



Doctorate Programs QFE Alignment

Introduction

The National Qualifications Authority (NQA) has established a national framework of qualifications in order to bring coherence to the award system and relate all education and training awards to each other. The framework has a structure of ten levels with each level based on specified standards of knowledge, skills and competence. These standards define the outcomes to be achieved by learners seeking to gain awards at each level. Levels 7, 9, and 10 define the set of learning outcomes for Bachelor, Master, and Doctorate degrees respectively, which are categorised into the following three strands:

Strand	Sub-strand	Description
Knowledge (K)	Breadth	How broad is the learner's knowledge?
	Type	What characteristics and quality of knowing has the learner engaged in?
Skill (S)	Range	What is the breadth of the physical, intellectual, social and other skills acquired by the learner?
	Selectivity	How does the learner select the skills learned to address a range of problems? What is the nature of the complexity of the problems and how does the learner engage with them?
Competence	Autonomy and responsibility (AR)	How does the learner demonstrate the taking of responsibility personally and in groups? How does the learner deploy skills acquired in managing interactions with others and working on their own?
	Self-development (SD)	To what extent can the learner operate in new environments, acquire new knowledge and skills; and assimilate these to their existing body of knowledge and skills?
	Role in Context (RC)	Can the learner apply/deploy their knowledge and skills in a range of relevant contexts?

Generic Qualification Profile 10.1 (Doctorate Degree)

Knowledge	Comprehensive, deep and overarching knowledge at the frontier of a professional field of work or discipline and at the interface between different fields or disciplines. New knowledge, as judged by independent experts applying international standards, created through research or scholarship, that contributes to the development of a field of work or discipline
Skill	A range of mastered skills and techniques including: <ul style="list-style-type: none"> • synthesis, evaluation, planning and reflection, required to extend and redefine existing knowledge or professional practice or to produce original knowledge • advanced skills in developing innovative solutions to critical problems in research using highly developed cognitive and creative expert skills and intellectual independence, and • highly developed expert communication and information technology skills to present, explain and/or critique highly complex and diverse matters to specialist academic, peer specialists/experts and/or professional audiences.
Autonomy and Responsibility	Can function autonomously and/or take responsibility for: <ul style="list-style-type: none"> • acting with substantial authority, creativity, autonomy, independence, scholarly and professional integrity in a sustained commitment to the development of new ideas or processes or systems in challenging and novel work or learning contexts • accounting for overall governance of processes and systems, and • leading action to build and transform socio-cultural norms and relationships.
Role in context	Can originate and manage complex professional processes, lead and take full responsibility for the development and strategic deployment of professional teams and self and initiate and deploy qualities associated with professional leadership of peer groups and teams.
Self-development	Can analyse and critique the state of learning in a field and contribute to its advancement and consistently and sensitively manage highly complex ethical issues leading to informed, fair and valid judgements.

Doctor of Philosophy in Food Science and Technology

PLOS	K	S	AR	RC	SD
PLO-1: Prove deep understanding of diverse aspects of food science.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-2: Conduct original research and apply multidisciplinary approach for the development of food science discipline.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PLO-3: Display competence in scholarly writing and oral communication of the scientific topics related to food science.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-4: Collect and interpret the scientific data using advanced techniques	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Doctor of Philosophy in Horticulture Sciences

PLOS	K	S	AR	RC	SD
PLO-1: Appraise advanced and in-depth understanding of the area of specialization within the horticultural sciences.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-2: Independently identify gaps in the current global understanding of horticultural system functioning and management, and conduct interdisciplinary scientific research targeted at closing these.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-3: Deploy advanced techniques to analyze, interpret and critically reflect on scientific results in broad and narrow contexts.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-4: Apply professional written and oral communication skills to deliver scientific outputs in the horticultural field.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-5: Demonstrate leadership qualities in the area of specialization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Doctorate of Business Administration

PLOS	K	S	AR	RC	SD
PLO-1: Develop oral presentations to communicate effectively and without guidance, using technologies to support the oral presentation of information where needed to academic and professional peers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-2: Write effectively to communicate highly complex and diverse matters to expert audiences.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-3: Apply a range of mastered skills and techniques including synthesis, evaluation, planning and reflection, required to critically extend and redefine professional practice and knowledge.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-4: Apply advanced skills in developing innovative solutions to critical problems using expert skills, demonstrating intellectual independence.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-5: Act with authority, creativity, autonomy, independence, scholarly and professional integrity.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-6: Demonstrate abilities associated with professional leadership of peer groups and teams.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PLO-7: Assess consistently and sensitively manage diverse ethical issues in highly complex contexts and make fair judgments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-8: Examine the complex social and cultural contexts of leadership.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-9: Evaluate the state of research and practice in a business field and highlight possible ways to contribute to that field.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-10: Create new knowledge in the field, through independent research, innovative and creative practical solutions to a challenging business problem through conceptualizing, designing, implementing, and adapting research processes in complex contexts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Doctor of Philosophy in Language and literacy Education

