UNIVERSITY OF LONDON

Programme Specification
2020–2021

Information Security

MSc
Postgraduate Diploma
Individual modules

Important document – please read

IMPORTANT NOTICE FOR 2020-2021 ACADEMIC YEAR

Alternative Assessments during the Coronavirus (COVID-19) Outbreak

In these unprecedented times, the University has and continues to respond quickly to the impact of COVID-19, which has resulted in changes to our assessment processes.

In line with our current General Regulations, the University may offer you alternative assessments where necessary. This includes holding online timed assessments in place of written examinations, which are usually held at examination centres. Please note that this statement replaces any published information relating to assessments or written examinations in any of our materials including the website. Previously published materials relating to examinations should therefore be read in conjunction with this statement.

The University of London continues to work towards supporting the academic progression of all its students. The University also continues to be mindful of the health and wellbeing of its students during this pandemic, whilst protecting the academic standards of its awards.

Table of Contents

Important information regarding the Programme Specification

About this document

Last revised 7 September 2020

The Programme Specification gives a broad outline of the structure and content of the programme, the entry level qualifications, as well as the learning outcomes students will achieve as they progress. Some of the information referred to in this programme specification is included in more detail on the University of London website. Where this is the case, links to the relevant webpage are included.

Where links to external organisations are provided, the University of London is not responsible for their content and does not recommend nor necessarily agree with opinions expressed and services provided at those sites.

If you have a query about any of the programme information provided, whether here or on the website, registered students should use the *ask a question* tab in the Student Portal; otherwise the *Contact Us* button on each webpage should be used.

Terminology

The following language is specific to the Information Security programme:

Module: Individual units of the programme are called modules. Each module is a self - contained, formally structured learning experience with a coherent and explicit set of learning outcomes and assessment criteria

Key revisions made

Programme specifications are revised annually. The quality committee of Royal Holloway, as part of its annual review of standards, confirms the programme structure and the educational aims and learning outcomes, and advises on any development in student support.

Where changes have been made which may impact on continuing students, these are listed below. For all new students, the programme and general information provided in this document is correct and accurate and will be applicable for the current year.

Significant changes made to the Programme Specification 2020–2021:

No significant changes have been made to the Information Security Programme Specification for 2020–2021.

Programme title and qualifications

Postgraduate Degrees of the University of London may be classified. The award certificate will indicate the level of the academic performance achieved by classifying the award. The classification of the degree will be based on the ratified marks from the completed assessments.

The classification system for this programme is as follows:

Distinction; Merit; Pass.

Specific rules for the classification of awards are given in the Programme Regulations, under Scheme of Award.

Programme title

Information Security

Qualifications

Master of Science in Information Security

Postgraduate Diploma in Information Security

Intermediate qualifications

The intermediate qualification for this programme is the Postgraduate Diploma in Information Security. Students may be awarded an intermediate qualification as they progress if they complete the requirements for that qualification. Upon successful completion, students will receive the intermediate qualification for which they are registered and may continue to a higher qualification. However, they may not request a lower qualification than that which they are registered on, unless as an exit qualification.

The specific rules are given in Sections 7 and 8 of the Programme Regulations.

Exit qualifications

The exit qualifications for this programme are:

- Postgraduate Diploma in Information Security

- Postgraduate Certificate in Information Security

Students cannot register for the Postgraduate Certificate in Information Security. This is granted as an exit qualification only.

Students who for academic or personal reasons are unable to complete the 180 or 120 credits required for the Masters or Postgraduate Diploma may exit with the successful completion of 120 or 60 credits and be awarded a Postgraduate Diploma or Postgraduate Certificate respectively. Exit qualifications are offered at the discretion of the Board of Examiners and once a student has accepted an exit qualification they will not be permitted to continue their study of the same award with the University of London.

Individual modules

There is also provision for individual modules of the programme to be studied and assessed on a stand-alone basis.

