Programme Specification Document

Approved, 2022.04

Overview

Programme Code	45582
Programme Title	Computer Forensics
Awarding Institution	Liverpool John Moores University
Programme Type	Degree with Foundation
Language of Programme	All LJMU programmes are delivered and assessed in English
Programme Leader	Thomas Berry
Link Tutor(s)	

Awards

Award Type	Award Description	Award Learning Outcomes
Target Award	Bachelor of Science with Honours (SW) (Fnd) - SBSHF	See Learning Outcomes Below
Recruitable Target	Bachelor of Science with Honours (Fnd) - BSHF	See Learning Outcomes Below
Alternative Exit	Diploma in Higher Education (SW) (Fnd) - SDHEF	Provide evidence of experience in a number of computer forensic tools as used by practitioners in the field. Explain how UK laws related to computer crime are applied and how they relate to a computer forensics investigation. Describe the structure of operating systems and apply the underlying principles. Use object-oriented design in formulating an implementation. Understand how databases are structured, how to query them for information and be able to develop a database to solve a problem. Understand the ethical and professional issues involved in working in the computing industry. A student who successfully completes a placement year will be eligible for the Sandwich award and will, in addition to the above, be able to demonstrate the professional and personal skills necessary for effective employment within a professional environment.
Alternative Exit	Certificate of Higher Education (Fnd) - CHEF	Develop computer programs using elementary programming constructs. Discuss computer systems at the hardware and software levels. Understand the different approaches required to solve computer-based problems. Discuss a range of practical aspects of computing and apply the associated tools and techniques. Identify a personal development plan to support their career path and recognise ethical, legal and professional aspects that relate to the computing profession. Design and develop a website using appropriate tools and techniques. Communicate their ideas and take personal responsibility for their learning. Discuss a range of computing challenges specific to Computer Forensics.
Alternative Exit	Bachelor of Science (Fnd) - BSF	Demonstrate a broad and comparative knowledge of the general scope of the subject, its different areas and applications, and its interactions with related subjects. A detailed knowledge of a defined subject or a more limited coverage of a specialist area balanced by a wider range of study. In each case, specialised study will be informed by current developments in the subject. Demonstrate a critical understanding of the essential theories, principles and concepts of the subject(s) and of the ways in which these are developed through the main methods of enquiry in the subject.
Alternative Exit	Bachelor of Science (SW) (Fnd) - SBSF	Demonstrate a broad and comparative knowledge of the general scope of the subject, its different areas and applications, and its interactions with related subjects. A detailed knowledge of a defined subject or a more limited coverage of a specialist area balanced by a wider range of study. In each case, specialised study will be informed by current developments in the subject. Demonstrate a critical understanding of the essential theories, principles and concepts of the subject(s) and of the ways in which these are developed through the main methods of enquiry in the subject.

Alternative Exit	Diploma of Higher Education (Fnd) - DHEF	Provide evidence of experience in a number of computer forensic tools as used by practitioners in the field. Explain how UK laws related to computer crime are applied and how they relate to a computer forensics investigation. Describe the structure of operating systems and apply the underlying principles. Use object-oriented design in formulating an implementation. Understand how databases are structured, how to query them for information and be able to develop a database to solve a problem. Understand the ethical and professional issues involved in working in the computing industry.

Alternate Award Names	

External Benchmarks

Subject Benchmark Statement	UG-Computing (2022)

Accreditation

Programme Accredited by

PSRB Name	Type of Accreditation	Valid From Date	Valid To Date	Additional Notes
BCS, the Chartered Institute for IT	Accredited by BCS, the Chartered Institute for IT for the purposes of fully meeting the academic requirement for registration as a Chartered IT Professional.			

Programme Offering(s)

Mode of Study, Mode of Delivery	Intake Month	Teaching Institution	Programme Length
Sandwich Year Out, Face to Face	September	LJMU Taught	5 Years
Full-Time, Face to Face	September	LJMU Taught	4 Years

Aims and Outcomes

Educational Aims of the Programme

The two principal themes in the programme are the development of practical computer forensics skills, and the management involved in developing successful investigations for law enforcement, national security and the commercial or public organisation. This is underpinned by themes of computing, security and networking. The main aims are: -To provide students with the technical skills required for the implementation of computer forensics investigations. -To prepare students with the management skills required to implement investigations in organisations and law enforcement. -To provide students with the knowledge of the wide range of issues involved in the implementation of computer forensics investigations, such as security and legal, ethical and privacy requirements. -To further develop students' originality in applying analytical, creative, problem solving and research skills. -To provide students with a comprehensive understanding, critical awareness and ability to conduct evaluation of research issues. - To encourage students to engage with the development of employability skills by completing a self-awareness statement. -For students undertaking a placement year the aim is to provide students with an extended period of work experience at an approved partner that will complement their programme of study at LJMU. This will give the students the opportunity to develop professional skills relevant to their programme of study, as well as attitude and behaviours necessary for employment in a diverse and changing environment.

