

PROGRAMME SPECIFICATION – POSTGRADUATE PROGRAMMES

KEY FACTS

Programme name	Computer and Information Engineering
Award	MSc In Computer and Information Engineering (UK) MSc In Computer and Information Science (RUSSIA)
Awarding Institute	City University, London/ St Petersburg State Polytechnic University (SPSPU)
School	School of Engineering and Mathematical Sciences
Department or equivalent	School of Engineering and Mathematical Sciences
Programme code	PSMCIE
Type of study	Full Time
Total credits	225 (105 – City University London, 120 – SPSPU)
Total ECTS	112.5
Partners	St Petersburg State Polytechnic University (SPSPU), St Petersburg, Russia and Penza State University (PSU), Penza
Type of partnership	Dual Award

PROGRAMME SUMMARY

This is a joint, Full Time, dual-award master's programme developed by City University London, St Petersburg State Polytechnic University (SPSPU), St Petersburg, Russia and Penza State University (PSU), Penza, Russia under the BRIDGE (British Degrees in Russia) scheme. City University London secured funding under the prestigious BRIDGE scheme to develop this joint PG programme. Funded by BIS (formerly DIUS, UK) and managed by the British Council, the BRIDGE was a co-operation scheme under the Prime Minister's Initiative 1 (PMI 1) that aimed to promote lasting partnerships between HEIs in the UK and Russia.

Educational Aims

- To provide you with postgraduate education and training in the fields of advanced information engineering.
- To meet your needs of industry and the professional institutions with a greater in-depth knowledge of advanced information engineering, especially in knowledge engineering, digital processing, software engineering and design, intelligent computing and information systems.
- To provide enhanced experience in solving advanced information engineering and design problems.
- To allow you to be able to tackle complex scientific and technical issues and problems by applying knowledge and understanding (with a higher level of confidence) innovatively and proactively.
- To equip you to play leading roles in industry, professions and public service.

WHAT WILL I BE EXPECTED TO ACHIEVE?

On successful completion of this programme, you will be expected to be able to:

Knowledge and Understanding

- Demonstrate knowledge and understanding of the scope, impact and general areas of computer and information engineering.
- Understand the advanced techniques and methods of computer and information engineering.
- Understand the advanced techniques and methods of Knowledge engineering and knowledge management.
- Knowledge and understanding of advanced areas of neuroinformatics, intelligent computing and control systems, and cognitive and multiagent systems.
- Acquire fundamental concepts and advanced knowledge of computer and information security.
- Use advanced software techniques to tackle and analyse generic and specific problems of computer and information Science.

Skills

- Apply analytic and design knowledge gained in course modules to solve problems in computer and information engineering.
- Ability to apply analysis and design techniques, in appropriate areas to develop concepts and evaluate them through suitable hardware and/or software platforms.
- Ability to evaluate designs, processes and products, and make improvements and be creative in the solution of problems and in the development of designs.
- Formulate and test hypotheses in the field of computer and information engineering.
- Ability to analyse systems, processes and components requiring engineering solutions.
- Plan, conduct, report, and communicate scientific research in computer and information engineering.
- Solve complex engineering problems using advanced scientific software packages; create new processes or software products through synthesis of ideas from a wide range of sources.
- Synthesise information and data from a variety of sources in order to write scientific reports of a publishable standard.
- Develop and apply Research Skills and Techniques.
- Application of software from an elemental level for problem solving, analysis and design.
- Have a comprehensive understanding of common IT tools and the ability to use specialized tools for information processing, retrieval, intelligent computing, etc.
- Be conversant in information science and technology as fundamental to the fields of computer and information engineering.

Values and Attitudes

- Have awareness of the role and impact of computer and information engineering on modern society.
- Have awareness of possible ethical issues associated with some of the advanced and emerging areas of computer and information technology (e.g. neuroinformatics, intelligent computing, cryptography, etc.).
- Maintain a professional engineering attitude.

This programme has been developed in accordance with the QAA Subject Benchmark for generic masters level programmes.

HOW WILL I LEARN?

The teaching and learning strategy is based on lectures, tutorials, laboratory coursework and workshops. In addition to these, the core knowledge and understanding is acquired via supervised independent study, while more 'advanced' knowledge and understanding is obtained by the former as well as through independent study and specific group team work.

