information to generate solutions to specific problems associated with the chosen fields of learning.
Descriptor	**Application of knowledge and skills:** The graduates should be able to demonstrate the ability to:
P.O. 6.	apply the acquired specialized or theoretical knowledge, and a range of cognitive and practical skills to gather quantitative and qualitative data,
P.O. 7.	select and apply basic methods, tools, materials, and information to formulate solutions to problems related to the chosen field(s) of learning.
Descriptor	**Generic learning outcomes:** The graduates should be able to demonstrate the ability to:
P.O. 8.	listen carefully, read texts related to the chosen fields of learning analytically, and present complex information in a clear and concise manner to different groups/audiences,
P.O. 9.	communicate in writing and orally the information, arguments, and results of the experiments and studies conducted

	accurately and effectively to specialist and non-specialist audiences.
P.O. 10.	meet one's own learning needs relating to the chosen field(s) of learning, work/vocation, and an area of professional practice,
P.O. 11.	pursue self-paced and self-directed learning to upgrade knowledge and skills required for pursuing a higher level of education and training.
P.O. 12.	critically evaluate the essential theories, policies, and practices by following a scientific approach to knowledge development.
P.O. 13.	make judgement and take decision, based on the analysis and evaluation of information, for determining solutions to a variety of unpredictable problems associated with the chosen fields of learning, taking responsibility for the nature and quality of outputs.
Descriptor	**Constitutional, humanistic, ethical, and moral values:** The graduates should be able to demonstrate the willingness and ability to:
P.O. 14.	embrace the constitutional, humanistic, ethical, and moral values, practice these values in life, and take a position regarding these values,
P.O. 15.	formulate arguments in support of actions to address issues relating the ethical and moral issues relating to the chosen fields of learning, including environmental and sustainable development issues, from multiple perspectives.
Descriptor	**Employability and job-ready skills, and entrepreneurship skills and capabilities/ qualities and mindset:** The graduates should be able to demonstrate the acquisition of knowledge and essential skill sets that are necessary to:
P.O. 16.	take up job/employment relating to the chosen fields of study or professional practice requiring the exercise of full personal responsibility for the completion of tasks and for the outputs of own work, and full responsibility for the group task/ work as a member of the group/team.
P.O. 17.	exercise self-management within the guidelines of study and work contexts.
P.O. 18.	supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities.
Descriptor	**Credit requirements**
P.O. 19.	The successful completion of the first two years (four semesters) of the undergraduate programme involving a

	minimum of 80 credit hours followed by an exit 4-credit skills-enhancement course
Descriptor	**Entry requirements**
P.O. 20.	Continuation of study or lateral entry in the second year of the undergraduate programme will be possible for those who have met the entrance requirements, including specified levels of attainment, specified in the programme regulations. The continuation of the study will be based on the evaluation of documentary evidence (including the academic record and/or evidence relating to the assessment and certification of prior learning) of the applicant's ability to pursue an undergraduate programme of study. Lateral entry into the programme of study at NHEQF level 5 will be based on the validation of prior learning outcomes achieved, including those achieved outside of formal learning or through learning and training in the workplace or in the community, through continuing professional development activities, or through independent/self-directed learning activities

Learning Outcomes Descriptors and Programme Outcomes (P.O.) for a Bachelor's degree (Level 5.5)

Bachelor's degree: The bachelor's degree qualifies students who can apply a broad and coherent body of knowledge and skills in a range of contexts to undertake professional work and/or for further learning.

Descriptor	**Knowledge and understanding:** The graduates should be able to demonstrate the acquisition of:
P.O. 1.	comprehensive, factual, theoretical, and specialized knowledge in broad multidisciplinary contexts with depth in the underlying principles and theories relating to one or more fields of learning.
P.O. 2.	knowledge of the current and emerging issues and developments within the chosen field(s) of learning.
P.O. 3.	procedural knowledge required for performing and accomplishing professional tasks associated with the chosen fields of learning.
Descriptor	**General, technical and professional skills required to perform and accomplish tasks:** The graduates should be able to demonstrate the acquisition of:
P.O. 4.	cognitive and technical skills required for performing and accomplishing complex tasks relating to the chosen fields of learning.
P.O. 5.	cognitive and technical skills required to evaluate and analyze complex ideas,
P.O. 6.	cognitive and technical skills required to generate solutions to specific problems associated with the chosen fields of learning.
Descriptor	**Application of knowledge and skills:** The graduates should be able to demonstrate the ability to:
P.O. 7.	apply the acquired specialized technical or theoretical knowledge, and cognitive and practical skills to gather and analyze quantitative/qualitative data to assess the appropriateness of different approaches to solving problems,
P.O. 8.	employ the right approach to generate solutions to problems related to the chosen fields of learning.
Descriptor	**Generic learning outcomes:** The graduates should be able to demonstrate the ability to:
P.O. 9.	listen carefully, to read text related to the chosen fields of learning analytically and present complex information in a clear and concise manner to different groups/audiences.