Qualification titles may be abbreviated as follows:

Master of Science – MSc

Postgraduate Diploma – PGDip

Postgraduate Certificate – PGCert

Level of the programme

The Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies (FHEQ) forms part of the UK Quality Code for Higher Education of the Quality Assurance Agency for Higher Education (QAA).

The awards are placed at the following Levels of the Framework for Higher Education Qualifications (FHEQ):

- MSc   Level 7
- PGDip   Level 7
- PGCert (exit qualification)   Level 7

Individual modules are offered at Level 7.

QAA subject benchmarks group(s)

See the QAA website for information about benchmarks.

The QAA has not produced a benchmark statement for Information Security at postgraduate level.

Awarding body

University of London

Registering body

University of London

www.london.ac.uk

Academic direction

Royal Holloway, University of London

Accreditation by professional or statutory body

The MSc Information Security is certified by NCSC[1].

Language of study and assessment

English

Mode of study

Study is by distance and flexible learning.

For an adjusted fee students may be permitted to study a limited number of modules on campus at Royal Holloway, University of London through mixed-mode study. Mixed-mode study enables students to study some modules by distance and flexible study and up to two modules on campus at Royal Holloway, University of London. Whilst on campus, students may study a module one day per week over a single term, or over a concentrated period of time (normally one week) in what is called block mode.

Programme structures

The MSc Information Security

The MSc Information Security consists of three elements:

- the Core element, comprising four mandatory modules, plus

- the Options element, comprising two modules chosen from a list of options, plus

- the Project.

A full list of the available modules is provided in the Programme Regulations.

The PGDip Information Security

The PGDip Information Security consists of two elements:

- the Core element, comprising four mandatory modules, plus

- the Options element, comprising two modules chosen from a list of options.

The list of available modules is the same as for the MSc with the exception of the Project.

Individual modules

All modules except for the Project are available to be studied on an individual basis. The modules which can be studied individually are the same as for the MSc.

> Full details of the Scheme of Award are included in the Programme Regulations.

---

[1] https://www.ncsc.gov.uk/information/ncsc-certified-degrees

Maximum and minimum periods of registration

The maximum and minimum period of registration, from a student's effective date of registration, are:

Award	Minimum	Maximum
MSc degree	Two years	Five years
Postgraduate Diploma	One year	Five years
Credit bearing individual modules	One year	Two years

The period of registration includes any interruption of studies taken by the student. Registration may be extended, subject to approval and on payment of applicable fees.

Study materials are made available after registration and on payment of the applicable fee.

Credit value of modules

Further information about the credit systems used by universities in the UK and Europe is provided by the Quality Assurance Agency and the European Credit Transfer and Accumulation System.

Where credits are assigned to each module of a programme, credit indicates the amount of learning carried out in terms of the notional number of study hours needed, and the specified Frameworks for Higher Education Qualifications of UK Degree-awarding Bodies (FHEQ) credit level indicates the depth, complexity and intellectual demand of learning involved. The UK credits and the European Credit Transfer and Accumulation System (ECTS) values for the Information Security programme are as follows:.

- Core and Options elements: 20 credits per module

- Project element (MSc only): 60 credits.

One UK credit equates to a notional ten hours of study.

Two UK credits equate to one ECTS credit.

Recognition of prior learning

Recognition of prior learning is a generic term for the process by which we recognise and, where appropriate, award credit for learning that has taken place at the University of London, or elsewhere, before entry onto a programme of study.

Where the prior learning covered a similar syllabus to a module/course on the University of London programme, credit will be awarded as if you took the University of London module/course.

See the General Regulations (Section 3) and Programme Regulations for more rules relating to prior learning.

Where prior learning is recognised, the decision to award credit (known as Accreditation of prior learning (APL)) shall be made by an academic appointed by the Programme Director.

Generally no more than 40 credits can be awarded for APL. Note that NCSC certification will generally not apply to a degree where APL has been granted.

