



UNIVERSITY
OF LONDON

INTERNATIONAL
PROGRAMMES

Programme Regulations 2017–18

Computing and
Information Systems
Creative Computing
(Old Regulations)

BSc
Diploma

Important document – please read
This document contains important
information that governs your
registration, assessment and
programme of study



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Important information regarding the Programme Regulations

About this document

As a student registered with the University of London you are governed by the current General Regulations and Programme Regulations associated with your programme of study.

The Programme Regulations are designed and developed by Goldsmiths, University of London, who are responsible for the academic direction of the programme. Programme Regulations, together with the [Programme Handbook](#), will provide the detailed rules and guidance for your programme of study. Further information about how to use the Programme Regulations and Programme Handbook can be found in the [Student Guide](#).

In addition to Programme Regulations you will have to abide by the [General Regulations](#). These regulations apply to all students registered for a programme of study with the International Academy and provide the rules governing registration and assessment on all programmes; they also indicate what you may expect on completion of your programme of study and how you may pursue a complaint, should that be necessary.

Programme Regulations should be read in conjunction with the General Regulations.

Terminology

The following language is specific to the Computing programmes:

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

Throughout the Regulations, 'we' 'us' and 'our' mean the University of London; 'you' and 'your' mean the student, or where applicable, all students.

A [Glossary](#) provides an explanation of the terms used in this document.

If you have a query about any of the programme information provided please contact us. You should use the *Ask a question* tab in the student portal <https://my.londoninternational.ac.uk>.

Changes to Regulations 2017-18

Mathematics for Computing [CO1102] has been withdrawn. The last examination for will take place in 2018. After 2018, resits only. The final resit examination will be held in 2020. This course will be replaced by *Mathematical Tools for Problem Solving* [CO1156] in 2018-19 (subject to confirmation).

1 Structure of the programmes

Registrations for the BSc and Diploma in Computing and Information Systems (Old Regulations) and BSc and Diploma in Creative Computing (Old Regulations) have been discontinued. The last examinations under these Regulations will be held in 2019. New Regulations apply to all new students registering from 2014-15 onwards who have an effective date of registration of 30 November 2014 or later. Students can no longer register under the Old Regulations.

1.1

The BSc in Computing and Information Systems degree consists of 12 courses, as follows:

- Level 1 – four compulsory full courses
- Level 2 – four compulsory full courses
- Level 3 – six half courses chosen from a list of half course options plus a compulsory Project valued as one full course

The BSc in Creative Computing degree consists of 12 courses, as follows:

- Level 1 – four compulsory full courses
- Level 2 – four compulsory full courses
- Level 3 – three compulsory half courses and three further half courses chosen from a list of options plus a compulsory Project

The Diploma in Computing and Information Systems consists of five examined courses.

The Diploma in Creative Computing consists of five examined courses.

[Appendix A](#) and [Appendix B](#) give the full structure and content of the programme.

For how to progress through the degree, see [section 6](#).

1.2

In addition, Diploma students take a first year *Study Skills in English* course as prescribed by Goldsmiths. This is not examined by the University but you are required to follow the course (re-taking it if necessary) until the institution that you are attending considers that you have completed it to a satisfactory standard.

If you are retaking the coursework element of a course or retaking the Study Skills in English course, you must attend the institution.

The [Directory](#) of teaching institutions on the website lists recognised teaching institutions

Attendance requirements for Diploma students

1.3

You are required to attend a full or part-time course of instruction at an institution that is recognised to teach the programme, and comply with the institution's attendance requirements, except in the following circumstances:

- where we have used our discretion to waive the requirement in special cases, on grounds of illness or any other cause that has been judged adequate.

- when you are resitting a written examination.

Institutions are required to submit confirmation by 20 March each year that the attendance record (including the completion of coursework) of any student entering an examination has been satisfactory. We may refuse you permission to sit an examination if you have not satisfied these requirements.

Transfer from a FHEQ Level 4 or 5 award to the degree

No credit will be given for course CO0001 *Mathematics for Business* or for *Study Skills in English*.

The Diploma in Computing and Information Systems and the Diploma in Creative Computing are placed at Level 4 of the Framework for Higher Education Qualifications (FHEQ).

Find full details of transfers in [section 8](#).

1.4

If you have passed the *Study Skills in English* course and the CO0001 *Mathematics for Business* foundation level unit, plus three of the four Level 1 courses, you may progress to the relevant degree if you have attempted all of the courses that comprise the Diploma. By doing this, you give up the right to gain the Diploma, even if you pass the failed course at a later date.

Find full details in [section 8](#).

2 Registration

Effective date of registration

2.1

Your effective date of registration will be 30 November in the year that you initially registered. This allows you to sit your first examinations in the following May.

Period of registration

See the Programme Specification, Old Regulations (in the VLE) for the minimum and maximum periods of registration applicable to this programme.

2.2

If you transfer from the Diploma to the BSc, you will have the maximum period to complete the BSc counted from the effective date of registration for the Diploma. The last examination under the Old Regulations will be held in 2019.

See [Glossary](#) for the definition of 'effective date of registration'.

3 Recognition of prior learning and Credit transfer

To be read in conjunction with the [General Regulations](#), Section 3.

Recognition of prior learning (also referred to as Accreditation of prior learning)

3.1

If you satisfy the entrance requirements for BSc or Diploma in Computing and Information Systems or Creative Computing, you may apply for Recognition of prior learning mapped against courses to a total of four courses at Levels 1 and 2, of which not more than two may be at Level 2. There is no recognition of prior learning for courses at Level 3.

3.2

If you satisfy the entrance requirements for the Diploma in Computing and Information Systems or Diploma in Creative Computing and have gained a pass in a mathematical subject at GCE 'AS' level or an equivalent examination, you may apply for recognition of prior learning for CO0001 *Mathematics for business*. Prior learning will not be recognised or accredited for any other subject of the Diploma examination or for the first year course in *Study Skills in English*.

If you are awarded Recognition of Prior Learning for a specific course, you are considered to be exempt from that course. This means that you are considered to have completed the course for the purposes of progression within the programme. The specified subjects can be found in Appendix C.

4 Assessment for the programme

Assessment methods

See [Glossary](#) for the definition of 'examination' and 'written examination'.

4.1

If you have a choice of course, you may apply to change your choice of course at any stage in your studies until you enter the examination for the course concerned. Once the examination has been attempted, no change will be permitted. If you fail the examination for any course, you may **not** withdraw from that course and take an alternative or replacement course in its place.

4.2

The assessment for most courses of the BSc degrees and the Diplomas is by written examination and coursework. You must satisfy the examiners in both elements of the assessment.

4.3

In order to pass a course which has coursework, you must achieve an average mark of at least 30% for the coursework and a mark of at least 30% for examination and the overall weighted average for the course must be at least 35%. In order to pass in a course assessed by examination only, you must achieve a mark of 35% or over.

4.4

The weighting of unseen written examination and coursework is 80:20 for all courses (with the exception of the Project) that are assessed by written examination and coursework.

4.5

For a course assessed by a combination of written examination and coursework, when you enter an examination for the first time, you must attempt both the coursework and written examination in the same academic year. All assignments must be submitted in accordance with the instructions and deadlines.

4.6

The result given for a course where coursework is required will be a combination of the mark for the written examination and the mark for the coursework. The mark for the coursework is obtained by totalling the marks obtained for each piece of coursework received and dividing that figure by the number of assignments set for that course.

4.7

The assessment of the Project is by three elements: a preliminary written report, a final written report and a written examination. All three elements must be attempted in the same year.

See [section 5](#) for further information on the Project.

Date of examinations

4.8

Written examinations take place in **May** each year.