P.O. 10.	communicate in writing and orally the constructs and methodologies adopted for the studies undertaken relating to the chosen fields of learning,
P.O. 11.	make coherent arguments to support the findings/results of the study undertaken to specialist and non-specialist audiences.
P.O. 12.	meet one's own learning needs relating to the chosen field(s) of learning,
P.O. 13.	pursue self-paced and self-directed learning to upgrade knowledge and skills that will help adapt to changing demands of the workplace and pursue higher level of education and training.
P.O. 14.	critically evaluate evidence for taking actions to generate solutions to specific problems associated with the chosen fields of learning based on empirical evidence.
P.O. 15.	make judgement and take decisions based on the analysis and evaluation of information for formulating responses to problems, including real-life problems,
P.O. 16.	exercise judgement across a broad range of functions based on empirical evidence, for determining personal and/or group actions to generate solutions to specific problems associated with the chosen fields of learning.
Descriptor	**Constitutional, humanistic, ethical, and moral values:** The graduates should be able to demonstrate the willingness and ability to:
P.O. 17.	Embrace constitutional, humanistic, ethical, and moral values, and practice these values in life.
P.O. 18.	identify ethical issues related to the chosen fields of study,
P.O. 19.	formulate coherent arguments about ethical and moral issues, including environmental and sustainable development issues, from multiple perspectives.
P.O. 20.	follow ethical practices in all aspects of research and development, including avoiding unethical practices such as fabrication, falsification or misrepresentation of data or committing plagiarism.
Descriptor	**Employability and job-ready skills, and entrepreneurship skills and capabilities/ qualities and mindset:** The graduates should be able to demonstrate the acquisition of:
P.O. 21.	knowledge and essential skills set and competence that are necessary to take up a professional job relating to the chosen field of learning and professional practice,
P.O. 22.	entrepreneurship skills and mindset required for setting up and running an economic enterprise or pursuing self-employment

	requiring the exercise of full personal responsibility for the outputs of own work, and full responsibility for the output of the group,
P.O. 23.	the ability to exercise management and supervision in the contexts of work or study activities involving unpredictable work processes and working environments.

Learning Outcomes Descriptors and Programme Outcomes for a Bachelor's degree (Honours/ Honours with Research) or the Post-Graduate Diploma (Level 6)

Bachelor's degree (Honours): Prepare individuals who can apply a body of knowledge in a specific context to undertake professional work and for research and further learning.

Bachelor's degree (Honours with Research): Prepare individuals who can apply an advanced body of knowledge in a range of contexts to undertake professional work and apply specialized knowledge and skills for research and scholarship, and/or for further learning relating to the chosen field(s) of learning, work/vocation, or professional practice.

Post-Graduate Diploma: The Post-Graduate Diploma qualifies students who can apply a body of advanced knowledge and skills in a range of contexts to undertake professional or highly skilled work and/or further learning.

Descriptor	**Knowledge and understanding:** The graduates should be able to demonstrate the acquisition of:
P.O. 1.	advanced knowledge about a specialized field of enquiry, with depth in one or more fields of learning within a broad multidisciplinary/ interdisciplinary context.
P.O. 2.	a coherent understanding of the established methods and techniques of research and enquiry applicable to the chosen fields of learning.
P.O. 3.	an awareness and knowledge of the emerging developments and issues in the chosen fields of learning,
P.O. 4.	procedural knowledge required for performing and accomplishing professional tasks associated with the chosen fields of learning.
Descriptor	**General, technical and professional skills required to perform and accomplish tasks:** The graduates should be able to demonstrate the acquisition of:
P.O. 5.	a range of cognitive and technical skills required for performing and accomplishing complex tasks relating to the chosen fields of learning,
P.O. 6.	cognitive and technical skills relating to the established research methods and techniques,
P.O. 7.	cognitive and technical skills required to evaluate complex ideas and undertake research and investigations to generate