Entrance requirements

Applicants must submit an application in line with the procedures and deadlines set out on the website.

Entrance requirements for a postgraduate qualification, or individual module, vary and applicants should confirm entrance requirements through the Entry requirements tab of the programme before submitting an application.

English language requirements

All applicants must satisfy the English language requirements for the programme. These are set out in detail under the Entry requirements tab.

Where an applicant does not meet the prescribed English language proficiency requirements but believes that they can demonstrate the requisite proficiency for admission the University may, at its discretion, consider the application.

Internet access and computer specification

Students will require regular access to a computer with a broadband internet connection to use the University of London's online resources and systems. A webcam may be required in the event that online timed assessments (if offered) are proctored, and in such a case it is a student's responsibility to ensure that they have a webcam.

The computer should have at least the following minimum specification:

- a web browser (the latest version of Firefox, Chrome or Internet Explorer). This must accept cookies and have JavaScript enabled;

- a broadband internet connection;

- screen resolution of 1024 x 768 or greater;

- sufficient bandwidth to download documents of at least 10 MB;

- a speaker or headphones.

And the following applications installed:

- a recent version of Microsoft Office or any compatible product such as Open Office;

- Flash Plug-in: Adobe Flash Player;

- RealOne Player (Basic) Player (Basic);

- Adobe, or other pdf reader;

- software for playing mp3 and mp4 files.

Students with access requirements

The University of London welcomes applications from disabled students and/or those who have access requirements. The University will make every effort to provide reasonable adjustments to enable those with a disability, learning difficulty or access requirements to have the same opportunity as all other students to successfully complete their studies.

The University is committed to managing the application procedure and the programme itself to ensure that services are accessible for all students and that an inclusive environment is created. Students with a disability, or others who may need access arrangements to assist in taking examinations, should complete the relevant section of the application form, or contact the Inclusive Practice Manager. A separate room or other arrangements may be considered.

Requests are considered by a University panel, whose purpose is to ensure that students with disabilities and/or specific access requirements are neither advantaged nor disadvantaged by such arrangements when compared with other students. These considerations remain separate from the academic selection processes.

For further information, see the Inclusive Practice Policy.

Sources of funding and scholarships

Information about potential sources of funding and scholarships can be found on the website.

Educational aims and learning outcomes of the programmes

The aims and learning outcomes for each module are given on the Student Portal and on the structure page of the website: www.london.ac.uk/infosec#structure.

The aims and learning outcomes for the programme are given below.

Educational aims

The main educational aim of this programme is to offer a challenging, flexible scheme of study invigorated by research and contact with industry, which advances students' ability to develop academic and practical insights into the subject of Information Security. It is intended that students will be encouraged to develop a broad range of transferable and technical expertise using their initiative and by thinking out problems themselves.

A student who passes the Core modules will have the essential introduction to a variety of methods, approaches and concepts in Information Security. Students will know how various organisations solve problems of security management, the major cryptographic mechanisms and how they can be applied and how computer systems and networks are made secure. The Options modules build on these foundations providing deeper knowledge and skills in particular contexts. Students will be introduced to a wide range of security techniques and they will be able to analyse the suitability of these techniques for particular roles.

MSc students will be able to apply the skills they have learnt to a particular problem and produce a persuasive dissertation.

The programmes aim to:

- encourage independent critical and evaluative skills, and intellectual curiosity for life-long learning;

- cultivate a capacity to think critically about how organisations manage security;

- expand knowledge and understanding of the main security issues, for example, in the development of electronic commerce activities and protection of critical infrastructure;

- promote analytical engagement with the technical, legal and commercial issues in Information Security;

- encourage students to relate the academic study of security to practical issues of public, commercial and national concern;

- facilitate self-development of students into professionally organised and interactive individuals by practising skills of selection, assimilation and communication;

- enable students to understand and apply the concepts, approaches and methods in Information Security to a particular problem and produce a well-structured, informative and insightful report (MSc students only).

