

Overview

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| Programme Code | 36660 |
| Programme Title | Cyber Security and Networking |
| Awarding Institution | Liverpool John Moores University |
| Programme Type | Level 3/4/5 Qualification |
| Language of Programme | All LJMU programmes are delivered and assessed in English |
| Programme Leader | |
| Link Tutor(s) | Graham Sherwood |

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|--------------------------------|-------------------------|
| Partner Name | Partnership Type |
| Nelson and Colne College Group | Validated |

Awards

| Award Type | Award Description | Award Learning Outcomes |
|-------------------|----------------------------------|--------------------------------|
| Target Award | Foundation Degree Science - FDSC | See Learning Outcomes Below |

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|------------------------------|--|
| Alternate Award Names | |
|------------------------------|--|

External Benchmarks

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|------------------------------------|---------------------|
| Subject Benchmark Statement | UG-Computing (2022) |
|------------------------------------|---------------------|

Programme Offering(s)

| Mode of Study, Mode of Delivery | Intake Month | Teaching Institution | Programme Length |
|---------------------------------|--------------|---|------------------|
| Full-Time, Face to Face | January | Nelson Campus, Nelson and Colne College | 2 Years |
| Full-Time, Face to Face | September | Nelson Campus, Nelson and Colne College | 2 Years |

Aims and Outcomes

Educational Aims of the Programme

- To provide students with the knowledge, skills, techniques and behaviours needed to support a career as a professional in computing
- To provide a structured ladder of progression including well-rounded and valuable qualification at levels 4 and 5, tailored to the needs of local and regional employers, and supporting progression routes to level 6 and beyond.
- To provide students with the maximum practicable flexibility of study (in terms of study mode, timescales and recognition of prior learning) thus enabling them to match their study commitments to personal needs and aspiration
- To prepare students to work in an environment characterized by rapid change and the need to use knowledge and make judgements slightly beyond the taught syllabus.

Learning Outcomes

| Code | Description |
|------|---|
| PLO1 | Demonstrate knowledge and understanding of essential facts, concepts, principles and theories relating to computing and computer applications appropriate to cyber-security and networking. |
| PLO2 | Demonstrate an understanding of practical constraints and computer-based systems in their context; recognise and analyse criteria and specifications appropriate to specific problems, and plan strategies for their solutions. |
| PLO3 | Demonstrate an ability to specify, design and construct reliable and usable computer solutions. |
| PLO4 | Evaluate approaches to cybersecurity and information security. |
| PLO5 | Create, maintain and troubleshoot computer networks |
| PLO6 | Deploy appropriate theory, practices and tools for the specification, design, implementation and evaluation of computer-based systems |
| PLO7 | Analyse the extent to which a computer-based system meets the criteria defined for its current use and future development. |
| PLO8 | Show problem solving and evaluation skills, draw upon supporting evidence and demonstrate a general understanding of the need for a high quality solution. |

Programme Structure

Programme Structure Description

For modules with practical competencies, students will be given multiple opportunities to demonstrate competency. A student who achieves a pass mark in the module but who has not yet demonstrated competency will be required to demonstrate competency before credit can be released. It will not be recorded as a failed attempt. Students who are not eligible for the target award on this programme but have passed all modules at level 4 will be awarded an HNC in Computing (programme 36662) as an alternative exit award.

| Structure - 240 credit points | |
|---|-----------------|
| Level 4 Core - 100 credit points | CORE |
| [MODULE] 4541NCCG Computing Investigative Project Approved 2022.01 - 20 credit points | |
| [MODULE] 4542NCCG Database Design and Implementation Approved 2022.01 - 20 credit points | |
| [MODULE] 4543NCCG Networking and Security Approved 2022.01 - 20 credit points | |
| [MODULE] 4544NCCG Programming and Software Development Approved 2022.01 - 20 credit points | |
| [MODULE] 4543NCCG Networking and Security Approved 2022.01 - 20 credit points | |
| Level 4 Optional - 20 credit points | OPTIONAL |
| [MODULE] 4546NCCG Computer Systems Architecture Approved 2022.01 - 20 credit points | |
| [MODULE] 4547NCCG Website Design and Development Approved 2022.01 - 20 credit points | |
| [MODULE] 4548NCCG Data Analytics Approved 2022.01 - 20 credit points | |
| Level 5 Core - 80 credit points | CORE |
| [MODULE] 5548NCCG Work-Based Learning Project Approved 2022.01 - 20 credit points | |
| [MODULE] 5551NCCG Operating Systems Design Approved 2022.01 - 20 credit points | |
| [MODULE] 5552NCCG Cryptography, Security and Forensics Approved 2022.01 - 20 credit points | |
| [MODULE] 5553NCCG Network Design, Implementation and Management Approved 2022.01 - 20 credit points | |
| Level 5 Optional - 40 credit points | OPTIONAL |
| [MODULE] 5549NCCG Cloud Computing and Programming Approved 2022.01 - 20 credit points | |
| [MODULE] 5550NCCG Data Structures and Algorithms Approved 2022.01 - 20 credit points | |
| [MODULE] 5554NCCG Machine Learning and Artificial Intelligence Approved 2022.01 - 20 credit points | |
| [MODULE] 5555NCCG Games Design and Development Approved 2022.01 - 20 credit points | |
| [MODULE] 5556NCCG User Experience and Design Interface Approved 2022.01 - 20 credit points | |
| [MODULE] 5557NCCG Data Mining Knowledge Acquisition Approved 2022.01 - 20 credit points | |