	solutions to real-life problems,
P.O. 8.	generate solutions to complex problems independently, requiring the exercise of full personal judgement, responsibility, and accountability for the output of the initiatives taken as a practitioner.
Descriptor	**Application of knowledge and skills:** The graduates should be able to demonstrate the ability to:
P.O. 9.	apply the acquired advanced technical and/or theoretical knowledge and a range of cognitive and practical skills to analyze the quantitative and qualitative data gathered drawing on a wide range of sources for identifying problems and issues relating to the chosen fields of learning,
P.O. 10.	apply advanced knowledge relating to research methods to carry out research and investigations to formulate evidence-based solutions to complex and unpredictable problems.
Descriptor	**Generic learning outcomes:** The graduates should be able to demonstrate the ability to:
P.O. 11.	listen carefully, read texts and research papers analytically, and present complex information in a clear and concise manner to different groups/ audiences,
P.O. 12.	communicate technical information and explanations, and the findings/ results of the research studies relating to specialized fields of learning,
P.O. 13.	present in a concise manner one's views on the relevance and applications of the findings of research and evaluation studies in the context of emerging developments and issues.
P.O. 14.	meet own learning needs relating to the chosen fields of learning,
P.O. 15.	pursue self-paced and self-directed learning to upgrade knowledge and skills that will help accomplish complex tasks and pursue a higher level of education and research.
	The graduates should be able to demonstrate:
P.O. 16.	a keen sense of observation, enquiry, and capability for asking relevant/ appropriate questions,
P.O. 17.	the ability to problematize, synthesize and articulate issues and design research proposals,
P.O. 18.	the ability to define problems, formulate appropriate and relevant research questions, formulate hypotheses, test hypotheses using quantitative and qualitative data, establish hypotheses, make inferences based on the analysis and interpretation of data, and predict cause-and-effect relationships,

P.O. 19.	the capacity to develop appropriate tools for data collection,
P.O. 20.	the ability to plan, execute and report the results of an experiment or investigation,
P.O. 21.	the ability to acquire the understanding of basic research ethics and skills in practicing/doing ethics in the field/ in own research work, regardless of the funding authority or field of study,
P.O. 22.	examine and assess the implications and consequences of emerging developments and issues relating to the chosen fields of study based on empirical evidence.
P.O. 23.	make judgement in a range of situations by critically reviewing and consolidating evidence,
P.O. 24.	exercise judgement based on evaluation of evidence from a range of sources to generate solutions to complex problems, including real-life problems, associated with the chosen field(s) of learning requiring the exercise of full personal responsibility and accountability for the initiatives undertaken and the outputs/outcomes of own work as well as of the group as a team member.
Descriptor	**Constitutional, humanistic, ethical, and moral values:** The graduates should be able to demonstrate the willingness and ability to:
P.O. 25.	Embrace and practice constitutional, humanistic, ethical, and moral values in life.
P.O. 26.	adopt objective, unbiased, and truthful actions in all aspects of work related to the chosen field(s) of learning and professional practice.
P.O. 27.	present coherent arguments in support of relevant ethical and moral issues.
P.O. 28.	participate in actions to address environmental and sustainable development issues.
P.O. 29.	follow ethical practices in all aspects of research and development, including avoiding unethical practices such as fabrication, falsification, or misrepresentation of data or committing plagiarism.
Descriptor	**Employability and job-ready skills, and entrepreneurship skills and capabilities/ qualities and mindset:** The graduates should be able to demonstrate the acquisition of knowledge and skill sets required for:
P.O. 30.	adapting to the future of work and to the demands of the fast pace oftechnological developments and innovations that drive