PLOS	K	S	AR	RC	SD
PLO-1: Analyze educational issues and topics of interest in the field of Language and Literacy Education.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-2: Create an original research in Language and Literacy Education that adds to human knowledge.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-3: Assess issues, decisions, or practices in Language and Literacy Education applying relevant research methodology to finding a possible solution.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PLO-4: Explain the major tenets of Language and Literacy Education orally, and in writing, to different audience.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-5: Devise strategies or actions that resolve ethical issues in Language and Literacy Education.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-6: Apply research skills in Language and Literacy Education to other work environments and career opportunities inside and outside academia.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Doctor of Philosophy in Mathematics Education

PLOS	K	S	AR	RC	SD
PLO-1: Analyze educational issues and topics of interest in the field of Mathematics Education.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-2: Create an original research in Mathematics Education that adds to human knowledge.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-3: Assess issues, decisions, or practices in Mathematics Education applying relevant research methodology to finding a possible solution.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PLO-4: Explain the major tenets of Mathematics Education orally, and in writing, to different audience.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-5: Devise strategies or actions that resolve ethical issues in Mathematics Education.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-6: Apply research skills in Mathematics Education to other work environments and career opportunities inside and outside academia.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Doctor of Philosophy in Science Education

PLOS	K	S	AR	RC	SD
PLO-1: Analyze educational issues and topics of interest in the field of Science Education.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-2: Create an original research in Science Education that adds to human knowledge.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-3: Assess issues, decisions, or practices in Science Education applying relevant research methodology to finding a possible solution.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PLO-4: Explain the major tenets of Science Education orally, and in writing, to different audience.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-5: Devise strategies or actions that resolve ethical issues in Science Education.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-6: Apply research skills in Science Education to other work environments and career opportunities inside and outside academia.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Doctor of Philosophy in Leadership and Policy Studies in Education

PLOS	K	S	AR	RC	SD
PLO-1: Analyze educational issues and topics of interest in the field of Leadership and Policy Studies in Education.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-2: Create an original research in Leadership and Policy Studies in Education that adds to human knowledge.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-3: Assess issues, decisions, or practices in Leadership and Policy Studies in Education applying relevant research methodology to finding a possible solution.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-4: Explain the major tenets of Leadership and Policy Studies in Education orally, and in writing, to different audience.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-5: Devise strategies or actions that resolve ethical issues in Leadership and Policy Studies in Education.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PLO-6: Apply research skills in Leadership and Policy Studies in Education to other work environments and career opportunities inside and outside academia.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Doctor of Philosophy in Special Education

PLOS	K	S	AR	RC	SD
PLO-1: Analyze educational issues and topics of interest in the field of Special Education.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-2: Create an original research in Special Education that adds to human knowledge.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-3: Assess issues, decisions, or practices in Special Education applying relevant research methodology to finding a possible solution.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PLO-4: Explain the major tenets of Special Education orally, and in writing, to different audience.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-5: Devise strategies or actions that resolve ethical issues in Special Education.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-6: Apply research skills in Special Education to other work environments and career opportunities inside and outside academia.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Doctor of Philosophy in Informatics and Computing

		K	S	AR	RC	SD
PLO 1	<i>Evaluate critically the impact of the emerging informatics and computing trends, and technologies in a global, economic, environmental and societal context.</i>	√				
PLO 2	<i>Apply advanced theories, methodologies, and knowledge to implement innovative informatics and computing solutions.</i>		√			
PLO 3	<i>Critically analyze informatics and computing literature, and identify open research problems related to national priorities.</i>		√			
PLO 4	<i>Independently perform and defend original research work that advances the state of the art in informatics and computing.</i>			√		
PLO 5	<i>Communicate research findings orally and in writing to faculty, peers, and the lay public.</i>				√	
PLO 6	<i>Identify and articulate strategies to mitigate situations related to informatics and computing ethical issues.</i>				√	
PLO 7	<i>Demonstrate self-direction and originality in tackling, solving and furthering autonomy in the study of advanced informatics and computing systems.</i>			√		√

Doctor of Philosophy in Nutritional Sciences

PLOS	K	S	AR	RC	SD
PLO-1: Demonstrate advanced level of knowledge in Nutritional Sciences.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-2: Ethically conduct original interdisciplinary research, including development of a relevant methodology, data collection and analysis, interpretation of scientific results and literature, drawing conclusion and recommendations to improve health and well-being at the local, national and international levels.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-3: Identify issues to problems in nutritional science by proposing alternative solutions/ideas.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-4: Communicate evidence-based nutritional science information using appropriate (written, visual, and oral) means, according to the level of the audiences (professional or general).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PLO-5: Demonstrate leadership qualities in the field of nutritional science to contribute to a future successful career in academia, industry or policy- making.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Doctor of Pharmacology