Module specifications may be accessed at <https://proformas.ljmu.ac.uk/Default.aspx>

Approved variance from Academic Framework Regulations

Variance

Some modules within this programme contain assessed practical work that does not contribute to the module mark but that must be completed satisfactorily for the module credit to be awarded. (Approved 28 July 2021)

Teaching, Learning and Assessment

Key themes of the teaching and learning strategy on this programme are:

- Varied assessment and feedback to enhance the experience of the student.
- The availability of flexible teaching and learning modes, using face to face, on-line and blended learning.
- Student support through the use of structured and targeted tutorials.
- The development and application of theory into practice.
- The use of inclusive learning methods
- Development of students' practical skills.

Teaching sessions will allow for the introduction of new skills, techniques, concepts and theories to enable students to develop their own practice further. Learning and teaching opportunities will be designed to allow for the transfer of learning between the different modules and the integration of theory with practice. This programme uses a variety of different assessment methods to ensure that all students, of whatever preference in assessment, have the opportunity to demonstrate their achievement of learning outcomes. Assessment is designed to be both formative, in building knowledge and skills, and summative in assessing whether and to what extent required outcomes have been met. In this FdSc, assessment is focused on evidencing that necessary knowledge and skills have been acquired. Modules typically have two assessments of different types. One is often designed simply to ensure that particular knowledge, skill and experience has been gained. Assessments of this type are commonly practical tasks or multiple choice online tests and are sometimes assessed on a pass/fail basis only. Pass/fail assessments must be passed for the module to be passed. The second assessment is a generally graded task in which the extent of a student's level of attainment can be judged. This is typically a presentation, written assignment or, occasionally, an online test. Students entering this programme will generally not have experienced a formal examination since GCSE, which for some will have been many years ago. For this reason, there are no formal, written examinations in level 4 of this programme. There are two examinations at level 5, which are included for the benefit of those students intending to progress to level 6. There is a synoptic work-based learning project in which students will apply their knowledge and skill to real-world situations.

Opportunities for work related learning

Work-related learning is included within this programme, so students will have the opportunity to engage in real world projects and activities. The programme has active links with industry and involves employers in the industrial projects, utilising real world case studies wherever possible.

Entry Requirements

| Type | Description |
|---------------------------------------|--|
| Alternative qualifications considered | Candidates are selected on the basis of their ability to cope with and benefit from the programme. Their suitability can be demonstrated either through previous educational achievement or through experience and aptitude. Admission by prior qualification will normally require a minimum 48 UCAS Tariff points with the majority of the points gained in technical subjects. Typically, points can be derived from: <ul style="list-style-type: none">o One GCE A level or Vocational A level pass or equivalento Two AS level passeso BTEC National Diploma/Certificateo Other qualifications such as Scottish Highers, Welsh Baccalaureate, Irish Leaving Certificates, International Baccalaureate, with the required UCAS pointso A pass in a recognised Access courseo Equivalent Scottish or Irish qualifications Admission by experience and aptitude will be based on the length and type of the candidate's employment experience and his/her ability to demonstrate an aptitude and enthusiasm for the subject. As part of this process, candidates may be required to undertake aptitude tests and/or to provide personal and/or employment references. Candidates whose first language is not English will be required to demonstrate English language competence equivalent to IELTS 5.5 or higher. |

Extra Entry Requirements