The research project aims to provide you with the opportunity to deal with problems in areas where new subject knowledge is required. This involves literature search, assessment of the relevance of previous work, the development of the research task and the presentation of research results.

Assessment of the programme modules comprises written examinations and laboratory coursework. Each individual module coursework is combined with the written module examination to provide an overall module mark.

The research project is assessed primarily through a dissertation/report but with contributions from a preliminary report, initial presentation, work carried out during the project period and oral examination.

The master's programme is structured into 10 core modules including an individual project and 3 elective modules one from each of the three groups of elective modules. The MSc award is based on 225 credits of which 105 credits come from taught core modules, 30 credits from taught elective modules, 30 credits from project based research work, plus 60 credits for the project (dissertation) which is considered as a core module.

You will undertake 9 modules (including 2 elective modules and 7 core modules) worth 120 credits in the first year (divided into 2 semesters) in St Petersburg and 4 modules worth 105 credits (including dissertation, 1 elective and 2 core modules) at City University London in the second year.

The 3 core modules offered at City University London are: Signals and Information Theory (15 credits), Digital Image Processing (15 credits), Individual Project (60 credits).

The 2 elective modules offered at City University London are: Cryptography and Coding

(15 credits), Digital Signal Processing (15 credits).

All modules offered at City University London are existing modules contained in the MSc in Telecommunications and Networks programme.

Mode of delivery	Full-time	Duration	2 years (first year at SPSPU and second year at City University London).
	1	Credit Value	225 credits (120 credits from SPSPU, 105 credits from City University London.

Structure of academic year	St Petersburg State Polytechnic University (SPSPU) – one full academic year comprising 2 semesters; semester 1 – 17 weeks, semester 2 – 18 weeks, each week – 54 hours.
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City University London – one academic year

WHAT TYPES OF ASSESSMENT AND FEEDBACK CAN I EXPECT?

Assessment and Assessment Criteria

Assessment of the programme modules comprises written examinations and laboratory coursework. Each individual module coursework is combined with the written module examination to provide an overall module mark.

The research project is assessed primarily through a dissertation but with contributions from an initial report, initial presentation, work carried out during the project period and oral examination.

Assessment Criteria are descriptions, based on the intended learning outcomes, of the skills, knowledge or attitudes that you need to demonstrate in order to complete an assessment successfully, providing a mechanism by which the quality of an assessment can be measured. Grade- Related Criteria are descriptions of the level of skills, knowledge or attributes that you need to demonstrate in order achieve a certain grade or mark in an assessment, providing a mechanism by which the quality of an assessment can be measured and placed within the overall set of marks. Assessment Criteria and Grade-Related Criteria will be made available to you to support you in completing assessments. These may be provided in programme handbooks, module specifications, on the virtual learning environment or attached to a specific assessment task.

Feedback on assessment

Feedback will be provided in line with our Assessment and Feedback Policy. In particular, you will normally be provided with feedback within three weeks of the submission deadline or assessment date. This would normally include a provisional grade or mark. For end of module examinations or an equivalent significant task (e.g. an end of module project), feedback will normally be provided within four weeks. The timescale for feedback on final year projects or dissertations may be longer. The full policy can be found at:

https://www.city.ac.uk/data/assets/pdf_file/0008/68921/assessment_and_feedback_policy.pdf

Assessment Regulations

In order to pass your Programme, you should complete successfully or be exempted from the relevant modules and assessments and will therefore acquire the required number of credits.

The Pass mark for each module is 50%.

If you fail an assessment component or a module, the following will apply:

1. Compensation: where you fail up to a total of 20 credits at first or resit attempt (15 for a Postgraduate Certificate), you may be allowed compensation if:
 - Compensation is permitted for the module involved (see the module specification), and
 - It can be demonstrated that you have satisfied all the Learning Outcomes of the modules in the Programme, and
 - A minimum overall mark of no more than 10 percentage points below the module pass mark has been achieved in the module to be compensated, and
 - An aggregate mark of 50% has been achieved overall.

If you receive a compensated pass in a module you shall be awarded the credit for that module. The original component marks shall be retained in the record of marks and the greater of the original module mark and the minimum pass mark for the module shall be used for the purpose of calculation towards the Award.