	a shift in employers' demands for skills, particularly with respect to the transition towards more technology-assisted work involving the creation of new forms of work and rapidly changing work and production processes.
P.O. 31.	managing complex technical or professional activities or projects, requiring the exercise of full personal responsibility for the output of own work as well as for the outputs of the group as a member of the group/team.
P.O. 32.	exercising supervision in the context of work having unpredictable changes.
Credit requirements	Successful completion of the 4-year (eight semesters) undergraduate programme involving a minimum of 160 credits, with a minimum of 40 credits each at level 4.5, 5, 5.5, and 6 of the NHEQF. A 1-year/2-semester Post-Graduate Diploma programme builds on a 3-year/6-semester bachelor's degree and requires a minimum of 40 credits for individuals who have completed a Bachelor's programme.
Entry requirements	An individual seeking admission to the bachelor's degree (Honours/ Honours with Research) in a specified field of learning would normally have completed all requirements of the relevant 3-year Bachelor's degree. (After completing the requirements of a 3-year bachelor's degree, candidates who meet a minimum 75% marks or its equivalent grade will be allowed to continue studies in the fourth year of the undergraduate programme leading to the bachelor's degree (Honours with Research).
	Continuation of undergraduate programme leading to the bachelor's degree (Honours/ Honours with Research) will be open to those who have met the entrance requirements, including specified levels of attainment, in the programme admission regulations. Continuation of the programme of study will be based on the evaluation of documentary evidence (including the academic record and/or evidence relating to the assessment and certification of prior learning) of the applicant's ability to pursue study during the fourth year (semesters 7 & 8) of the 4-year Bachelor's degree (Honours/ Honours with Research) programme. Lateral entry into the programme of study at NHEQF level 6 will be based on the validation of prior learning outcomes, including those achieved outside of formal learning or through learning and training in the workplace, through continuing professional development activities, or through independent/self-

	directed/self-managed learning activities.

Learning Outcomes Descriptors and Programme Outcomes for a Master's degree (e.g. M.A., M.Com., M.Sc., etc.) (Level 6.5)

Master's degree (1 year/2 semesters of study): The Master's degree qualifies students who can apply an advanced body of knowledge in a range of contexts for professional practice, research, and scholarship and as a pathway for further learning. Graduates at this level are expected to possess and demonstrate specialized knowledge and skills for research, and/or professional practice and/or for further learning.

Master's Degree (2 years /4 semesters of study): The Master's degree qualifies students who can apply an advanced body of knowledge in a range of contexts for professional practice, research, and scholarship and as a pathway for further learning. Graduates at this level are expected to possess and demonstrate specialized knowledge and skills for research, and/or professional practice and/or for further learning. Master's degree holders are expected to demonstrate the ability to apply the established principles and theories to a body of knowledge or an area of professional practice.

Descriptor	**Knowledge and understanding:** The graduates should be able to demonstrate the acquisition of:
P.O. 1.	advanced knowledge about a specialized field of enquiry with a critical understanding of the emerging developments and issues relating to one or more fields of learning,
P.O. 2.	advanced knowledge and understanding of the research principles, methods, and techniques applicable to the chosen field(s) of learning or professional practice,
P.O. 3.	procedural knowledge required for performing and accomplishing complex and specialized and professional tasks relating to teaching, and research and development.
Descriptor	**General, technical and professional skills required to perform and accomplish tasks:** The graduates should be able to demonstrate the acquisition of:
P.O. 4.	advanced cognitive and technical skills required for performing and accomplishing complex tasks related to the chosen fields of learning.
P.O. 5.	advanced cognitive and technical skills required for evaluating research findings and designing and conducting relevant research that contributes to the generation of new knowledge.
P.O. 6.	specialized cognitive and technical skills relating to a body of

	knowledge and practice to analyze and synthesize complex information and problems.
Descriptor	**Application of knowledge and skills:** The graduates should be able to demonstrate the ability to:
P.O. 7.	apply the acquired advanced theoretical and/or technical knowledge about a specialized field of enquiry or professional practice and a range of cognitive and practical skills to identify and analyze problems and issues, including real-life problems, associated with the chosen fields of learning.
P.O. 8.	apply advanced knowledge relating to research methods to carry out research and investigations to formulate evidence-based solutions to complex and unpredictable problems.
Descriptor	**Generic learning outcomes:** The graduates should be able to demonstrate the ability to:
P.O. 9.	listen carefully, read texts and research papers analytically and present complex information in a clear and concise manner to different groups/audiences,
P.O. 10.	communicate, in a well-structured manner, technical information and explanations, and the findings/results of the research studies undertaken in the chosen field of study,
P.O. 11.	present in a concise manner view on the relevance and applications of the findings of recent research and evaluation studies in the context of emerging developments and issues.
P.O. 12.	evaluate the reliability and relevance of evidence; identify logical flaws and holes in the arguments of others; analyze and synthesize data from a variety of sources; draw valid conclusions and support them with evidence and examples, and addressing opposing viewpoints.
P.O. 13.	meet one's own learning needs relating to the chosen fields of learning, work/vocation, and an area of professional practice,
P.O. 14.	pursue self-paced and self-directed learning to upgrade knowledge and skills, including research-related skills, required to pursue a higher level of education and research.
P.O. 15.	problematize, synthesize, and articulate issues and design research proposals,
P.O. 16.	define problems, formulate appropriate and relevant research questions, formulate hypotheses, test hypotheses using quantitative and qualitative data, establish hypotheses, make inferences based on the analysis and interpretation of data, and predict cause-and-effect relationships,
P.O. 17.	develop appropriate tools for data collection for research,
P.O. 18.	the ability to use appropriate statistical and other analytical