4.9

If the assessment for a course involves coursework, two pieces of coursework will be required. Coursework must be uploaded to the VLE by midnight GMT on the following dates:

For the Diplomas (with the exception of the coursework tests for CO0001 *Mathematics for Business*):

- **15 January** and **15 March**

For the BSc degrees:

- Levels 1 and 2 - **15 January** and **15 March**
- Level 3 - **15 February** and **8 April**.
- See below for CO3320 Project submission deadlines

You are responsible for uploading your coursework to the VLE (with the exception of the coursework tests for the Diploma course CO0001 *Mathematics for Business* which will be sent to us by your teaching institution by 15 January (first coursework) and 15 March (second coursework)). You must check the VLE for submission instructions.

4.10

You must submit at least one coursework assignment in order to sit the written examination. Submission of any assignment for a course will validate your entry for that course.

If you only submit one assignment, you will need to gain a sufficiently high mark to pass the coursework element overall. This is because the mark received for the one assignment submitted will be divided by two to reach an overall coursework mark (see regulation 4.6 above).

4.11

Coursework sent after the deadline normally receives a mark of zero but counts as an attempt.

See also [section 5](#).

The Project (BSc degrees only)

4.12

The preliminary report for the Project must be uploaded to the VLE by midnight GMT on **15 January**. The final report for the Project must be sent to us no later than **15 May**.

You must check the VLE for submission instructions for your preliminary project report and your final project report.

Sitting examinations

4.13

If you are registered for the Diploma in Computing and Information Systems or the Diploma in Creative Computing, you must also have completed, in the twelve months prior to the examination, the relevant course of instruction for the course concerned. Institutions are required to submit confirmation to us, by 20 March each year that the attendance record (including the completion of coursework) of any student entering an examination has been satisfactory. We may refuse permission to sit an examination if you have not satisfied these requirements.

4.14

If you are a Diploma student resitting a course which you have failed, you will normally be required to follow a further course of instruction for the relevant course unless you are resitting the written examination only and are not resubmitting the coursework component.

5 Number of attempts permitted at an examination

5.1

The maximum number of attempts permitted at any examination is **three**.

5.2

For a course assessed by a combination of written examination and coursework, if you do not submit at least one assignment, your examination entry for that year will not count even if you attend the written examination. You will not receive a mark for the course. The examination entry will not be considered an attempt and your next entry to the course will not be subject to a resit penalty.

5.3

For a course assessed by a combination of written examination and coursework, if you do not attend the written examination, you will not receive a mark for the course. Any coursework that you have submitted will not be counted. You will be required to do both the coursework and the written examination set for the year that you next enter this course. The examination entry will not be considered an attempt and your next entry to the course will not be subject to a resit penalty.

5.4

For a course assessed by written examination only, if you enter an examination hall to attempt an examination, you will be considered to have made an examination attempt. Absence from a written examination will not count as an attempt.

5.5

If you fail a course but achieve 35% or above in either examination or coursework you may be credited with the element you have passed. You will be required to resit the failed element in order to pass the course.

5.6

The mark awarded for a course which you resit and pass will be subject to a resit penalty. The mark awarded will be the arithmetic mean of the mark achieved and the pass mark of 35%.

5.7

If you are registered for the Diploma in Computing and Information Systems or the Diploma in Creative Computing and you fail an examination for any course on the third and final attempt, your registration for the Diploma will end unless the Examiners recommend otherwise in exceptional circumstances.

5.8

If you are registered for the BSc in Computing and Information Systems or the BSc in Creative Computing and you do not make a second or a third satisfactory attempt at a failed course, you may still be able to satisfy both the degree structure and the requirements for the award of the degree. In these circumstances the mark obtained on the last occasion the course was attempted will be carried forward and may be taken into account for classification purposes. If, however, you are **not** able to satisfy the requirements for the award, your registration for the degree will end.

The Project, relevant for the BSc in Computing and Information Systems and the BSc in Creative Computing

5.9

The assessment for the Project is by three elements: a preliminary written report, a final written report and an unseen written examination. You must obtain an overall weighted average mark of 35% or above for all the elements of assessment combined; pass the final project report and pass the written examination. The percentage value of the preliminary report is 10%, the final report is 65% and the written examination is 25%. If you fail the Project and are eligible to make a further attempt, you will be required to submit a new preliminary report, a new final report and to resit the written examination the following academic year.

5.10

If you fail the preliminary written report, you may choose to continue with course CO3320 Project or decide to defer.

5.11

If you satisfy the Examiners in the preliminary report and the written examination and your final written report is otherwise satisfactory but requires minor amendments, you may be required to make corrections to the final written report, as specified and within a period prescribed by the Examiners. The submission of the corrected report will not count as an additional attempt at the Project.

5.12

If the corrected report is considered satisfactory, and you meet the requirement for the award given in [Appendix D](#), you will be classified.

5.13

If the corrected report is considered unsatisfactory, or if you do not submit a corrected report within the time period specified, you will be considered to have failed the Project. This will count as an

attempt and, unless you have exhausted the maximum number of attempts permitted, you will be entitled to make a further attempt at the Project.

5.14

If you have failed the Project and are entitled to make a further attempt, you must make the further attempt in the following academic year.

Reuse of assessed work

5.15

You may reuse work when developing your ideas for linked pieces of coursework, or when resubmitting coursework, or when you expand the work you have submitted in your preliminary project report for your final project report for CO3320 Project. Any repetition of work previously submitted must be referenced in accordance with the General Regulations and Study Support Section on the VLE including “How to avoid plagiarism” and “Harvard Referencing Guide”.

5.16

If you fail one or more elements of CO3320 Project, you may resubmit work included in your previously submitted preliminary or final reports.

6 Progression within the programme

See [section 4](#) for method of assessment.

BSc in Computing and Information Systems and the BSc in Creative Computing

6.1

You do not have to be examined every year. In any year in which you choose to enter an examination, you may attempt:

- ‘new’ courses only (i.e. courses which have not previously been taken), in which case examinations to a minimum value of **one** new half-course and a maximum value of **four** new full courses may be attempted, **or**
- ‘resits’ only (i.e. courses failed at a previous examination), in which case any number of courses may be attempted, **or**
- a combination of new courses and resits, in which case examinations to a maximum value of **four** new full courses may be attempted in addition to any number of resits.

6.2

In order to progress to Level 2, you must:

- have previously attempted the examination of all Level 1 courses (from which you have not been granted recognition of prior learning) **or**
- have entered the examination for any Level 1 courses not previously attempted (or from which you have not been granted recognition of prior learning), together with your first Level 2 entry **and**
- must have passed, or have been given recognition or prior learning for, a minimum of two courses at Level 1.

6.3

You may not normally attempt a course at Level 3 before passing or gaining recognition of prior learning for a minimum of **six** courses at Levels 1 and 2 combined.

6.4

You may not attempt the **Project** at Level 3 before passing or gaining recognition of prior learning for a minimum of **three** courses at Level 2.

Diploma in Computing and Information Systems and the Diploma in Creative Computing

6.5

You are not required to enter examinations every year nor to enter on the date you indicate at the time of registration.

6.6

In the first year of study, you must take the **Study Skills in English** course.

6.7

At your first entry to an examination, you may attempt a maximum of **two** courses which must include *Mathematics for Business*, unless recognition of prior learning has been granted, and may include *Introduction to Java* **or** *Introduction to computing and the internet*. If you have been granted recognition of prior learning for *Mathematics for Business*, you may attempt *Mathematics for Computing* and either *Introduction to Java* or *Introduction to computing and the internet* at your first entry.

6.8

You must have passed, or received recognition of prior learning for *Mathematics for Business* before attempting *Mathematics for Computing*.

6.9

In any year subsequent to your first examination entry, you may take up to three new courses in the order that you choose. You may also re-enter for any courses that you have failed or, alternatively, choose to take resit examinations only.

6.10

If you have been granted recognition of prior learning for *Mathematics for Business*, you must attempt the examination for at least one of the remaining courses within two years of accreditation of prior learning.

7 Schemes of award

See [Appendix D](#) for full details on the scheme of award.

See [Appendix E](#) for information on how to achieve a particular mark.