PLOS	K	S	AR	RC	SD
PLO-1: Apply knowledge of advanced pharmacotherapeutics and pharmaceutical sciences in recommending and delivering optimal patient care.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-2: Evaluate the medical literature and utilize evidence-based medicine in problem solving and decision-making process.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-3: Communicate effectively while displaying empathy with patients and provide drug information to patients and healthcare providers.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-4: Design and monitor an individualized pharmaceutical care plan in collaboration with other healthcare providers and take leadership roles in promoting health and wellness in the community.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PLO-5: Exhibit a capacity for self-evaluation, moral reflection and ethical reasoning to form the basis for self-directed and lifelong learning.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-6: Design, conduct, and analyze advanced clinical research projects.	<input type="checkbox"/>				

Doctor of Philosophy in Public Health

PLOS	K	S	AR	RC	SD
PLO-1: Synthesize new knowledge by engaging in original research using advanced concepts and methods of public health data collection, analysis and interpretation.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-2: Evaluate major health-related needs, concerns and trends using public health concepts and methods to improve the human health.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-3: Analyze, critically, the biological, occupational, environmental, socio-economic, behavioral, cultural, and other determinants that impact human health.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-4: Design effective communications, policies and strategies for promoting health and preventing diseases.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PLO-5: Evaluate the legal, ethical, economic, and regulatory dimensions of public health.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Doctor of Philosophy in Biomedical Sciences

PLOS	K	S	AR	RC	SD
PLO-1: Demonstrate depth and breadth of the translational biomedical knowledge used in their scholarly activities.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-2: Demonstrate effective communication skills, with peers and colleagues, that are effective in the exchange and translation of knowledge and scientific findings.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-3: Synthesize new translational biomedical sciences knowledge by engaging in collaborative research, and in scholarships and through oral, written and publication platforms	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-4: Demonstrate professionalism and ethical attitudes in data management, ownership and sharing.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-5: Evaluate the significance of translational biomedical research.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Doctor of Philosophy in Architectural Engineering

PLOS	K	S	AR	RC	SD
PLO-1: Identify gaps in the current state of knowledge and outline directions to produce new knowledge at the frontier of the architectural engineering discipline.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-2: Apply advanced theories and research methodologies to critically analyze open research problems in architectural engineering and develop innovative solutions.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-3: Produce and defend an original research work that advances the state of the art in the architectural engineering discipline.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-4: Communicate research findings, orally and in writing, at a high level of proficiency to faculty, peers, and the lay public.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PLO-5: Evaluate and manage complex professional engineering activities and diverse ethical issues within the work context.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Doctor of Philosophy in Chemical Engineering

PLOS	K	S	AR	RC	SD
PLO-1: Identify gaps in the current state of knowledge and outline directions to produce new knowledge at the frontier of the chemical engineering discipline.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-2: Apply advanced theories and research methodologies to critically analyze open research problems in chemical engineering and develop innovative solutions.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-3: Produce and defend an original research work that advances the state of the art in the chemical engineering discipline.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-4: Communicate research findings, orally and in writing, at a high level of proficiency to faculty, peers, and the lay public.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PLO-5: Evaluate and manage complex professional engineering activities and diverse ethical issues within the work context.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Doctor of Philosophy in Civil Engineering

PLOS	K	S	AR	RC	SD
PLO-1: Identify gaps in the current state of knowledge and outline directions to produce new knowledge at the frontier of the civil engineering discipline.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-2: Apply advanced theories and research methodologies to critically analyze open research problems in civil engineering and develop innovative solutions.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-3: Produce and defend an original research work that advances the state of the art in the civil engineering discipline.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-4: Communicate research findings, orally and in writing, at a high level of proficiency to faculty, peers, and the lay public.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PLO-5: Evaluate and manage complex professional engineering activities and diverse ethical issues within the work context.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Doctor of Philosophy in Electrical Engineering

PLOS	K	S	AR	RC	SD
PLO-1: Identify gaps in the current state of knowledge and outline directions to produce new knowledge at the frontier of the electrical engineering discipline.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-2: Apply advanced theories and research methodologies to critically analyze open research problems in electrical engineering and develop innovative solutions.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-3: Produce and defend an original research work that advances the state of the art in the electrical engineering discipline.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-4: Communicate research findings, orally and in writing, at a high level of proficiency to faculty, peers, and the lay public.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-5: Evaluate and manage complex professional engineering activities and diverse ethical issues within the work context.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Doctor of Philosophy in Mechanical Engineering