	tools and techniques for the analysis of data collected for research and evaluation studies,
P.O. 19.	plan, execute, and report the results of an investigation,
P.O. 20.	follow basic research ethics and skills in practicing/doing ethics in thefield/ in one's own research work.
P.O. 21.	make judgements and take decisions regarding the adoption of approaches to solving problems, including real-life problems, based on the analysis and evaluation of information and empirical evidence collected.
P.O. 22.	make judgement across a range of functions requiring the exercise of full responsibility and accountability for personal and/or group actions to generate solutions to specific problems associated with the chosen fields/subfields of study, work, or professional practice.
Descriptor	**Constitutional, humanistic, ethical, and moral values:** The graduates should be able to demonstrate the willingness and ability to:
P.O. 23.	embrace and practice constitutional, humanistic, ethical, and moral values in one's life,
P.O. 24.	adopt objective and unbiased actions in all aspects of work related tothe chosen fields/subfields of study and professional practice,
P.O. 25.	participate in actions to address environmental protection and sustainable development issues,
P.O. 26.	support relevant ethical and moral issues by formulating and presenting coherent arguments,
P.O. 27.	follow ethical principles and practices in all aspects of research and development, including inducements for enrolling participants, avoiding unethical practices such as fabrication, falsification or misrepresentation of data or committing plagiarism.
Descriptor	**Employability and job-ready skills, and entrepreneurship skills and capabilities/ qualities and mindset:** The graduates should be able to demonstrate the acquisition of knowledge and skill sets required for:
P.O. 28.	adapting to the future of work and responding to the demands ofthe fast pace of technological developments and innovations that drive the shift in employers' demands for skills, particularly with respect to t h e transition towards more technology-assisted work involving the creation of new forms of work and rapidly changing work and production processes.

P.O. 29.	exercising full personal responsibility for the output of own work as well as for group/team outputs and for managing work that is complex and unpredictable requiring new strategic approaches.

Learning Outcomes Descriptors and Programme Outcomes for a Master's degree (e.g. M.E./M.Tech. etc.) (Level 7)

Master's degree (1 year/2 semesters of study): The Master's degree qualifies students who can apply an advanced body of knowledge in a range of contexts for professional practice, research, and scholarship and as a pathway for further learning. Graduates at this level are expected to possess and demonstrate specialized knowledge and skills for research, and/or professional practice and/or for further learning.

Master's Degree (2 years /4 semesters of study): The Master's degree qualifies students who can apply an advanced body of knowledge in a range of contexts for professional practice, research, and scholarship and as a pathway for further learning. Graduates at this level are expected to possess and demonstrate specialized knowledge and skills for research, and/or professional practice and/or for further learning. Master's degree holders are expected to demonstrate the ability to apply the established principles and theories to a body of knowledge or an area of professional practice.

Descriptor	**Knowledge and understanding:** The graduates should be able to demonstrate the acquisition of:
P.O. 1.	advanced knowledge about a specialized field of enquiry with a critical understanding of the emerging developments and issues relating to one or more fields of learning,
P.O. 2.	advanced knowledge and understanding of the research principles, methods, and techniques applicable to the chosen field(s) of learning or professional practice,
P.O. 3.	procedural knowledge required for performing and accomplishing complex and specialized and professional tasks relating to teaching, and research and development.
Descriptor	**General, technical and professional skills required to perform and accomplish tasks:** The graduates should be able to demonstrate the acquisition of:
P.O. 4.	advanced cognitive and technical skills required for performing and accomplishing complex tasks related to the chosen fields of learning.
P.O. 5.	advanced cognitive and technical skills required for evaluating research findings and designing and conducting relevant research that contributes to the generation of new knowledge.
P.O. 6.	specialized cognitive and technical skills relating to a body of knowledge and practice to analyze and synthesize complex information and problems.

