

**SCHOOL OF ELECTRONIC ENGINEERING**

**AND COMPUTER SCIENCE**

**PROGRAMME DESCRIPTOR 2024-2025**

**BEng Computer Systems Engineering (3 years):**

**UCAS Code HI62**

**Please note this programme has a compulsory first year diet and a Core Final Year Project**

**Year 1 Modules**

**Semester 1**

ECS401U Procedural Programming (15 credits) (pre requisite for ECS505U Software Engineering, ECS605U Image Processing)

ECS408U Electronic Engineering Mathematics I (15 credits)

ECS412U Digital Circuit Design (15 credits)

ECS431U Engineering Skills and Practice (15 credits)

**Semester 2**

ECS403U Communications and Networks

ECS409U Analogue Electronic Systems (15 credits)

ECS411U Signals and Information (15 credits)

ECS414U Object Oriented Programming (15 credits) pre requisite for ECS605U Image Processing. ECS639U Web Programming and ECS657U Multi-platform Game Development)

**Year 2 Modules**

**Semester 3**

ECS502U Microprocessor Systems Design (15 credits)

ECS505U Software Engineering (15 credits

ECS528U Communications Systems (15 credits)

ECS529U Algorithms and Data Structures (15 credits)

**Semester 4**

ECS506U Software Engineering Project (15 credits)

ECS518U Operating Systems (15 credits)

ECS527U Digital Systems Design (15 credits) (pre-requisite for ECS617U)

**Plus one from:**

ECS515U Signals and Systems Theory (15 credits)

ECS522U Graphical User Interfaces (15 credits) (pre requisite for ECS661U User Experience Design)

ECS620U Summer Internship (15 credits) (offered between penultimate and final year)

**Final Year Modules**

**Semester 5**

ECS635U Project (30 credits) **Core**

ECS642U Embedded Systems (15 credits) (pre requisite ECS502U)

**Plus two modules from:**

ECS601U Control Systems (15 credits) (pre-requisite for ECS654U Advanced Control Systems)

ECS602U Digital Signal Processing (15 credits)

ECS607U Data Mining (15 credits)

ECS639U Web Programming (15 credits) (pre requisite ECS414U)

ECS640U Big Data Processing (15 credits)

ECS657U Multi=platform Game Development (15 credits) ) (pre requisite ECS414U)

**Semester 6**

ECS635U Project (cont. 30 credits) **Core**

ECS617U Integrated Circuit Design (15 credits) **(pre-requisite ECS527U)**

**Plus two modules from:**

ECS605U Image Processing (15 credits) **(pre-requisite ECS401U and ECS414U)**

ECS622U Product Development (15 credits)

ECS637U Digital Media and Social Networks (15 credits)

ECS647U Bayesian Decision and Risk Analysis

ECS654U Advanced Control Systems (15 credits) (pre-requisite ECS601U)

ECS655U Security Engineering (15 credits)

ECS656U Distributed Systems (15 credits)

ECS659U Neural Networks and Deep Learning (15 credits) (replacing ECS661U User Experience Design (15 credits) 24-25)

Elective **modules are subject to timetabling constraints and module availability**

**5 January 2024**