7.1

BSc in Computing and Information Systems or the BSc in Creative Computing

Courses are marked according to the following scale:

Mark range	Class equivalent
70 and over	First Class Honours
60–69	Second Class Honours (Upper Division)
50–59	Second Class Honours (Lower Division)
40–49	Third Class Honours
35–39	Pass
0–34	Fail

Diploma in Computing and Information Systems and the Diploma in Creative Computing

Courses are marked according to the following scale:

Mark range	Class equivalent
70 and over	Distinction
60–69	Merit
50–59	Credit
35–49	Pass
0-34	Fail

8 Transfer of registration

Transfer from the BSc in Computing and Information Systems or the BSc in Creative Computing (Old Regulations) to the BSc in Computing and Information Systems or the BSc in Creative Computing (New Regulations)

The following rules apply to students who are registered for the BSc or Diploma in Computing and Information Systems (Old Regulations) or the BSc or Diploma in Creative Computing (Old Regulations)

8.1

Transfer from the BSc in Computing and Information Systems or the BSc in Creative Computing (Old Regulations) to the BSc in Computing and Information Systems or the BSc in Creative Computing (New Regulations) is at our discretion and each case will be considered on its own merits.

8.2

If you are registered for the BSc or Diploma in Computing and Information Systems or the BSc or Diploma in Creative Computing under the Old Regulations and have not yet attempted any examinations, you may transfer your registration to the equivalent award or programme under the New Regulations. You will not be issued with a new period of registration on transfer.

8.3

If you are registered under the Old Regulations and have passed all examinations with a mark of 40% or above, you may transfer your registration to the BSc or Diploma in Computing and Information Systems or the BSc or Diploma in Creative Computing (New Regulations). You will not be issued with a new period of registration on transfer. If you are permitted to transfer in these circumstances, you must carry any failed attempts.

8.4

If you are registered under the Old Regulations and have passed one or more courses with a mark of 35-39%, you may transfer to the BSc or Diploma in Computing and Information Systems or the BSc or Diploma in Creative Computing (New Regulations). However, courses for which a mark of 35-39% has been achieved are considered to have been failed under the New Regulations and will need to be retaken.

8.5

If you are registered for the BSc or Diploma in Computing and Information Systems or the BSc or Diploma in Creative Computing under the Old Regulations and have either failed all your examinations or failed some and passed the remainder with a mark of 40% or above, you may transfer your registration to the equivalent award or programme under the New Regulations. You will not be issued with a new period of registration on transfer. If you transfer in these circumstances, you must carry forward any fails and the remaining attempts for the courses concerned.

8.6

If you have been awarded a Level 4 Diploma (Old Regulations) and apply to transfer your registration to the related degree, you will be automatically transferred to the BSc in Computing and Information Systems or the BSc in Creative Computing (New Regulations) providing your mark for each of the examined Level 4 courses is 40% or above.

8.7

If you are registered under the Old Regulations, have not completed your studies and your period of registration is due to expire after the final examinations governed by these regulations in 2019, either your registration will automatically be transferred to an equivalent award or programme (if available) under the New Regulations, or you will be offered an intermediate award (if applicable).

Transfer between the BSc in Computing and Information Systems (Old Regulations) and BSc in Creative Computing (Old Regulations)

8.8

You may apply to transfer your registration to the other degree at any point prior to the final award of the degree.

8.9

Marks achieved in courses that are common to both degrees will be carried over, with the exception of the Project. Common courses which have been passed will be credited to you. If you have failed a course at the first or second attempt, you will carry over the number of remaining attempts for that course.

8.10

Marks for courses which are **not** common to both degrees will not be carried over on transfer.

8.11

You must, on transfer, take **any** new courses required of the new degree which have not previously been completed.

Transfer between the Diploma in Computing and Information Systems (Old Regulations) and Diploma in Creative Computing (Old Regulations)

8.12

If you are registered for the Diploma in Computing and Information Systems or the Diploma in Creative Computing, you may apply to transfer your registration to the other Diploma.

8.13

You may only transfer subject to the agreement of an institution which is recognised to teach the new programme that you wish to study.

8.14

You may apply to transfer your registration to the other Diploma at any point prior to the final award of the Diploma.

8.15

Any common courses will be credited to you and the mark achieved carried over. If you have failed a course at the first or second attempt, you will carry over the number of remaining attempts for that course.

8.16

Marks for courses which are **not** common to both Diplomas will not be carried over on transfer.

8.17

You must, on transfer, take **any** new courses required for the new Diploma which have not previously been completed.

Transfer from the Diploma in Computing and Information Systems or the Diploma in Creative Computing to the related degree

8.18

You may transfer from the Diploma to the related degree by transferring your registration.

Further details are in [section 6](#) regarding transferring from the Diploma to the BSc.

Transferring your registration to programmes at Level 4, 5 or 6 of the FHEQ

See [Glossary](#) for definition of FHEQ.

The Diploma in Computing and Information Systems and the Diploma in Creative Computing are placed at Level 4 of the FHEQ.

8.19

If you are registered for the BSc in Computing and Information Systems or the BSc in Creative Computing and you have passed the respective four Level 1 courses, you may not transfer your registration to the Diploma and be awarded that qualification.

Appendix A – Programme Structures

Programme structure – BSc in Computing and Information Systems

The **BSc in Computing and Information Systems** degree consists of 12 courses:

Level 1 - four compulsory foundation courses:

- Mathematics for computing [CO1102] ♦
- Information systems: foundations of e-business [CO1108]
- Introduction to computing and the internet [CO1110]
- Introduction to Java and object-oriented programming [CO1109]

And

Level 2 - a total of four compulsory full courses:

- Data communications and enterprise networking [CO2222]
- Graphical object-oriented and internet programming in Java [CO2220]
- Database systems [CO2209]
- Software engineering, algorithm design and analysis [CO2226]

And

Level 3 - a total of six half courses chosen from a list of half course options

- Artificial intelligence [CO3310]
- Neural networks [CO3311]

Information systems management [CO3318]

Electronic commerce [CO3323]

- Data compression [CO3325]
- Computer security [CO3326]
- Interaction design [CO3348]
- Operations research and combinatorial optimisation [CO3352] ✕ †
- Software engineering project management [CO3353] ✕
- Introduction to natural language processing [CO3354]
- Advanced graphics and animation [CO3355]

Plus

A compulsory Project (valued as one full course):

- Project [CO3320] (full course)

Notes:

- The examination codes are appended to the course titles and these codes should be used when completing examination entry forms.
- Students taking courses only available as resits should refer to previous editions of the Regulations for details of those courses.
- ◆ The last examination for *Mathematics for Computing* [CO1102] will take place in 2018. After 2018, resits only. The final resit examination will be held in 2019.
- × Students attempting course *Operations research and combinatorial optimisation* [CO3352] and/or *Software engineering project management* [CO3353] are expected to have passed course *Software engineering, algorithm design and analysis* [CO2226].
- † The last examination for *Operations research and combinatorial optimisation* [CO3352] took place in 2016. After 2016, resits only. The final resit examination will be held in 2018.

Programme structure – BSc in Creative Computing

The **BSc in Creative Computing** degree consists of 12 courses:

Level 1 - four compulsory full courses:

- Mathematics for computing [CO1102] ◆
- Introduction to Java and object-oriented programming [CO1109]
- Introduction to computing and the internet [CO1110]
- Creative computing I: image, sound and motion [CO1112]

And

Level 2 - four compulsory full courses

- Database systems [CO2209]
- Graphical object-oriented and internet programming in Java [CO2220]
- Software engineering, algorithm design and analysis [CO2226]
- Creative computing II: interactive multimedia [CO2227]

And

Level 3 - three compulsory half courses:

- Interaction design [CO3348]
- Sound and music [CO3346]
- Advanced graphics and animation (CO3355)

Plus

three half courses chosen from the following:

- Artificial intelligence [CO3310]
- Neural networks [CO3311]

- Information systems management [CO3318]
- Electronic commerce [CO3323]
- Data compression [CO3325]
- Computer security [CO3326]
- Operations research and combinatorial optimisation [CO3352] × †
- Software engineering project management [CO3353] ×
- Introduction to natural language processing [CO3354]

Plus

A compulsory Project (valued as one full course):

- Project [CO3320]

Notes:

- The examination codes are appended to the course titles and these codes should be used when completing examination entry forms.
- Students taking courses available as resits only should refer to previous editions of the Regulations for details of those courses.
- ◆ The last examination for *Mathematics for Computing* [CO1102] will take place in 2018. After 2018, resits only. The final resit examination will be held in 2020.
- × Students attempting course *Operations research and combinatorial optimisation* [CO3352] and/or *Software engineering project management* [CO3353] are expected to have passed course *Software engineering, algorithm design and analysis* [CO2226].
- † The last examination for *Operations research and combinatorial optimisation* [CO3352] took place in 2016. After 2016, resits only. The final resit examination will be held in 2018.