Descriptor	**Application of knowledge and skills:** The graduates should be able to demonstrate the ability to:
P.O. 7.	apply the acquired advanced theoretical and/or technical knowledge about a specialized field of enquiry or professional practice and a range of cognitive and practical skills to identify and analyze problems and issues, including real-life problems, associated with the chosen fields of learning.
P.O. 8.	apply advanced knowledge relating to research methods to carry out research and investigations to formulate evidence-based solutions to complex and unpredictable problems.
Descriptor	**Generic learning outcomes:** The graduates should be able to demonstrate the ability to:
P.O. 9.	listen carefully, read texts and research papers analytically, and present complex information in a clear and concise manner to different groups/audiences,
P.O. 10.	communicate, in a well-structured manner, technical information and explanations, and the findings/results of the research studies undertaken in the chosen field of study,
P.O. 11.	present in a concise manner view on the relevance and applications of the findings of recent research and evaluation studies in the context of emerging developments and issues.
P.O. 12.	evaluate the reliability and relevance of evidence; identify logical flaws and holes in the arguments of others; analyze and synthesize data from a variety of sources; draw valid conclusions and support them with evidence and examples, and addressing opposing viewpoints.
P.O. 13.	meet one's own learning needs relating to the chosen fields of learning, work/vocation, and an area of professional practice,
P.O. 14.	pursue self-paced and self-directed learning to upgrade knowledge and skills, including research-related skills, required to pursue higher level of education and research.
P.O. 15.	problematize, synthesize, and articulate issues and design research proposals,
P.O. 16.	define problems, formulate appropriate and relevant research questions, formulate hypotheses, test hypotheses using quantitative and qualitative data, establish hypotheses, make inferences based on the analysis and interpretation of data, and predict cause-and-effect relationships,
P.O. 17.	develop appropriate tools for data collection for research,
P.O. 18.	the ability to use appropriate statistical and other analytical tools and techniques for the analysis of data collected for research and evaluation studies,

P.O. 19.	plan, execute, and report the results of an investigation,
P.O. 20.	follow basic research ethics and skills in practicing/doing ethics in the field/ in one's own research work.
P.O. 21.	make judgements and take decisions regarding the adoption of approaches to solving problems, including real-life problems, based on the analysis and evaluation of information and empirical evidence collected.
P.O. 22.	make judgement across a range of functions requiring the exercise of full responsibility and accountability for personal and/or group actions to generate solutions to specific problems associated with the chosen fields/subfields of study, work, or professional practice.
Descriptor	**Constitutional, humanistic, ethical, and moral values:** The graduates should be able to demonstrate the willingness and ability to:
P.O. 23.	embrace and practice constitutional, humanistic, ethical, and moral values in one's life,
P.O. 24.	adopt objective and unbiased actions in all aspects of work related tothe chosen fields/subfields of study and professional practice,
P.O. 25.	participate in actions to address environmental protection and sustainable development issues,
P.O. 26.	support relevant ethical and moral issues by formulating and presenting coherent arguments,
P.O. 27.	follow ethical principles and practices in all aspects of research and development, including inducements for enrolling participants, avoiding unethical practices such as fabrication, falsification or misrepresentation of data or committing plagiarism.
Descriptor	**Employability and job-ready skills, and entrepreneurship skills and capabilities/ qualities and mindset:** The graduates should be able to demonstrate the acquisition of knowledge and skills set required for:
P.O. 28.	adapting to the future of work and responding to the demands of the fast pace of technological developments and innovations that drive shift in employers' demands for skills, particularly with respect to t h e transition towards more technology-assisted work involving the creation of new forms of work and rapidly changing work and production processes.
P.O. 29.	exercising full personal responsibility for the output of own work as well as for group/team outputs and for managing work

	that are complex and unpredictable requiring new strategic approaches.

Learning Outcomes Descriptors and Programme Outcomes for a Doctoral Degree (Level 8)

Doctoral Degree: The Doctoral degree qualifies students who can ask relevant and new questions and develop appropriate methodologies and tools for collecting information in pursuit of generating new knowledge and new data sets; and apply a substantial body of knowledge to undertake research and investigations to generate new knowledge, in one or more fields of inquiry, scholarship or professional practice. Graduates at this level is expected to have a systematic and critical understanding of a complex field of learning and specialized research skills for the advancement of knowledge and/or professional practice and making a significant and original contribution to the creation of new knowledge relating to a field of learning or in the context of an area of professional practice.

