

**THE UNIVERSITY OF HONG KONG
FACULTY OF ENGINEERING**

BEng in Engineering Science Programme

Programme Learning outcomes:

Programme Objectives:

1. **Breadth:** Graduates will acquire general knowledge in the related engineering and scientific fields, which is necessary for effective team work in multidiscipline technical groups and essential in the knowledge broadening process and life-long learning of all professional engineers.
2. **Depth:** Graduates will acquire an in-depth understanding of the fundamental prerequisite knowledge required for a professional career and for postgraduate studies in engineering science.
3. **Professionalism:** Graduates will learn to respect and abide by professional ethics, develop effective communication and leadership skills, and improve those social skills required by responsible and contributing members of the engineering profession and society.

Relationship of Programme Educational Objectives to University’s Educational Aims

Programme Educational Objectives	University’s Educational Aims					
	1	2	3	4	5	6
1 (Breadth)	x	x	x		x	
2 (Depth)	x	x		x		
3 (Professionalism)	x		x	x	x	x

Programme Learning Outcomes:

- A. An ability to apply mathematical knowledge, scientific principles, information and communications technology, and the concepts of engineering appropriate to the five corresponding major disciplines of engineering science.
- B. An in-depth understanding of and an ability to apply the core knowledge, including for designing and conducting experiments and simulations, in the five corresponding major disciplines of engineering science.
- C. An ability to contribute to resources management and systems analysis and integration.
- D. An ability to utilize interdisciplinary skills to function constructively on multi-disciplinary teams.
- E. An ability to identify, analyse, research, and propose solutions to engineering science problems related to the corresponding five major disciplines.
- F. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice appropriate to the engineering science disciplines and understand their limitations.
- G. An ability to apply innovative technologies in the design and improvement of products, processes and systems.

- H. An ability to recognise and explore entrepreneurial opportunities in an ever-changing business environment, and to take on professional leadership and responsibilities.
- I. An ability to appreciate the need and recognise the importance of professional and ethical responsibility and behaviour.
- J. An ability to understand the impact of engineering solutions in a global and societal context, especially the importance of health, safety, and other factors that can impact the internal and external environment.
- K. An ability to communicate effectively in teamwork, in multi-disciplinary collaboration, and in leadership and company representative roles.
- L. An appreciation of the need for and the ability to engage in the life-long learning process required for professional development and for maintaining competency.

RELATIONSHIP OF PROGRAMME OUTCOMES TO PROGRAMME OBJECTIVES

Programme Educational Objectives	BEng(EngSc) Programme Learning Outcomes											
	A	B	C	D	E	F	G	H	I	J	K	L
1 (Breadth)	x	x	x	x								
2 (Depth)					x	x	x			x		
3 (Professionalism)				x				x	x	x	x	x