Programme structure – Diploma in Computing and Information Systems

The Diploma in Computing and Information Systems consists of five compulsory courses, as follows:

- Mathematics for business [CO0001]
- Mathematics for computing [CO1102] ◆
- Information systems: foundations of e-business [CO1108]
- Introduction to computing and the internet [CO1110]
- Introduction to Java and object-oriented programming [CO1109]

Students must also pass the *Study Skills in English* course

Notes:

- The examination codes are appended to the course titles and these codes should be used when completing examination entry forms.
- ◆ The last examination for *Mathematics for Computing* [CO1102] will take place in 2018. After 2018, resits only. The final resit examination will be held in 2019.

Programme structure – Diploma in Creative Computing

The Diploma in Creative Computing consists of five compulsory courses, as follows:

- Mathematics for business [CO0001]
- Mathematics for computing [CO1102] ♦
- Introduction to Java and object-oriented programming [CO1109]
- Introduction to computing and the internet [CO1110]
- Creative computing I: image, sound and motion [CO1112]

Students must also pass the *Study Skills in English* course

Notes:

- The examination codes are appended to the course titles and these codes should be used when completing examination entry forms.
- ♦ The last examination for *Mathematics for Computing* [CO1102] will take place in 2018. After 2018, resits only. The final resit examination will be held in 2019.

Appendix B – Course outlines

You should note that the course code is given next to the course title in Appendix A and Appendix B of the Programme Specification and Detailed Regulations and these numbers should be used when completing your examination entry.

The course outlines for those courses which are now available only to re-entry students have been omitted from this Schedule. Students permitted to take these courses should refer to previous editions of the Regulations for details of the course outlines.

BSc in Computing and Information Systems and/or the BSc in Creative Computing – Level 1

Mathematics for computing [CO1102]

(full course)

Number systems; sets and subsets; set algebra; symbolic logic and logic gates; sequences; summations; elementary counting principles; probability; relations and functions; matrix algebra; systems of linear equations; introduction to the theory of graphs and digraphs.

Assessment: One three-hour unseen written examination.

Information systems: foundations of e-business [CO1108]

(full course)

For students registered for the BSc in CIS only

(This course cannot be taken with withdrawn courses CO1105 or CO1103)

The challenge of applying IT successfully; basic concepts for understanding systems commerce; business processes; information and databases; communication, decision making, and different types of information systems; product, customer and competitive advantage; human and ethical issues; computer hardware; software, programming and artificial intelligence; networks and telecommunications; information systems planning; building and maintaining information systems; information system security and control; the future of information systems; customer relationship management.

Assessment: One three-hour unseen written examination and coursework.

Introduction to Java and object-oriented programming [CO1109]

(full course)

(This course cannot be taken with withdrawn courses CO1107 or CO2211)

Basic Types and Expressions; Assignment Statements; Loops and Conditionals (Simple and Nested); Handling Simple I/O; Objects and Classes; Methods with and without parameters; Inheritance; Constructor Methods (and the use of 'new'); Method Overloading; Method Overriding; Arrays and simple sorting; Basic File Handling; Try and Catch (Simple Exception Handling); Implementing Simple Graphical User Interfaces; Incorporating Applets in a Web page; Simple built-in Dynamic Structures - Vectors; Types vs. Classes; Scope of Variables; Code Layout and Documentation.

Assessment: One three-hour unseen written examination and coursework.

Introduction to computing and the internet [CO1110]

(full course)

(This course cannot be taken with withdrawn course CO1106)

Basic computing and communication skills. Fundamentals of computing - hardware, software, architecture, operating systems. Data storage, representation and transmission. Fundamentals of networking and the Internet/WWW: technology, protocols, standards and applications. Professional, legal and social issues relating to the Internet and WWW.

Assessment: One three-hour unseen written examination and coursework.

Creative computing I: image, sound and motion [CO1112]

(full course)

For students registered for the BSc in Creative Computing only

The Bauhaus; History of mathematics and computing in creativity; Multimedia; Point, Line, Plane; Trigonometry 1; Animation 1; Bits and Pixels; Motion 2; Perspective, Projections and Affine Transformations; Open GL; Genetic programming; Simulation; Filters and Special Effects.

Assessment: One three-hour unseen written examination and coursework

BSc in Computing and Information Systems and/or the BSc in Creative Computing – Level 2

Database systems [CO2209]

(full course)

(This course cannot be taken with withdrawn course CO2205)

Introduction to Database Systems (motivation for database systems, storage systems, architecture, facilities, applications). Database modelling (basic concepts, E-R modelling, Schema deviation). The relational model and algebra, SQL (definitions, manipulations, access centre, embedding). Physical design (estimation of workload and access time, logical I/Os, distribution). Modern database systems (extended relational, object-oriented). Advanced database systems (active, deductive, parallel, distributed, federated). DB functionality and services (files, structures and access methods, transactions and concurrency control, reliability, query processing).

Assessment: One three-hour unseen written examination and coursework.

Graphical object-oriented and internet programming in Java [CO2220]

(full course)

(This course cannot be taken with withdrawn courses CO2211 or CO2212)

The course aims to give students an insight into the object-oriented approach to the design and implementation of software systems. The course also considers specific features of the programming language Java, in particular, graphical interfaces and event driven applications. The second part of the course is intended to give students the necessary background to understand the technical software aspects of how computers communicate across the internet. Students will be introduced to the underlying principles of client-server computing systems and will gain the required conceptual understanding, knowledge and skills to enable them to produce simple web-based computing systems in Java.

Assessment: One three-hour unseen written examination and coursework.

Data communications and enterprise networking [CO2222]

(full course)

For students registered for the BSc in CIS only.

(This course cannot be taken with withdrawn course CO2208)

An introduction to data communications and computer networks with different types of networks, their associated technology, protocols and standards. An introduction to the use of enterprise networks in meeting business requirements and in the design and management of these networks.

Assessment: One three-hour unseen written examination and coursework.

Software engineering, algorithm design and analysis [CO2226]

(full course)

(This course cannot be taken with withdrawn courses CO2210 or CO2207)

This course provides an introduction to software engineering, algorithm design and analysis. The main topics include: Software design in UML: use cases, class modelling, objects and links, aggregations and dependencies, activity diagrams, state-charts; Principles of good software design, software development lifecycle, the role of design and modelling in software development; Software verification and validation; Project management and planning; Case studies and software horror stories. Abstract data types, design patterns, algorithmic issues, complexity theory, the application and implementation of common data structures in Java.

Assessment: One three-hour unseen written examination and coursework.

Creative computing II: interactive multimedia [CO2227]

(full course)

For students registered for the BSc in Creative Computing only.

Signals and systems; perception; audio and image signal processing (including convolution, filters, the Fast Fourier Transform); image techniques (such as texture mapping, transparency. Blending); advanced computer graphics for scene description and rendering; animation (techniques and concepts); user interface issues (such as advanced mouse control, keyboard control, text input/text output); creative development; visual literacy; multimedia manipulation; action scripting.

Assessment: One three-hour unseen written examination and coursework.