Learning Outcomes

Code	Description
PLO1	Critically analyse software tools used in computer forensics investigations.
PLO2	Deploy general computing methods and skills to solve significant computer-based problems.
PLO3	Critically reflect on the impact of new technologies / legal requirements in the area.
PLO4	Plan, conduct and report a research project.
PLO5	Analyse digital evidence for an investigation.
PLO6	Evaluate investigation methodologies in terms of general attributes.
PLO7	Work professionally as a member of a team.
PLO8	Identify appropriate tools and techniques to be used for an investigation.
PLO9	Plan and manage an IT project.
PLO10	Deploy a wide range information technology for effective information retrieval.
PLO11	Apply numerical techniques to forensics cases involving a quantitative dimension.
PLO12	Design, plan and execute complex network investigations.
PLO13	Communicate complex information effectively by written or verbal means.
PLO14	Identify job roles and opportunities that reflect personal interest and expertise.
PLO15	Plan and manage personal learning and development.
PLO16	Implement software to solve computer forensics problems using a software development process.
PLO17	Critically reflect on professionalism and ethics relating to computer forensics practice.

Code	Description
PLO18	Identify computer security challenges and their impacts upon computer forensic investigations.
PLO19	Apply English Law concepts to investigations including how results would fit into a criminal trial.
PLO20	Manage a complex a computer forensics investigation.
PLO21	Apply concepts, principles and theories relating to computer forensics to a computing application.
PLO22	Collect and synthesize complex information from a variety of sources.

Programme Structure

Programme Structure Description

The placement year, module 5103COMSCI, will follow Level 5 and students will be enrolled on a 480 credit honours sandwich programme. The Level 5 mean for the final award mark will be calculated based upon the 240 credits at Level 5. Students successfully completing the assessment of the placement year are eligible for a Sandwich award. Students not undertaking a placement year are registered on the non-sandwich version of the programme and will have the opportunity of an additional study year abroad following Level 5. Students will be enrolled on a 480 credit honours with study abroad programme. Of those 480 credits, 120 will be taken via a Level 5 study abroad module 5113COMSCI. The modules to be studied in the host institution must be agreed in advance. The Level 5 mean for the final award mark will be calculated based upon the 240 credits at Level 5. Students starting on this programme prior to September 2020 will be required to complete the modules specified in the programme specification in force when they commenced their study. This requirement may be varied should a student take a leave of absence or be required to complete final module attempts.

Programme Structure - 600 credit points	
Level 3 - 120 credit points	
Level 3 Core - 120 credit points	CORE
[MODULE] 3100FNDET Algorithms and Computing Approved 2022.02 - 10 credit points	
[MODULE] 3102FNDET Foundation Mathematics for Engineering and Technology 1 Approved 2022.02 - 20 credit points	
[MODULE] 3106FNDET Programming Approved 2022.01 - 10 credit points	
[MODULE] 3201FNDCMP Personal, Academic and Skills Development Approved 2022.03 - 20 credit points	
[MODULE] 3209FNDCMP Information Systems Development Approved 2022.01 - 20 credit points	
[MODULE] 3210FNDCMP Creative Computing Approved 2022.01 - 20 credit points	
[MODULE] 3211FNDCMP Applied Computing Approved 2022.01 - 20 credit points	
Level 4 - 120 credit points	
Level 4 Core - 120 credit points	CORE
[MODULE] 4200COMP Introduction to Programming Approved 2022.03 - 20 credit points	
[MODULE] 4201COMP Computer Systems Approved 2022.01 - 20 credit points	
[MODULE] 4202COMP Networks and Web Development Approved 2022.01 - 20 credit points	
[MODULE] 4203COMP Professional Practice Approved 2022.03 - 10 credit points	
[MODULE] 4204COMP Data Modelling Approved 2022.01 - 10 credit points	
[MODULE] 4205COMP Introduction to Computer Forensics and Security Approved 2022.01 - 20 credit points	
[MODULE] 4206COMP Problem Solving for Computer Forensics Approved 2022.01 - 20 credit points	
Level 5 - 240 credit points	
Level 5 Core - 120 credit points	CORE
[MODULE] 5200COMP Group Project Approved 2022.01 - 20 credit points	
[MODULE] 5202COMP Database Systems Approved 2022.01 - 20 credit points	
[MODULE] 5203COMP Operating Systems Approved 2022.02 - 20 credit points	
[MODULE] 5204COMP Object-Oriented Systems Approved 2022.01 - 20 credit points	
[MODULE] 5205COMP Digital Forensics Approved 2022.01 - 20 credit points	
[MODULE] 5206COMP Computer Law Approved 2022.03 - 20 credit points	
Level 5 Optional - No credit points	OPTIONAL
Optional Study Semester - 120 credit points	OPTIONAL
Placement Year - 120 credit points	OPTIONAL