2. Resit: you will normally be offered one resit attempt. However, if you did not participate in the first assessment and have no extenuating circumstances, you may not be offered a resit.

If you are successful in the resit, you shall be awarded the credit for that module. The mark used for the purpose of calculation towards your Award shall be calculated from the original marks for the component(s) that you passed at first attempt and the minimum pass mark for the component(s) for which you took a resit.

If you do not satisfy your resit by the date specified you will not progress and the Assessment Board shall require that you withdraw from the Programme.

If you fail to meet the requirements for the Programme, but satisfy the requirements for a lower-level Award, then a lower qualification may be awarded as per the table below. If you fail to meet the requirements for the Programme and are not eligible for the award of a lower level qualification, the Assessment Board shall require that you withdraw from the Programme.

If you would like to know more about the way in which assessment works at City, please see the full version of the Assessment Regulations at:

http://www.city.ac.uk/data/assets/word_doc/0003/69249/s19.doc

WHAT AWARD CAN I GET?Master's Degree:

	HE Level	Credits	Weighting (%)	Class	% required
Dissertation (City University)	7	45	43	With Distinction	70
Taught (City University)	7	60	57	With Merit	60
				Without classification	50

WHAT WILL I STUDY AT CITY UNIVERSITY?

Module Title	SITS Code	Module Credits	Core/ Elective	Can be Compensated?	Level
Signals and Information Theory	EPM759	15	C	Y	7
Cryptography and Coding	EPM776	15	C	Y	7
Digital Signal Processing	EPM746	15	C	Y	7
Research Skills	EPM697	15	C	Y	7
Dissertation	EPM698	45	C	N	7

TO WHAT KIND OF CAREER MIGHT I GO ON?

Information and Communication Technology (ICT) is the major technology influencing all aspects of our life, health, entertainments and society. Electronic communications, including the Internet covering fundamental technologies, electronics, informatics, wireless communications, optical communications, mobile communications, satellite communications, communication protocols, networks, encryption, digital security, and cyber war, banking are fundamental disciplines spread in both established and emerging technological areas. Career opportunities can be found in all these fields. There are also opportunities for further studies by research leading to PhD after the MSc studies.

If you would like more information on the Careers support available at City, please go to: <http://www.city.ac.uk/careers/for-students-and-recent-graduates>.

WHAT STUDY ABROAD OPTIONS ARE AVAILABLE?

From time to time opportunities could arise for study abroad. Such opportunities are usually through Erasmus programmes and you would be encouraged to apply.

WHAT PLACEMENT OPPORTUNITIES ARE AVAILABLE?

The School Professional Liaison Unit provides support to prepare CVs, interviews and application for internships.

WILL I GET ANY PROFESSIONAL RECOGNITION?

Accrediting Body: The Institution of Engineering and Technology (IET), Institute of Measurement and Control (InstMC) (Accreditation to be sought)

Nature of Accreditation: Further learning for CEng

HOW DO I ENTER THE PROGRAMME?

Admissions and APL/APEL

The normal entry qualification needed will be a Russian Diploma or a Bachelor's degree in an appropriate discipline including engineering, mathematics, computer science, etc. Candidates of UK/EU degree holders will require a minimum 2.ii degree or equivalent in one of the above disciplines. A score of 6.5 or higher in IELTS or equivalent is required to demonstrate English proficiency.

To be eligible to come to City University London for the second year of studies on this MSc programme all students need to pass all modules required for their first year of studies in St Petersburg and acquire a total of 120 credits under Accreditation of Prior Learning (APL).

There is no provision for Accreditation of Prior Experiential Learning (APEL).

Russian students wishing to enter the programme apply to the Admissions Office of the Institute of International Educational Programmes (IMOP), SPSPU in June-July for the academic year commencing 1 September (all UG and PG programmes commence on 1 September at SPSPU). All applications are assessed jointly by the SPSPU and City Programme Directors who are also members of the international Programme Steering Committee (PSC). Following the completion of the first year of studies at SPSPU, after initial screening at SPSPU the final decision on applications to come to City University London for the second year of studies is made by the Programme Director at City.

All other students apply to City University London and follow the admissions procedure for postgraduate programmes. The above assessment process for applications also applies to these applicants. For non-native Russian speakers a minimum Russian language proficiency of 'Good' or equivalent is required.

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