BSc in Computing and Information Systems and/or the BSc in Creative Computing – Level 3

Artificial intelligence [CO3310]

(half course)

Knowledge representation, propositional and predicate calculus; problem solving: state-space search; breadth-first and depth-first search; planning; natural language; expert systems; philosophy of AI.

Assessment: One 2 ¼-hour unseen written examination and coursework.

Neural networks [CO3311]

(half course)

The artificial neuron; network architecture; perceptrons. Single layer networks; supervised training in batch and individual mode. Multilayer feedforward networks; backpropagation; momentum. Counterpropagation networks; unsupervised training; initialisation of weights. Statistical methods; Boltzmann training. Feedback networks; Hopfield nets; energy; training. Applications.

Additional software requirements: recommended that some neural nets software is obtained (eg MATLAB).

Assessment: One 2 ¼-hour unseen written examination and coursework.

Information systems management [CO3318]

(half course)

An introduction to the various facets of Information System Management to help students understand the importance of non-technical issues. The importance of close integration between business and IS planning will be stressed. The following topics are included: information security and safety critical systems; data protection legislation; Computer Misuse Act and other relevant legislation. Ethical and professional issues. Strategic planning of IS; evaluation of IS investments.

Assessment: One 2 ¼-hour unseen written examination and coursework.

Project [CO3320]

(full course)

Each student registered on or after 1 September 2003 is required to undertake an individual project. Project work can be expected to take up at least 300 hours of a student's time.

Additional software requirements: Internet access is required to widen the scope of information sources. This will also aid in obtaining some free- and share-ware.

Assessment: One preliminary report, one final report and one 2 ¼-hour unseen written examination.

Electronic commerce [CO3323]

(half course)

This course is designed to familiarise students with current and emerging electronic commerce, technologies using the internet. Subject areas will include 'Internet Technology for Business Advantage', 'Web-based Tools for Electronic Commerce', 'Electronic Payment Systems', 'Strategies for Marketing', 'Sales and Promotion', 'Internet Security', 'International, Legal, Ethical and Tax Issues'.

Assessment: One 2 ¼-hour unseen written examination and coursework.

Data compression [CO3325]

(half course)

Minimum redundancy coding; data compression and information theory; adaptive Huffman coding; arithmetic coding; statistical modelling; dictionary-based compression; sliding window compression; LZ278 compression; speech compression; graphics compression; fractal image compression.

Assessment: One 2 ¼-hour unseen written examination and coursework.

Computer security [CO3326]

(half course)

Passwords; access controls; symmetric and asymmetric encryption; confidentiality; authentication; integrity; nonrepudiation; availability; hash functions. Security for electronic mail, IP, Web, databases, distributed systems. Standards.

Assessment: One 2 ¼-hour unseen written examination and coursework.

Sound and music [CO3346]

(half course)

For students registered for the BSc in Creative Computing only

Sound synthesis and manipulation; computer systems and models in music; multimedia and music information retrieval; computer music creativity (machine-led, human-led and machine/human interaction).

Assessment: One 2 ¼-hour unseen written examination and coursework.

Interaction design [CO3348]

(half course)

(This course cannot be taken with withdrawn course CO3315)

This course examines the notion of 'interaction with technology' with a focus on the design concepts of modern user experience design and production. It begins with a grounding in the specification, design, prototyping and evaluation of advanced interactive systems, with an introduction to HCI and a short history of the field. An overview of design approaches follows. Human/user attributes and requirements, and interaction paradigms, looks at the human in HCI and available types of interaction.

Usability requirements/usability engineering are discussed in the context of a number of specific design approaches and techniques, requirements and issues. Design guidelines and standards, accessibility requirements, and issues involved in designing for specific populations (globalization and internationalism) follows. Finally, information on current interaction design questions and approaches for new and emerging technologies and paradigms provides an exposition of real-world applications and sectors where Interaction Design is relevant.

Assessment: One 2 ¼-hour unseen written examination and coursework.

Software engineering project management [CO3353]

(half course)

(This course cannot be taken with course CO3314. Pre-requisite: Software engineering, algorithm design and analysis CO2226)

The course examines software process and engineering concepts such as the software lifecycle, object oriented programming, design for re-use and user-centred design, together with contemporary approaches such as Agile methods of software and project management (for which a grounding in traditional development methodologies is necessary). It focuses on selection of tools and methodologies for specific purposes, and explores a variety of contexts, ranging from embedded systems, to the inherently parallel distributed environments of cloud computing to the multidisciplinary design of advanced interactive and web-based technologies.

Assessment: One 2 ¼-hour unseen written examination and coursework.

Introduction to natural language processing [CO3354]

(half course)

This course combines a critical introduction to key topics in theoretical linguistics with hands-on practical experience of developing applications to process texts and access linguistic resources. The main topics covered are accessing text corpora and lexical resources; processing raw text; categorizing and tagging; extracting information from text; analyzing sentence structure.

Assessment: One 2 ¼-hour unseen written examination and coursework.

Advanced graphics and animation [CO3355]

(half course)

(This course cannot be taken with course CO3343)

This course covers major contemporary graphics and animation techniques. Students are given the mathematical foundations of the subject as well as other theoretical foundations such as perceptual theories. These theoretical aspects are taught in the context of their practical use. Students are introduced to some industry standard graphics software tools so that they are familiar with how they work, but the main focus is on programming the graphical software. The material covered in the course is chosen to reflect the research carried out at Goldsmiths, University of London. The course covers advanced 2D and particularly 3D techniques, including a range of topics such as 3D modelling and texturing; rendering; lighting; animation; hardware acceleration in graphics; applications areas such as recreating historical environments. Students are expected to implement basic graphics software.

Assessment: One 2 ¼-hour unseen written examination and coursework.

Diploma in Computing and Information Systems and/or the Diploma in Creative Computing

The examination codes are appended to the course titles and these codes should be used when completing examination entry forms.

The course outlines for those courses which are now available only to re-entry students have been omitted from this Schedule. Students permitted to take these courses should refer to previous editions of the Regulations for details of the course outlines.

All Diploma students are expected to pass the *Study Skills in English* course which is assessed by their institution.

Mathematics for business [CO0001]

Linear and quadratic equations and graphs. Functions and their applications in business and economics. Systems of linear equations: their graphical and algebraic solutions; supply and demand analysis. Matrix algebra; solving a system of linear equations using matrix methods. Linear programming using graphs. Differential calculus: use of derivative for optimising economic functions. Exponential and logarithmic functions. Integral calculus and economic applications.

Assessment: One three-hour unseen written examination and coursework.

Mathematics for computing [CO1102]

(Students must have passed or have been awarded recognition of prior learning for CO0001 before they can take this course)

Number systems; sets and subsets; set algebra; symbolic logic and logic gates; sequences; summations; elementary counting principles; probability; relations and functions; matrix algebra; systems of linear equations; introduction to the theory of graphs and digraphs.

Assessment: One three-hour unseen written examination.

Information systems: Foundations of e-business [CO1108]

For students registered for the Diploma in Computing and Information Systems only

(This course cannot be taken with withdrawn courses CO1105 or CO1103)

The challenge of applying IT successfully; basic concepts for understanding systems commerce; business processes; information and databases; communication, decision making, and different types of information systems; product, customer and competitive advantage; human and ethical issues; computer hardware; software, programming and artificial intelligence; networks and telecommunications; information systems planning; building and maintaining information systems; information system security and control; the future of information systems; customer relationship management.

Assessment: One three-hour unseen written examination and coursework.

Introduction to Java and object-oriented programming [CO1109]

(This course cannot be taken with withdrawn courses CO1101 or CO1104 or CO1107)

Basic types and expressions; assignment statements; loops and conditionals (simple and nested); handling simple I/O; objects and classes; methods with and without parameters; inheritance; constructor methods (and the use of 'new'); method overloading; method overriding; arrays and simple sorting; basic file handling; try and catch (simple exception handling); implementing simple graphical user interfaces; incorporating applets in a web page; simple built-in dynamic structures - vectors; types vs. classes; scope of variables; code layout and documentation.