Learning outcomes of the programmes

A student will be able to:

- demonstrate an understanding of the issues that need to be addressed when assessing the information security needs of an organisation;

- identify potential sources of vulnerability within an information system and the possible implications of failing to counter them with adequate security controls;

- choose appropriate countermeasures to information security threats and understand the likely implication of their adoption;

- assess the relevance and impact of new developments in information security threats, technologies and controls;

- recognise the many trade-offs and subjective issues that need to be addressed when implementing information security within an organisation;

- carry out a Project and produce a well-structured and well-written dissertation (MSc students only).

Intellectual and transferable skills

A student will be able to:

- use problem solving skills in a range of situations;

- use fluent and effective communication and discussion skills in a written context;

- have a capacity to handle ideas in rational, critical and evaluative ways;

- manage their own learning, including working effectively to deadlines;

- research a topic and assemble the principal ideas and arguments into a well-structured report (MSc students only).

These learning outcomes indicate what a typical student might reasonably be expected to achieve and demonstrate if they take full advantage of the learning opportunities provided. More detailed information on the specific learning outcomes, content and the learning and teaching and assessment methods of each module can be found on the course web pages.

Learning, teaching and assessment strategies

The programme is primarily taught using the Virtual Learning Environment (VLE). Subject guides are available online and can also be distributed on portable storage media on request. These introduce each topic in the form of lessons, activities and assignments. The subject guides include tools to assist students in the development of the skills of information search, comprehension and analysis and the generation of original and thoughtful assignments. Subject guides are supported by core textbooks with which students are supplied.

The VLE allows students to complete automated self-test exercises and submit assignments to be marked by tutors who will also provide feedback.

Students manage their own learning. Advice and practical information such as study techniques, planning and preparation for assessment is available in the Programme handbook.

Students may also communicate with each other via the VLE. Here students will be able to engage in dialogue, and develop and negotiate conclusions with others. This contributes to the acquisition of knowledge, understanding and transferable skills.

For each module, students will be assessed by an unseen written examination and, in some cases, also by coursework. Questions are structured to allow students to demonstrate that they have acquired appropriate knowledge and understanding. The way that students manage data, solve problems, evaluate ideas and the organisational skills they use to structure their written answers allows the standard of intellectual and transferable skills to be assessed.

MSc students will also submit a dissertation which will not only assess their knowledge but also their ability to plan, gather data, reason and analyse different viewpoints, and produce a well-structured report.

Assessment criteria for the programme take into account the level at which these skills have been achieved.

Assessment methods

Each module, with the exception of Introduction to Cryptography and Security Mechanisms, and the Project, is assessed by one two-hour unseen written examination. Introduction to Cryptography and Security Mechanisms is assessed by one two-hour unseen written examination (75%) and by submission of coursework (25%). The Project is assessed by one two-hour unseen written examination (20%) and by submission of a dissertation (80%). Examinations take place on one occasion each year, normally in May. These are held at established centres worldwide.

Individual modules

A student may choose whether or not to be formally assessed in the credit bearing-individual modules for which they are registered. Students who choose to be formally assessed will be examined in the same way as students studying for a qualification.

Full details of the dates of all examinations are available on the Portal.

Student support and guidance

The following summarises the support and guidance available to students:

- Student Portal: For accessing student induction, study skills support, careers and employability resources, student wellbeing advice.

- The Virtual Learning Environment (VLE): This gives access to materials (including lessons, activities and assignments) for each module studied.

- The VLE also includes a range of additional study resources such as:

    o Online student café and discussion areas which allow students to communicate with each other.

    o Past examination papers and Examiners' commentaries; these provide generic feedback from assessment.

- A Student Guide: This provides information which is common to all students and gives guidance on a range of matters from the start of a student's relationship with the University of London through to their graduation.