Descriptor	**Knowledge and understanding:** The graduates should be able to demonstrate the acquisition of:
P.O. 1.	highly specialized knowledge, including knowledge at the most advanced frontiers of the chosen fields of study.
P.O. 2.	mastery of the established research methods and techniques applicable to the chosen fields of learning.
P.O. 3.	procedural knowledge required by personnel engaged in complex research and development activities.
Descriptor	**General, technical and professional skills required to perform and accomplish tasks:** The graduates should be able to demonstrate the acquisition of:
P.O. 4.	most advanced and highly specialized cognitive and technical skills required for performing and accomplishing complex tasks related to research and development that make original contributions to knowledge, professional practice, and innovations.
P.O. 5.	cognitive and technical skills required for conceptualizing, designing, and implementing fundamental and/or applied research at the forefront of the chosen field(s) of learning to generate original knowledge.
P.O. 6.	cognitive and technical skills required for doing transdisciplinary research.
Descriptor	**Application of knowledge and skills:** The graduates should be able to demonstrate the ability to:
P.O. 7.	apply the acquired highly specialized knowledge, skills, and

	methods of research to design and conduct original and high quality disciplinary or multidisciplinary or interdisciplinary research to generate evidence-based solutions to complex problems, including real-life problems, relating to the chosen field(s) of study.
Descriptor	**Generic learning outcomes:** The graduates should be able to demonstrate the ability to:
P.O. 8.	listen carefully, read texts and research papers analytically, and present complex information in a clear and concise manner to non-specialist and specialist groups/audiences.
P.O. 9.	present, in a well-structured and logical manner, technical information and explanations pertaining to the results/findings of research studies undertaken.
P.O. 10.	present views on the relevance and application of recent research and their applications in the context of the emerging developments and issues related to the chosen field(s) of study or professional practice.
P.O. 11.	meet own learning needs relating to research and investigations in the chosen fields of study.
P.O. 12.	pursue self-paced and self-directed learning to upgrade knowledge and skills, including research-related skills, required to pursue higher level of research related to new frontiers of knowledge.
P.O. 13.	critically analyze and synthesize a body of knowledge in their major and allied fields, identify critical gaps and ask new questions, develop new tools and techniques of data gathering and analysis, and at the end of it be able to conduct research independently.
P.O. 14.	evaluate the reliability and relevance of evidence; identify logical flaws and holes in the arguments of others; analyze and synthesize data from a variety of sources; draw valid conclusions and support them with evidence and examples and addressing opposing viewpoints.
P.O. 15.	make judgements and take decisions regarding the formulation of responses to problems, including real-life problems, based on the analysis and evaluation of information and empirical evidence relating to the problems.
P.O. 16.	make significant judgment across a broad range of functions requiring the exercise of responsibility for determining personal and/or group actions to generate solutions to specific problems associated with the chosen field(s) of study, work/vocation, or professional practice.

Descriptor	**Constitutional, humanistic, ethical, and moral values:** The graduates should be able to demonstrate the willingness and ability to:
P.O. 17.	practice constitutional, humanistic, ethical, and moral values in life, adopt objective and unbiased actions in all aspects of work,
P.O. 18.	identify ethical issues related to the chosen fields of research, including those relating to environmental and sustainable development issues,
P.O. 19.	follow ethical practices in all aspects of research and development, including avoiding practices such as fabrication, falsification or misrepresentation of data or committing plagiarism, and not adhering to intellectual property rights,
P.O. 20.	acquire the understanding of basic research ethics and skills in practicing/doing ethics in the field/in own research work, regardless of the funding authority or field of study.
Descriptor	**Employability and job-ready skills, and entrepreneurship skills and capabilities/ qualities and mindset:** The graduates should be able to demonstrate the acquisition of knowledge and essential skill sets required for:
P.O. 21.	adapting to the future of work and responding to the demands of the fast pace of technological developments and innovations that drive shift in skill needs relating to work and professional practices, including those relating to teaching, research, and development,
P.O. 22.	exercising full personal responsibility for outputs/outcomes of own work and outputs/outcomes of group efforts,
P.O. 23.	exercising substantial authority, innovation, autonomy, professional integrity, and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research.