PLOS	K	S	AR	RC	SD
PLO-1: Identify gaps in the current state of knowledge and outline directions to produce new knowledge at the frontier of the mechanical engineering discipline.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-2: Apply advanced theories and research methodologies to critically analyze open research problems in mechanical engineering and develop innovative solutions.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-3: Produce and defend an original research work that advances the state of the art in the mechanical engineering discipline.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-4: Communicate research findings, orally and in writing, at a high level of proficiency to faculty, peers, and the lay public.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-5: Evaluate and manage complex professional engineering activities and diverse ethical issues within the work context.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Doctor of Philosophy in Law

PLOS	K	S	AR	RC	SD
PLO-1: يقارن بين الاتجاهات التشريعية والفقهية والقضائية في مجال التخصص	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-2: ينقد الأحكام القانونية والآراء الفقهية والاتجاهات القضائية في النظام القانوني الإماراتي والمقارن	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PLO-3: ينجز بحثاً يحتوي على إضافة معرفية في مجال التخصص	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-4: يعرض المفاهيم الرئيسية في التخصص بلغة سليمة	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-5: يستخلص حلول قانونية مبتكرة لوقائع مستحدثة	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PLO-6: يعبر عن التزامه بالقواعد الأخلاقية والمهنية في مجال القانون	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-7: يقود فريق عمل لحل المسائل القانونية ذات الصلة	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Doctor of Philosophy in and Molecular Biology

PLOS	K	S	AR	RC	SD
PLO-1: Retrieve and Apply advanced knowledge to solve problems in Cellular and Molecular Biology.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-2: Perform independently an original work of advanced research on a topic in Cellular and Molecular Biology.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-3: Analyze quantitatively and critically open problems in Cellular and Molecular Biology.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-4: Communicate effectively Cellular and Molecular Biology finding to a specialized audience as well as the general public.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PLO-5: Articulate strategies to tackle identified ethical and safety issues that may arise in the field.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-6: Supervise effectively group efforts to achieve specific tasks.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Doctor of Philosophy in Ecology and Environmental Sciences

PLOS	K	S	AR	RC	SD
PLO-1: Retrieve and Apply advanced knowledge to solve problems in Ecology and Environmental Sciences.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-2: Perform independently an original work of advanced research on a topic in Ecology and Environmental Sciences.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-3: Analyze quantitatively and critically open problems in Ecology and Environmental Sciences.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-4: Communicate effectively Ecology and Environmental Sciences finding to a specialized audience as well as the general public.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PLO-5: Articulate strategies to tackle identified ethical and safety issues that may arise in the field.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-6: Supervise effectively group efforts to achieve specific tasks.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Doctor of Philosophy in Chemistry

PLOS	K	S	AR	RC	SD
PLO-1: Retrieve and Apply advanced knowledge to solve problems in the chemical sciences.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-2: Perform independently an original work of advanced research on a topic in chemistry.PLO3: Analyze quantitatively and critically open problems in chemistry.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-3: Analyze quantitatively and critically open problems in chemistry.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-4: Communicate effectively the major tenets in the field of chemistry and their own work orally and in writing.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-5: Articulate strategies to tackle identified ethical and safety issues that may arise in the field.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-6: Supervise effectively group efforts to achieve specific tasks.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Doctor of Philosophy in Geosciences

PLOS	K	S	AR	RC	SD
PLO-1: Retrieve and Apply advanced knowledge to solve problems in Geosciences.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-2: Perform independently an original work of advanced research on a topic in Geosciences.	<input checked="" type="checkbox"/>				
PLO-3: Analyze quantitatively and critically open problems in Geosciences.	<input checked="" type="checkbox"/>				
PLO-4: Communicate effectively Geosciences finding to a specialized audience as well as the general public	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-5: Articulate strategies to tackle identified ethical and safety issues that may arise in the field.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PLO-6: Supervise effectively group efforts to achieve specific tasks.	<input checked="" type="checkbox"/>				

Doctor of Philosophy in Mathematics

PLOS	K	S	AR	RC	SD
PLO-1: Retrieve and Apply advanced knowledge to solve problems in Mathematics.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-2: Perform independently an original work of advanced research on a topic in athematic.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-3: Analyze quantitatively and critically open problems in athematic.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-4: Communicate effectively physics finding to a specialized audience as well as the general public.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-5: Articulate strategies to tackle identified ethical and safety issues that may arise in the field.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-6: Supervise effectively group efforts to achieve specific tasks.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Doctor of Philosophy in Physics

PLOS	K	S	AR	RC	SD
PLO-1: Retrieve and Apply advanced knowledge to solve problems in physics.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-2: Perform independently an original work of advanced research on a topic in physics.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLO-3: Analyze quantitatively and critically open problems in Physics.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-4: Communicate effectively physics finding to a specialized audience as well as the general public.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PLO-5: Articulate strategies to tackle identified ethical and safety issues that may arise in the field.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLO-6: Supervise effectively group efforts to achieve specific tasks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>