

APPROVED



Awards					
BSc (Hons)					
Programme Code:	CR_KDNET_8	Mode of Delivery:	Full Time, ACCS	No. of Semesters:	8
NFQ Level:	8				
Embedded Award:	No	Programme Credits:	240		
programmeReviewDate:	September 2020				
Department:	COMPUTER SCIENCE				
Field of Study:	Computer Science				

Programme Outcomes

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

PO1	Knowledge - Breadth
	(a) A systematic understanding knowledge of computer systems, where a computer system is defined as a group of devices that form a network serving a common purpose of storing, processing and communicating information. Bearing this in mind the programme aims to produce software professionals with a knowledge of the theory, concepts and methods pertaining to the design and development of software for an embedded computer system or enterprise system or network. In addition, they will have a good understanding of databases, operating systems and virtualisation of computer systems.
PO2	Knowledge - Kind
	(a) An ability to critically appraise emerging technologies; discuss challenges to research activities relevant to their field of practice; and apply knowledge to successfully design, create or program an embedded computer system, enterprise system, database or network.
PO3	Skill - Range
	(a) The ability to analyse problems from various problem domains, design appropriate system solutions, and implement and document the solution to agreed standards. Be able to confidently engage in and successfully design and program enterprise and embedded computer systems and networks and communicate effectively their solution.
PO4	Skill - Selectivity
	(a) An ability to design and program a computer system: using an appropriate language; and compilers for a range of microprocessors, that communicate over a network that can be created, managed and controlled pro-grammatically. The ability to participate as part of an development team, select the appropriate tool set and apply theoretical knowledge to design and create a computer or enterprise system of their choice.
PO5	Competence - Context
	(a) The ability to draw upon a substantial set of diagnostic, technical, design, planning, modelling, implementation and test tools and skills, to justify their use and to apply these creatively in a variety of application domains.
PO6	Competence - Role
	(a) Capable of independent work or as part of a team to effectively identify, formulate and solve high level problems in a creative manner.
PO7	Competence - Learning to Learn
	(a) The ability to use appropriate research techniques, to learn from experience and to recognise the need for lifelong learning within the software and networking industry.
PO8	Competence - Insight
	(a) The ability to articulate the wider social, political and business context within which software and network developer operates and the need for high ethical and professional standards in ones work.

Semester Schedules

Stage 1 / Semester 1

Mandatory	
Module Code	Module Title
SOFT6018	Programming Fundamentals
SOFT6007	Web Development Fundamentals
COMH6002	Computer Architecture
COMP6035	Computer Security Principles
MATH6055	Maths for Computer Science
CMOD6001	Creativity Innovation&Teamwork

Stage 1 / Semester 2

Mandatory	
Module Code	Module Title
SOFT6017	Modular Programming
COMP6041	Introduction to Databases
COMP6042	Operating Systems in Practice
COMP6027	Networking Fundamentals
MATH6004	Discrete Maths
COMP6043	Physical Computing

Stage 2 / Semester 1

Mandatory	
Module Code	Module Title
SOFT7004	Object Oriented Principles
COMP7032	Routing and Switching Concepts
SOFT7006	Operating Systems
SOFT7007	Requirements Engineering
COMP7035	Linear Data Struct. & Alg.
Elective	
Module Code	Module Title
COMP7036	Linux Administration
SOFT7022	Database Design
FREE6001	Free Choice Module

Stage 2 / Semester 2

Mandatory	
Module Code	Module Title
STAT7007	Probability and Statistics
COMP7013	Object Oriented Programming
COMP7037	NoSQL Data Architectures
SOFT7019	C Programming
SOFT7005	OO Analysis and Design
COMP7041	Virtualisation Technologies

Stage 3 / Semester 1

Mandatory	
Module Code	Module Title
SOFT7003	Group Project
SOFT8023	Distributed Sys. Programming
SOFT7029	Programming Microcontrollers
COMP7039	Agile Processes
COMP8044	Embedded Systems Networking
Elective	
Module Code	Module Title
SOFT7035	Programming Mobile Devices
SOFT8032	Programming for Data Analytics
FREE6001	Free Choice Module

Stage 3 / Semester 2

Group Elective 1	
Module Code	Module Title
PLAC7009	Work Placement
Group Elective 2	
Module Code	Module Title
APEX8030	Approved External Study - 30 Credits
Group Elective 3	
Module Code	Module Title
COMP7046	Technical Communication Skills
COMP8045	Emerging Technological Trends
COMP7047	Open Source Projects
FREE6001	Free Choice Module

Stage 4 / Semester 1

Mandatory	
Module Code	Module Title
SOFT8025	Scalable Microservices
INTR8016	Project - Research Phase
COMP8049	Embedded Systems Engineering
COMP8052	Software-Defined Networking
COMP8053	Embedded Software Security
Elective	
Module Code	Module Title
SOFT8009	Game Development
SOFT8034	Front End Frameworks
FREE6001	Free Choice Module

Stage 4 / Semester 2

Mandatory	
Module Code	Module Title
SOFT8037	Embedded Systems Programming
INTR8015	Project - Implementation Phase
COMP7038	Non-linear Data Struct. & Alg.
COMP8026	Real Time Systems
Elective	
Module Code	Module Title
COMP8003	Advanced Web Publishing Apps
COMP8028	Security Penetration Testing
FREE6001	Free Choice Module