Assessment: One three-hour unseen written examination and coursework.

Introduction to computing and the Internet [CO1110]

(This course cannot be taken with withdrawn course CO1106)

Basic computing and communication skills. Fundamentals of computing - hardware, software, architecture, operating systems. Data storage, representation and transmission. Fundamentals of networking and the Internet/WWW: technology, protocols, standards and applications. Professional, legal and social issues relating to the Internet and WWW.

Assessment: One three-hour unseen written examination and coursework.

Creative computing I: image, sound and motion [CO1112]

For students registered for the Diploma in Creative Computing only

The Bauhaus; History of mathematics and computing in creativity; Multimedia; Point, Line, Plane; Trigonometry 1; Animation 1; Bits and Pixels; Motion 2; Perspective, Projections and Affine Transformations; Open GL; Genetic programming; Simulation; Filters and Special Effects.

Assessment: One three-hour unseen written examination and coursework.

Appendix C – Recognition of prior learning

The University gives notice that it reserves the right to review its recognition of prior learning policy each year. The rulings below relate only to applications submitted within the period 1 September 2014 to 31 August 2015 (but see paragraph 3 below).

This Schedule should be read together with [section 3](#) these Regulations.

Students must note that prior learning will not be recognised and accredited unless specific application has been made in accordance with the instructions given in the prospectus and the Student handbook

BSc in Computing and Information Systems and BSc in Creative Computing

1. Under [section 3](#) of the Detailed Regulations, students holding the qualifications detailed in the table overleaf may apply for recognition of prior learning and may be credited with a pass in up to a total of **four** full courses at Levels 1 and 2, on the basis of academic studies which they have previously followed. Applications for recognition of prior learning will be considered only from students who satisfy the entrance requirements for registration for the BSc in Computing and Information Systems or the BSc in Creative Computing. Students will be accredited with no more than two courses at Level 2. There is no provision for recognition of prior learning at Level 3.
2. Students who have other relevant qualifications may also apply for recognition of prior learning. The University will consider such qualifications individually, in the light of the course outline, the level of examination performance and the equivalence of the course to the Level 1 or 2 courses for which recognition is sought. The granting of exemptions by other higher educational or professional institutions will be noted but does not bind the University of London.
3. In order for an application to be considered a student must normally have successfully completed the **whole** of the qualification on the basis of which he or she is applying for recognition of prior learning and have already received the final award for that qualification. An application from a student who has not yet received his or her award will be considered under the rules governing recognition of prior learning at the time that the award is finally made and **not** at the time that the application for recognition of prior learning was submitted. The award must have been received not later than **17 September** if the student is applying from outside the European Union, or **17 October** for a student applying from within a member country of the EU, in the year that the application for recognition of prior learning is submitted.
4. A fee is not payable for applications for recognition of prior learning where recognition of prior learning is automatic. A fee is payable for all applications which are given individual consideration. This non-refundable fee is payable for each full course for which recognition of prior learning is requested.
5. Recognition of prior learning for the courses specified in the table below is awarded automatically **provided that the qualification has been obtained in the five years preceding the application for recognition of prior learning**. The recognition of prior learning application fee is **not** required for recognition and accreditation of prior learning in this category.

Diploma in Computing and Information Systems and Diploma in Creative Computing

A student who satisfies the entrance requirements for the Diploma and has gained a pass in a mathematical subject at GCE 'AS' level or an equivalent examination may apply for exemption from **0001 Mathematics for business**. Prior learning is not recognised or accredited for any other subject of the Diploma examination or for the first year course in Study skills in English.

Table of Recognition of Prior Learning 2017-18

Awarding Body	Qualification	Recognition for (max of 4 full courses) / Special Criteria
Hong Kong		
Chinese University of Hong Kong	Higher Diploma in Network and Mobile Computing	CO1108 (if taken Internet Business Thinking & Strategies and Electronic Customer Relationship Management); CO1110 Meets Maths entry requirement
	Higher Diploma in Computer Game Development	CO1110 Meets Maths entry requirement
City University of Hong Kong	Associate of Science in Network and Systems Administration	CO1110 Meets Maths entry requirement
	Associate of Science in Information Systems Development	CO1110 Meets Maths entry requirement
Hong Kong Polytechnic University	Associate in Information Technology	CO1110 Meets Maths entry requirement
	Associate in Statistics and Computing for Business	Meets Maths entry requirement
Hong Kong University SPACE	Associate of Engineering (Business Information Systems)	CO1110 Meets Maths entry requirement
	Associate of Engineering (Computer Engineering)	CO1110 Meets Maths entry requirement
	Associate of Engineering (Computer Science)	CO1109; CO1110 Meets Maths entry requirement
	Associate of Engineering (Electronic Engineering)	CO1109; CO1110 Meets Maths entry requirement
	Higher Diploma in Business Information Systems	CO1108; CO1110 Meets Maths entry requirement
	Higher Diploma in Business Systems	CO1108; CO1110 Meets Maths entry requirement
	Higher Diploma in Information Technology	CO1109 (if followed Web and Multimedia Development stream); CO1110; CO2222 (if followed the Networking (NETW) or Information Security and Ethical Hacking streams (ISEH)) Meets Maths entry requirement
	Higher Diploma in Engineering	CO1110 Meets Maths entry requirement
	Higher Diploma in Library Information Management	CO1110 (if followed Information Management stream) Does not meet Maths entry requirement

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Institute of Vocational Education	Higher Diploma in Telecommunications and Networking	CO1110; CO2222 Meets Maths entry requirement
	Higher Diploma in Information and Network Security	CO1110, CO2222 Meets Maths entry requirement
Malaysia		
Kolej Damansara Utama, Malaysia (KDU)	Higher Diploma in Computer Studies	CO1102, CO1108, CO1110
	Diploma in Computer Studies	CO1108, CO1109
	Diploma in Games Technology	CO1109
Malta		
St Martin's Institute of Information Technology (SMIIT)		For CIS/CC CertHE applicants who hold SMIIT Mathematics 2 at 70%+; Meets Maths entry requirement
Singapore		
Nanyang Polytechnic	Diploma in Business Informatics	(graduated before 2014: CO1102 if passed IT1501 with A; CO1109, CO1110); (graduated in or after 2014: CO1102 if passed IT1501 with A; CO1110); Meets Maths entry requirement
	Diploma in Business Enterprise IT	CO1102 if passed both IT1561 & IT1571 with at least C; CO1110, CO2209; Meets Maths entry requirement
	Diploma in Engineering Informatics	CO1102 if passed both IT1751 & IT1761 with at least C; CO1110; Meets Maths entry requirement
	Diploma in Financial Informatics	CO1102 if passed both IT1621 & IT1631 with at least C; Meets Maths entry requirement
	Diploma in Cyber Security & Forensics (previously Diploma in Information Security)	CO1102 if passed both IT1521 & IT1531 with at least C; CO1110; Meets Maths entry requirement
	Diploma in Information Technology	(graduated before 2014: CO1102 if passed both IT1101 & IT1201 with at least C; CO1109, CO1110); (graduated in or after 2014: CO1102 if passed both IT1101 & IT1201 with at least C; CO1110); Meets Maths entry requirement
	Diploma in Business Intelligence & Analytics	CO1102 if passed IT1325 with A; CO1110, CO2209; Meets Maths entry requirement
	Diplomas in: Aeronautical & Aerospace Technology; Aerospace Systems & Management; Biomedical Engineering; Digital & Precision Engineering; Electronics, Computer & Communications Engineering; Engineering with Business; Electrical Engineering with Eco-Design; Mechatronic Engineering; Nanotechnology & Materials Science	CO1102; Meets Maths entry requirement
	Diploma in Multimedia & Infocomm Technology	CO1102 if passed both EG1740 & EG2741 with at least C;

