APPROVED

Institiúid Teicneolaíochta Chorcaí
Cork Institute of Technology

Awards
BSc

Programme Code:	CR_SPHYS_7	**Mode of Delivery:**	Full Time, Part Time, ACCS	**No. of Semesters:**	6
NFQ Level:	7				
Embedded Award:	No	**Programme Credits:**	180		
programmeReviewDate:	December 2023				
Department:	PHYSICAL SCIENCES				
Field of Study:	Physics				

Programme Outcomes

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

PO1	Knowledge - Breadth	
	(a)	Demonstrate a detailed knowledge and understanding of, and some design capabilities in, a number of specialised areas of applied physics and instrumentation relevant to technological industries.
PO2	Knowledge - Kind	
	(a)	Demonstrate a wide-ranging knowledge of process control, quality and safety systems, in the context of the operation of process industries and the nature of their products.
PO3	Skill - Range	
	(a)	Diagnose technical problems in a wide range of instrumentation systems for measurement and control.
PO4	Skill - Selectivity	
	(a)	Identify and implement solutions to technical processes.
PO5	Competence - Context	
	(a)	Collate, manage and evaluate data.
PO6	Competence - Role	
	(a)	Work ethically and professionally as an individual and within a team.
PO7	Competence - Learning to Learn	
	(a)	Recognise the need for life-long learning and professional development and to manage own learning needs at both personal and professional levels.
PO8	Competence - Insight	
	(a)	Demonstrate an awareness and an appreciation of the need for safety, sustainability, personal responsibility and ethics within the workplace and society.

Semester Schedules

Stage 1 / Semester 1

Mandatory	
Module Code	**Module Title**
PHYS6008	Instrument Measurement
CHEM6002	Chemical Principles
MATH6000	Essential Mathematical Skills
PHYS6011	Introduction to Physics
BIOL6007	Biomolecules and Cells
CMOD6001	Creativity Innovation&Teamwork

Stage 1 / Semester 2

Mandatory	
Module Code	**Module Title**
PHYS6018	Sensors and Systems
PHYS6007	Instrument Calibration
MATH6019	Technological Maths 2 & Maple
PHYS6042	Fundamental Physics
ENVI6002	Environmental Instrumentation

Elective	
Module Code	**Module Title**
CHEM6004	Fundamental Physical Chemistry
PHYS6010	Introduction to Astronomy
PHYS6005	Formula 1 Science & Technology
CHEM6003	Physical and Organic Chem
PHYS6013	Physics of Forensics
PHYS6016	Practical Computer Tech
PHYS6019	Sport Science Technology
PHYS6015	Physics of Sport
FREE6001	Free Choice Module

Stage 2 / Semester 1

Mandatory	
Module Code	**Module Title**
PHYS6021	Applied Physics
PHYS6030	Process Instrumentation 1
MATH6037	Mathematics for Science 2.1
PHYS6023	Digital Instrumentation
PHYS6006	Industrial Automation 1

Elective	
Module Code	**Module Title**
PHYS6010	Introduction to Astronomy
PHYS7020	Physics for Sustainability
FREE6001	Free Choice Module
CTEC7003	Technical Writing and Presenta
PHYS6038	Water Quality Instrumentation

Stage 2 / Semester 2

Mandatory	
Module Code	**Module Title**
PHYS6025	Introduction - Process Control
PHYS6031	Process Instrumentation 2
PHYS6024	Intro to Prog for Measurement
PHYS6022	Applied Optics
MATH6038	Mathematics for Science 2.2
CHEM6008	Quality & Validation

Stage 3 / Semester 1

Mandatory	
Module Code	**Module Title**
PHYS7009	Process Control
PHYS7008	Industrial Automation & SCADA
MATH7010	Mathematics for Science 3.1
PHYS7002	Digital Systems & Interfacing
PHYS7011	Programming for Measurement

Elective	
Module Code	**Module Title**
MANU7007	Validation Science
FREE6001	Free Choice Module
PHYS7021	Quality Systems

Stage 3 / Semester 2

Mandatory	
Module Code	**Module Title**
PHYS7019	Work Placement/Project (extended)
PHYS7013	Telemetry

Group Elective 1	
Module Code	**Module Title**
ATOM7001	Atomic and Nuclear Physics
PHYS7004	Industrial Comms & Networks

Elective	
Module Code	**Module Title**
PHYS7018	Methodological Research
PHYS7010	Process Engineering