- Programme Handbook: This includes information about the learning resources, the procedures for assessment and examinations and advice on study skills.

- Programme Regulations.

- Tutor-led online seminars where students can share ideas with tutors and each other.

- Core textbooks.

- Access to support services via remote access to Royal Holloway facilities such as the Disability and Dyslexia Services (previously ESO) for students with additional learning needs to provide further advice where required.

- The Online Library: This provides a range of full-text, multidisciplinary databases where journal articles, book reviews and reports can be found.

- University of London library: Registered students may use the resources located within the Senate House library.

- A University of London email account and web area for personal information management.

Quality evaluation and enhancement

The University of London delivers the majority of its flexible and distance learning programmes through a collaboration between the University of London Worldwide and member institutions of the University of London. However some of the flexible and distance learning programmes draw solely on academic input from the University of London, and are delivered without academic lead by a member institution. The policies, partnerships (where applicable) and quality assurance mechanisms applicable for the programmes are defined in the following key documents: The Quality Framework, the Quality Assurance Schedules, Guidelines for Examinations, General Regulations and, for each programme, programme specific regulations.

Awards standards

All University of London qualifications have to align with the Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies to assure appropriate standards for each qualification. In addition, every programme that is developed by a member institution of the University of London (or a consortium with representation by more than one member institution) will be developed to the same standard as would be applied within the institution concerned. Proportionate and robust approval procedures, including external scrutiny and student engagement are in place for all programmes. Learning materials are written and all assessments are set and marked by academic staff who are required to apply the University's academic standards.

Review and evaluation mechanisms

Some of the key mechanisms in place to assure the standards of all University of London qualifications and the quality of the student experience, include:

- Annual programme reports: produced for all programmes in order to review and enhance the provision and to plan ahead;
- Independent external examiners: submit reports every year to confirm that a programme has been assessed properly and meets the appropriate academic standards;
- Annual student information statistics: prepared for all systematic reporting within the University of London;

Improvements are made as necessary to ensure that systems remain effective and rigorous.

Student feedback mechanisms

The principal channel for collecting feedback from students is the Student Experience Survey. Carried out every two years, this collects feedback from the student body on a range of topics relating to the student lifecycle. The results are analysed externally and then considered in a number of different ways, including by the programme team, principal committees and the senior leadership team. Details of any resulting actions taken are published on the VLE and the Student Portal.

Additionally, on completion of their programme of study students will be invited to take a survey that seeks to measure what they have gained from their studies.

There are also opportunities for students to get involved in governance. An undergraduate and postgraduate student member is appointed by the University to the majority of committees through an annual appointment round.

Some programmes also recruit student members at the programme level. Students are frequently invited to take part in quality review processes such as Periodic Programme Reviews, Programme approval, Thematic Reviews, MOOC review panels and ad hoc focus groups. Opportunities such as these are advertised through social media and on the website. More information can be found on the [website](#).

Students can also apply to join the Student Voice Group, which meets four times a year to consider initiatives for enhancing student experience. Notes from these meetings are published on the Student Portal.

After graduation

Further study

Successful completion of the programme can allow students to progress to a higher level award in the subject area.

Graduate employment routes

The programmes are designed to introduce the technical, legal and commercial aspects of Information Security. Graduates of these programmes will have a sound basis for a professional career as experts in information security, in both industry and commerce. Successful completion of the MSc may allow students to progress to postgraduate research in the degree field.

The Alumni Community

Upon finishing a course of study, graduates automatically become part of the University of London alumni community, a diverse global network of more than one million graduates in over 180 countries, providing lifelong links to the University and to each other.

Alumni are encouraged to keep in touch after they graduate and to become active members of the alumni community; in return they receive a number of benefits and services, including an extensive programme of events and engagement opportunities.

More information is available on the alumni [webpage.](#)

Follow the alumni community on social media: [Facebook](#), [Instagram](#), [LinkedIn](#)