Programme Regulations 2017-18 Computing and Information Systems and Creative Computing (Old Regulations) (BSc/Diploma)

		CO1110, CO2209; Meets Maths entry requirement
	Diploma in Telematics & Media Technology	CO1102, CO1110; Meets Maths entry requirement
Ngee Ann Polytechnic	Diploma in Information Technology	CO1109, CO1110; Meets Maths entry requirement
	Diploma in Information Security & Forensics	CO2222; Meets Maths entry requirement
	Diplomas in: Aerospace Technology; Aerospace Electronics; Audio-Visual Technology; Automation & Mechatronic Systems; Biomedical Engineering; Clean Energy Management; Electrical Engineering; Chemical & Biomolecular Engineering; Engineering Science; Marine & Offshore Engineering (new in 2014, previously Shipbuilding & Offshore Engineering); Mechanical Engineering; Environmental & Water Technology	CO1102; Meets Maths entry requirement
	Diploma in Electronic & Computer Engineering	(graduated before 2014: CO1102, CO1110); (graduated in or after 2014: CO1102); Meets Maths entry requirement
	Diploma in Network Systems & Security	CO1102, CO1110, CO2222; Meets Maths entry requirement
Republic Polytechnic	Diplomas in: Business Applications; Business Information Systems; Information Technology; IT Service Management; Mobile Software Development	CO1110; Does not meet Maths entry requirement
	Diploma in Infocomm Security Management	CO1110; CO2222; Does not meet Maths entry requirement
	Diplomas in: Aerospace Avionics; Aerospace Engineering; Aviation Management; Electrical & Electronic Engineering; Engineering Systems & Management; Industrial & Operations Management; Green Building Energy Management; Supply Chain Management	Meets Maths entry requirement
Singapore Polytechnic	Diplomas in: Engineering with Business; Aeronautical Engineering; Aerospace Electronics; Bioengineering; Energy Systems & Management; Electrical & Electronic Engineering;	CO1102; Meets Maths entry requirement

Programme Regulations 2017-18 Computing and Information Systems and Creative Computing (Old Regulations) (BSc/Diploma)

	Mechanical Engineering; Mechatronics & Robotics; Engineering Systems	
	Diploma in Music & Audio Technology	CO1102 if passed both MS0100 & ST8104 (or MS0102) with at least C; Meets Maths entry requirement
	Diplomas in: Applied Chemistry with Materials Science; Applied Chemistry with Pharmaceutical Science;	CO1102 if passed both MS2125 & MS2128 with at least C; Meets Maths entry requirement
	Diploma in Business Information Technology	(graduated before 2014: CO1109 if passed both ST1005 & ST0316; CO1110); (graduated in or after 2014: no APL) Meets Maths entry requirement
	Diploma in Infocomm Security Management	(graduated before 2017: CO1109 if passed both ST1005 (or ST1109) & ST0316; CO1110; CO2209 if passed both ST1001 & ST2503); (graduated in or after 2017: CO1110; CO2209 if passed ST1001 & ST2503); Meets Maths entry requirement
	Diploma in Information Technology	(graduated before 2017: CO1109 if passed both ST1005 (or ST1109) & ST0316; CO1110); (graduated in or after 2017: CO1110); Meets Maths entry requirement
	Diploma in Computer Engineering	CO1102, CO1110; CO2222 if taken Computer Networks or Computer Security option; Meets Maths entry requirement
Temasek Polytechnic	Diplomas in: Digital Forensics; Internet & Multimedia Development; Interactive Media Informatics; Cyber & Digital Security; Game & Entertainment Technology (until 2013 intake); Game Design & Development (from 2014 intake); Mobile & Wireless Computing (until 2013 intake)	CO1102 if at least grades A/B or B/A in CMA1C01 & CMA1C02; CO1110; Meets Maths entry requirement if CMA1C01 & CMA1C02 or EMA1001 & EMA1002 with at least C
	Diploma in Information Technology	CO1102 if at least grades A/B or B/A in CMA1C01 & CMA1C02; CO1110; CO2226; Meets Maths entry requirement if CMA1C01 & CMA1C02 or EMA1001 & EMA1002 with at least C
	Diploma in Mobile & Network Services	(graduated in or after 2014; CO1102 if at least grades A/B or B/A in CMA1C01 & CMA1C02; CO1110, CO2222) Meets Maths entry requirement if CMA1C01 & CMA1C02 or EMA1001 & EMA1002 with at least C
	Diploma in Big Data Management & Governance (new in 2015)	CO1102 if at least grades A/B or B/A in CMA1C01 and CMA1C02; CO1110; Meets Maths entry requirement if CMA1C01 & CMA1C02 or EMA1001 & EMA1002 with at least C
	Diplomas in: 3D Interactive Media Technology; Aerospace Electronics; Aerospace Engineering; Aviation Management & Services; Biomedical Engineering; Business Process & Systems Engineering; Clean Energy;	CO1102 if at least grades A/B or B/A in EMA1001 & EMA1002; Meets Maths entry requirement if CMA1C01 & CMA1C02 or EMA1001 & EMA1002 with at least C

Programme Regulations 2017-18 Computing and Information Systems *and* Creative Computing (Old Regulations) (BSc/Diploma)

	Computer Engineering; Electronics; Green Building & Sustainability; Infocomm & Network Engineering; Integrated Facility Management; Mechatronics; Media & Communications Technology; Microelectronics	
	Diploma in Business Intelligence & Analytics	CO1110 Does not meet Maths entry requirement
United Kingdom		
IMIS (previously known as Institute of Data Processing management), United Kingdom	Higher Diploma	1102, 1108
NCC Education, United Kingdom	International Higher Diploma	1108

Appendix D – Schemes of award

Scheme of award – BSc degrees

Courses are marked according to the following scale:

Mark range	Class equivalent
70 and over	First Class Honours
60–69	Second Class Honours (Upper Division)
50–59	Second Class Honours (Lower Division)
40–49	Third Class Honours
35–39	Pass
0–34	Fail

See below for more details.

Scheme of award – Diplomas

Courses are marked according to the following scale:

Mark range	Class equivalent
70 and over	Distinction
60–69	Merit
50–59	Credit
35–49	Pass
0–34	Fail

Students who registered for the BSc degree in Computing and Information Systems on or after 1 September 2003

1. A student is required to have been examined in (or who has been granted recognition of prior learning for) courses to a value of **twelve** full courses, including the **Project**.
2. In order to be considered for the award of the degree with Honours, a student must pass in courses to a value of **nine** full courses which must include the **Project**.
3. Exceptionally, a Pass classification may be awarded on the basis of passes in courses to a value of **eight** full courses *including* the **Project**, or courses to a value of **nine** full courses *not including* the Project (see also 4. below).
4. The class of degree will be based on the value of **ten** full courses, including marks for one failed full course or two failed half courses if necessary.

5. The class of degree awarded will normally be based on the marks obtained in the best three courses at Level 1, plus the best three full courses (or the equivalent) at Level 3, plus the best four full courses (or the equivalent) of those remaining at Levels 2 and 3 combined but all weighted as for Level 2 courses. If necessary, marks for one or two failed half courses, or one failed full course, are included. Courses at Level 3 carry most weight; courses at Level 1 least weight.
6. If, on the occasion that a student enters examinations to complete the degree (i.e. to complete the total of twelve courses attempted), he or she fails in one or more courses or half courses but has passed in the nine courses (including the **Project**) required for the award with Honours, the student will be classified and awarded the degree on the basis of the courses taken. The student will not be permitted to make a further attempt at any failed courses or half courses.
7. The mark for the **Project** will be included in the consideration for the award of the degree, even if a higher mark (for another full course or two half courses) has to be excluded.
8. A student passing either an examination of any course or half course at the second or third attempt will receive a final mark which is the arithmetic mean of the mark actually achieved on that occasion and the pass mark of 35%.
9. Any recognition of prior learning awarded will be included in the total value of courses passed.
10. Any recognition of prior learning awarded will not adversely affect the classification of the degree.
11. Candidates whose final weighted average falls within 2% below the borderline **either** between two classes of Honours **or** the borderline between an Honours or a Pass degree **or** the borderline between a Pass degree and failure shall be considered, and who have obtained marks in the higher classification in courses totalling **at least 4** course courses in value **at Levels II and III**, must be awarded the higher classification.
12. Where a student meets the conditions specified in paragraph 11 but has only obtained marks in the higher classification in three course courses in value at Levels II and III, the Board of Examiners **may consider mitigating circumstances not previously taken into account by examiners**, in respect of the student's profile, the higher classification may be awarded.
13. The Board of Examiners may award an Aegrotat or a classified degree in accordance with the General Regulations in the cases:
 - a) That a student has been absent from papers of the examination on the occasion on which the student enters to complete the programme.
 - b) That a student has been present for all the papers of the examination on the occasion on which the student enters to complete the degree but extenuating circumstances apply.

