



Institiúid Teicneolaíochta Chorcaí  
Cork Institute of Technology

APPROVED

<b>Awards</b>			
BEng (Hons)			
<b>Programme Code:</b>	CR_EBENS_8	<b>Mode of Delivery:</b>	Full Time
		<b>No. of Semesters:</b>	8
<b>NFQ Level:</b>	8		
<b>Embedded Award:</b>	No	<b>Programme Credits:</b>	240
<b>programmeReviewDate:</b>	May 2018		
<b>Department:</b>	PROCESS, ENERGY & TRANSPORT ENGINEERING		

## Programme Outcomes

Upon successful completion of this programme the graduate will be able to demonstrate... :

<b>PO1</b>	Knowledge - Breadth	
	(a)	A broad based knowledge and understanding of mathematics, the physical sciences, Information and Communications Technology, design processes and methodologies and industrial practices relevant to building energy systems.
<b>PO2</b>	Knowledge - Kind	
	(a)	A detailed knowledge and understanding of the application of mathematical and scientific methods to the solution and management of building energy system problems, whilst recognising any inherent limitations.
<b>PO3</b>	Skill - Range	
	(a)	The ability to use complex techniques, skills and modern engineering tools to solve complex building energy systems problems and to communicate effectively with the engineering community and society in general.
<b>PO4</b>	Skill - Selectivity	
	(a)	The ability to apply, manipulate and develop the design of a system, component or process to meet specified needs and to contribute to the assessment of the technical performance of a system in complex and unfamiliar situations.
<b>PO5</b>	Competence - Context	
	(a)	An understanding of the diverse nature and the social context of building energy systems; appreciate the impact of engineering solutions in a global, commercial and environmental context; whilst having the confidence and independence to apply existing knowledge to new and unfamiliar problems.
<b>PO6</b>	Competence - Role	
	(a)	An ability to act in teams and in a multi-disciplinary fashion, set and implement work objectives and priorities, to take a leadership role where required; recognise, interpret and apply appropriate regulations.
<b>PO7</b>	Competence - Learning to Learn	
	(a)	An awareness of the current boundaries of the various specialist areas in building energy systems and to have sufficient academic training, confidence and discipline to broaden and deepen own knowledge base through further study, research and professional development
<b>PO8</b>	Competence - Insight	
	(a)	A recognition of their obligations to society, the profession and the environment by being familiar with the expectations and standards inherent in professional codes of conduct, and by realising the interconnectivity between technology and global sustainability.

## Semester Schedules

### Stage 1 / Semester 1

Mandatory	
Module Code	Module Title
CMOD6001	<a href="#">Creativity Innovation&amp;Teamwork</a>
MECH6008	<a href="#">Introductory CAD</a>
MECH6007	<a href="#">Thermofluids</a>
ELEC6031	<a href="#">Electrical Principles 1</a>
MECH6001	<a href="#">Intro to Mechanical Services</a>
MATH6014	<a href="#">Technological Mathematics 1</a>

### Stage 1 / Semester 2

Mandatory	
Module Code	Module Title
MECH6029	<a href="#">Mechanics</a>
COMP6014	<a href="#">ICT for Eng Techs</a>
MATH6015	<a href="#">Technological Mathematics 2</a>
MANU6002	<a href="#">CAD Mechanical Services</a>
PHYS6007	<a href="#">Instrument Calibration</a>
Elective	
Module Code	Module Title
MECH6002	<a href="#">Building Services Processes</a>
FREE6001	<a href="#">Free Choice Module</a>

## Stage 2 / Semester 1

Mandatory	
Module Code	Module Title
ELEC6032	<a href="#">Electrical Principles 2</a>
MATH6040	<a href="#">Technological Mathematics 201</a>
INTR6011	<a href="#">Sustainable Development</a>
MANU6008	<a href="#">Pipework Design</a>
MECH6023	<a href="#">Hydronic Systems Design</a>
Elective	
Module Code	Module Title
FREE6001	<a href="#">Free Choice Module</a>
MANU6006	<a href="#">REVIT Introduction</a>

## Stage 2 / Semester 2

Mandatory	
Module Code	Module Title
BULD6009	<a href="#">Process Thermofluids</a>
ENVE6002	<a href="#">Wind Energy Systems 1</a>
BULD6010	<a href="#">Construction Technology</a>
MANU6010	<a href="#">Building Services Project</a>
STAT6010	<a href="#">Intro. to Probability &amp; Stats</a>
MANU6009	<a href="#">HVAC Systems</a>

### Stage 3 / Semester 1

Mandatory	
Module Code	Module Title
MECH7001	<a href="#">BS Mech 4</a>
MATH7020	<a href="#">Technological Mathematics 301</a>
ELEC6011	<a href="#">BS Electrotech 3</a>
MANU7002	<a href="#">Services Project Management</a>
INTR7001	<a href="#">Heat Transfer</a>
FREE6001	<a href="#">Free Choice Module</a>
Elective	
Module Code	Module Title
ELEC7008	<a href="#">Energy Management</a>

### Stage 3 / Semester 2

Mandatory	
Module Code	Module Title
INTR7008	<a href="#">Solar Energy</a>
MECH7019	<a href="#">Work Placement</a>
BULD7002	<a href="#">Building Energy Rating</a>
INTR8020	<a href="#">Operations &amp; Project Managemen</a>

#### Stage 4 / Semester 1

Mandatory	
Module Code	Module Title
BULD8021	<a href="#">Building Thermal Dynamic Analysis</a>
ENVI8002	<a href="#">Psychrometric Design</a>
INTR8021	<a href="#">Energy Systems Modelling</a>
MANU8005	<a href="#">Project - Initial Research</a>
MATH8005	<a href="#">Maths for Control and Quality</a>
Elective	
Module Code	Module Title
MECH8026	<a href="#">Building Energy Compliance</a>
FREE6001	<a href="#">Free Choice Module</a>

#### Stage 4 / Semester 2

Mandatory	
Module Code	Module Title
MECH8027	<a href="#">Degree Day Analysis</a>
MECH8003	<a href="#">Energy Systems Control</a>
MANU8006	<a href="#">Project - realisation</a>
MANU8003	<a href="#">Maintenance and Reliability</a>
MECH8025	<a href="#">Energy Efficient Design</a>