THE UNIVERSITY OF HONG KONG

FACULTY OF ENGINEERING

Master of Science (Engineering) in Energy Engineering
MSc(Eng)(EnergyE)

A. University's Educational Aims for Taught Postgraduate Curricula

To enable our students to develop their capabilities in:

1. Critical intellectual enquiry and acquiring up-to-date knowledge and research skills in a discipline / profession;
2. Application of knowledge and research skills to practice or theoretical exploration, demonstrating originality and creativity;
3. Tackling novel situations and ill-defined problems;
4. Collaboration and communication of disciplinary knowledge to specialists and the general public;
5. Awareness of and adherence to personal and professional ethics;
6. Enhancement of leadership and advocacy skills in a profession.

B. Curriculum Objectives

1. Breadth - Graduates possess broad education, including problem-solving skills and knowledge of important current issues in engineering, necessary for productive careers in the public or private sectors, or for the pursuit of graduate education;
2. Depth - Graduates possess an understanding of the fundamental knowledge prerequisite for the practice of, or for advanced study in engineering, including its scientific principles, rigorous analysis, and creative design;
3. Professionalism - Graduates demonstrate skills for clear communication and responsible teamwork, and professional attitudes and ethics, so that they are prepared for the complex modern work environment and for lifelong learning.

C. Relationship between Educational Aims and Curriculum Objectives

Educational Aims for TPg Curricula	Curriculum Objective		
	1. Breadth	2. Depth	3. Professionalism
1	√		
2	√	√	
3	√	√	
4		√	√
5			√
6			√

D. Programme Learning Outcomes (PLO)

The Programme Learning Outcomes (PLO) of the Master of Science in Engineering curriculum included both the General Learning Outcomes (GLO) and the Specific Learning Outcomes (SLO) with reference to the standards of the UK Engineering Council.

i) General Learning Outcomes (GLO)

GLO(1) The ability to develop, monitor and update a plan, to reflect a changing operating environment;

GLO(2) The ability to monitor and adjust a personal programme of work on an on-going basis, and to learn independently;

GLO(3) The ability to exercise initiative and personal responsibility, which may be as a team member or leader;

GLO(4) The ability to learn new theories, concepts, methods etc and apply these in unfamiliar situations.

ii) Specific Learning Outcomes (SLO)

I. Underpinning science and mathematics, etc.

SLO(1) A comprehensive understanding of the relevant scientific principles of the specialisation .

SLO(2) A critical awareness of current problems and/or new insights much of which is at, or informed by, the forefront of the specialization.

SLO(3) An understanding of concepts relevant to the discipline, some from outside engineering, and the ability to critically evaluate and apply them effectively.

II. Engineering analysis

SLO(4) The ability to use fundamental knowledge to investigate new and emerging technologies;

SLO(5) The ability to apply appropriate models for solving problems in engineering, and the ability to assess the limitations of particular cases;

SLO(6) The ability to collect and analyse research data and use appropriate engineering tools to tackle unfamiliar problems, such as those with uncertain or incomplete data or specifications, by the appropriate innovation, use or adaptation of engineering analytical methods.

SLO(7) The ability to apply original thought to the development of practical solutions for products, systems, components or processes.

III. Economics, social and environmental context

SLO(8) Knowledge and understanding of management and business practices, and their limitations, and how these may be applied appropriately, in the context of the particular specialisation;

SLO(9) The ability to make general evaluations of risks through some understanding of the basis of such risks.

IV. Engineering practice

SLO(10) A thorough understanding of current practice and its limitations, and some appreciation of likely new developments;

SLO(11) Advanced level knowledge and understanding of a wide range of engineering materials and components;

SLO(12) The ability to apply engineering techniques taking account of a range of commercial and industrial constraints.

iii) Relationship between Educational Aims and Programmes Learning Outcomes

Educational Aims for TPg Curricula	MSc(Eng) in Energy Engineering Programme Learning Outcomes															
	PLO(1)	PLO(2)	PLO(3)	PLO(4)	PLO(5)	PLO(6)	PLO(7)	PLO(8)	PLO(9)	PLO(10)	PLO(11)	PLO(12)	PLO(13)	PLO(14)	PLO(15)	PLO(16)
	General Learning Outcomes				Specific Learning Outcomes											
	GLO(1)	GLO(2)	GLO(3)	GLO(4)	SLO(1)	SLO(2)	SLO(3)	SLO(4)	SLO(5)	SLO(6)	SLO(7)	SLO(8)	SLO(9)	SLO(10)	SLO(11)	SLO(12)
1					√	√	√	√	√	√	√			√	√	√
2	√					√	√		√	√	√			√	√	√
3	√	√	√	√			√			√		√	√	√	√	√
4		√	√	√								√	√			
5			√										√			
6	√	√	√													