[MODULE] 5103COMSCI Sandwich Year - Computer Forensics Approved 2022.01 - 120 credit points	
OR Study Semester - 120 credit points	OPTIONAL
[MODULE] 5113COMSCI Study Year Abroad - Computer Forensics Approved 2022.01 - 120 credit points	
Level 6 - 120 credit points	
Level 6 Core - 120 credit points	CORE
[MODULE] 6200COMP Project Approved 2022.01 - 40 credit points	
[MODULE] 6201COMP Computer Security Approved 2022.01 - 20 credit points	
[MODULE] 6202COMP Network Forensics Approved 2022.01 - 20 credit points	
[MODULE] 6203COMP Forensic Investigatory Practice Approved 2022.01 - 20 credit points	
[MODULE] 6204COMP Cloud and Mobile Forensics Approved 2022.01 - 20 credit points	

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

Teaching, Learning and Assessment

Acquisition of skills is through a combination of lectures, tutorials, practical sessions and laboratory work. Skills are also developed through independent learning. Throughout the learner is encouraged to undertake independent reading both to supplement and consolidate what is being taught / learnt and to broaden their individual knowledge and understanding of the subject. Knowledge and understanding is assessed via formal examination, individual and team coursework, demonstration of practical work, and a full-scale individual project at Level 6. Cognitive skills are partly assessed via formal examinations, but mainly through coursework assessment. The Level 6 project allows a student to demonstrate his/her cognitive skills. Practical skills are developed throughout the programme. The basic skills are provided at the lower levels. These are supplemented at higher levels by more advanced tools and techniques. Some of these skills are practised in the placement year. Specialist software is available in labs or from specified PCs in the libraries. Assessment is normally by coursework. The placement year is assessed, by portfolio, on a pass / fail basis. Key skills are developed throughout the programme in a variety of forms. Specifically through a combination of research related coursework, guided independent study and projects, examinations, group work and presentations. Key skills are assessed as part of coursework, projects, written examinations and presentations.

Opportunities for work related learning

Level 4: 4203COMP Professional Practice- this module provides students with an opportunity to consider their future role as a computing professional and develop a plan to enable them to progress in their chosen career. Level 5: 5200COMP Group Project – this module provides further insight into developing the role of the student becoming a computing professional. Students will be Level 5 : 5205COMP Digital Forensics - This module requires problem analysis and development of an application that simulates a work based problem. 5103COMSCI Sandwich Year Computer Forensics - The aim is to provide students with an extended period of work experience at an approved partner that will complement their programme of study at LJMU. This will give students the opportunity to develop professional skills relevant to their programme of study as well as the attitude and behaviours necessary for employment in a diverse and changing environment. Level 6: 6203COMP Forensic Investigatory Practice – This module requires problem analysis and presentation of results in a simulated court room.

Entry Requirements

Type	Description

BTECs	BTEC Extended Diploma To the value of 88 UCAS points. BTEC Diploma / 90 Credit Diploma / Subsidiary Diploma /Certificate To the value of 88 UCAS points when combined with other qualifications.
A levels	Applicants should have or expect to obtain a total of 88 UCAS points with a maximum of 20 points from AS level qualifications.
Other international requirements	Applicants offering other awards will be considered on an individual basis in line with the agreed entry criteria. All applicants should have achieved IELTS 6 or equivalent.
Alternative qualifications considered	Qualifications deemed equivalent to the above upon completion of appropriate assessment will be considered acceptable. Applicants should have five GCSE (or equivalent) passes of at least grade C including Mathematics and English (or IELTS 6.0).
International Baccalaureate	Applicants should have or expect to obtain a total of 88 UCAS points overall.

Extra Entry Requirements