THE UNIVERSITY OF HONG KONG

Department of Industrial and Manufacturing Systems Engineering

Taught Postgraduate Programme

MSc(Eng) in Industrial Engineering and Logistics Management (IELM)

Programmes Educational 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 more in-depth and up-to-date knowledge required for the practice of, or for further advanced study in industrial engineering in their respective fields of specialisation including its scientific principles, rigorous analysis, creative design and how these are employed to solve real life engineering problems.
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.

Programme Constituencies

Group	Programme Constituency	Roles
1	Students	Receive education, training, and inspirations in the programme for becoming top-rated engineers and/or researchers.
2	Faculty	Provide education, training, and inspirations for students; Ensure attainment of Programme Outcomes, and enable delivery of Programme Educational Objectives.
3	Alumni; Employers; Other stakeholders	Expect the programme to instil knowledge and practice skills into students, and professionalism among graduates; Support the programme by provision of scholarships and academic prizes, company visits, internship, industrial training and graduate employment opportunities etc; Provide feedback on education and training, and professional guidance and mentorship for students.

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Programme Learning Outcomes

I. Underpinning science and mathematics, etc.

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

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

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

II. System analysis and design

PO(4) The ability to use fundamental knowledge to investigate new and emerging system models and technologies.

PO(5) The ability to apply appropriate models for solving problems in engineering systems and the ability to assess the limitations of particular cases.

PO(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.

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

III. Economic, social and environmental context

PO(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.

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

IV. Engineering and management practices

PO(10) A thorough understanding of current practices and their limitations, and some appreciation of likely new developments.

PO(11) Advanced level knowledge and understanding of a wide range of industrial management and system operations.

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

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Relationship of Programme Outcomes to Programmes Educational Objectives

Programme Educational Objectives	**MSc(Eng)(IELM) Programme Learning Outcomes**											
	Underpinning science and mathematics			**System analysis and design**				**Economic, social and environmental context**		**Engineering and management practices**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
1 (Breadth)	✓	✓	✓	✓			✓		✓	✓		✓
2 (Depth)					✓	✓		✓			✓	
3 (Professionalism)		✓		✓	✓	✓	✓	✓		✓	✓	✓