Students registered for the BSc degree in Computing and Information Systems on 1 September 2006 or after and all students registered for the BSc degree in Creative Computing

1. A student is required to have been examined in (or to have been granted recognition or prior learning for) courses to a value of **twelve** full courses, including the **Project**.
2. In order to be considered for the award of the degree with Honours, a student must pass in courses to a value of **ten** full courses, **at least three of which must have been passed at Level 3**, and which must include the **Project**.
3. Exceptionally, a Pass classification may be awarded on the basis of passes in courses to a value of **nine** full courses *including* the **Project**, or courses to a value of **ten** full courses *not including* the Project (see also 4. below).

4. The class of degree will be based on the value of **ten** full courses, including marks for one failed full course or two failed half courses if necessary*.
5. The class of degree awarded will normally be based on the marks obtained in the best three courses at Level 1, plus the best three full courses (or the equivalent) at Level 3, plus the best four full courses (or the equivalent) of those remaining at Levels 2 and 3 combined but all weighted as for Level 2 courses. If necessary, marks for one or two failed half courses, or one failed full course, are included. Courses at Level 3 carry most weight; courses at Level 1 least weight.
6. If, on the occasion that a student enters examinations to complete the degree (i.e. to complete the total of twelve courses attempted), he or she fails in one or more courses or half courses but has passed in ten courses, at least three of which must have been passed at Level 3, including the **Project**, the student will be classified and awarded an Honours degree on the basis of the courses taken. The student will not be permitted to make a further attempt at any failed courses or half courses.
7. The mark for the **Project** will be included in the consideration for the award of the degree, even if a higher mark (for another full course or two half courses) has to be excluded.
8. A student passing an examination of any course or half course at the second or third attempt will receive a final mark which is the arithmetic mean of the mark actually achieved on that occasion and the minimum pass mark of 35%
9. Any recognition of prior learning awarded will be included in the total value of courses passed.
10. Any recognition of prior learning awarded will not adversely affect the classification of the degree
11. Candidates whose final weighted average falls within 2% below the borderline **either** between two classes of Honours **or** the borderline between an Honours or a Pass degree **or** the borderline between a Pass degree and failure shall be considered, and who have obtained marks in the higher classification in courses totalling **at least 4** course courses in value **at Levels II and III**, must be awarded the higher classification.
12. Where a student meets the conditions specified in paragraph 11 but has only obtained marks in the higher classification in three course courses in value at Levels II and III, the Board of Examiners **may consider mitigating circumstances not previously taken into account by examiners**, in respect of the student's profile, the higher classification may be awarded.
13. The Board of Examiners may award an Aegrotat or a classified degree in accordance with the General Regulations in the cases:
 - a) That a student has been absent from papers of the examination on the occasion on which the student enters to complete the programme.
 - b) That a student has been present for all the papers of the examination on the occasion on which the student enters to complete the degree but extenuating circumstances apply.

* Even though students have to pass ten courses, and ten are included in the degree classification calculation, this still means that one failed full course or one or two failed half courses may have to be included in the calculation.

For example a student who passes all four Level 1 courses, and subsequently fails one Level 2 course, and one Level 3 course will have a total of ten courses passed, and be eligible for the award of the degree (provided that one of the Level 3 courses is the Project).

The student would have a total of six passed Level 2 and 3 courses; however, seven Level 2 and 3 courses must be included in the degree classification calculation, meaning that one failed full course or two failed half courses will be included in the calculation.

Calculation of final class of degree (all students)

1. A student's overall mark is calculated as $\frac{X + 3Y + 5Z}{n + 54}$ where

$$n = \min \{m, 6\}$$

$$m = 8 - (\text{the number of half course units exempted at Level 1})$$

X = total marks on best n half course units at Level 1

Z = total marks on best 6 half course units at Level 3

Y = total marks on remaining best 8 half course units at Levels 2 and 3

2. The Project **will** contribute to Y or Z or both, according to its value relative to other courses, even if its mark is lower than those of omitted courses.
3. In calculating Y , the mark for each exempt course at Level 2 will be recorded as the maximum of 35 and the simple mean of the other marks obtained at Level 2 at the first attempt.
4. In calculations each whole course is recorded as two half courses each with the same mark as the whole course.

Scheme of award – Diplomas

In order to be considered for the award of the Diploma in Computing and Information Systems or Creative Computing, a student must have attempted and passed the examinations in **all** five relevant courses.

In addition, students must have successfully completed the *Study Skills in English* course at the institution they are attending.

The class of Diploma will be based on the value of all **five** courses.

To obtain a given classification for the Diploma, students will be classified on the basis of the median mark.

The median mark gives the indicative class for classification purposes. A student may be classified at the indicative class, at one class above the indicative class or at one class below it, depending on the following:

1. If all papers are no worse than one class below the indicative class, then no lower class than the indicative class will be awarded.
2. If any papers are more than one class below the indicative class, but no paper is more than two classes below the indicative class, one of the following applies:
 - a) if the arithmetic mean mark is in the indicative class or above, the indicative class will be awarded or
 - b) the class below the indicative class will be awarded
3. If any paper is more than two classes below the indicative class, the class below the indicative class will be awarded.
4. If the median mark is no more than 1% from the borderline and the arithmetic mean is in a class above the indicative class, then the class above the indicative class will be awarded.

A student passing an examination at the second or third attempt will receive a final mark which is the arithmetic mean of the mark actually achieved on that occasion and the pass mark of 35%.

When identifying the median mark for classification purposes, the mark for an exempt course will be recorded as the mean of the marks for the other courses passed.

Appendix E - Assessment criteria

Examination scripts and coursework are marked according to the following scales:

BSc in Computing and Information Systems and the BSc in Creative Computing

Mark range	Class equivalent
70 and over	<p>First Class Honours - EXCELLENT</p> <p>Demonstration of a thorough grasp of relevant concepts, methodology and content appropriate to the subject discipline; indication of originality in application of ideas, in synthesis of material or in performance; insight reflects depth and confidence of understanding the material.</p>
60–69	<p>Second Class Honours (Upper Division) - VERY GOOD</p> <p>Demonstration of a sound level of understanding based on a competent grasp of relevant concepts, methodology and content; display of skill in interpreting complex material; appropriate organisation of material.</p>
50–59	<p>Second Class Honours (Lower Division) - GOOD</p> <p>Demonstration of an adequate level of understanding of relevant concepts, methodology and content; display of sufficient skills to tackle some complex problems; appropriate organisation of material.</p>
40–49	<p>Third Class Honours - ACCEPTABLE</p> <p>Demonstration of a limited level of understanding of relevant concepts, methodology and content; clear if limited attempt to tackle problems; display of some skills in organisation of material.</p>
35–39	<p>Pass - WEAK</p> <p>Does not satisfy the requirements for Honours level performance, but displays some understanding of concepts, methodology and content.</p>
0–34	<p>Fail - FAIL</p> <p>Work is deficient in most respects, revealing insufficient grasp of material and poor organisation, inability to identify and address the task required.</p>

Diploma in Computing and Information Systems and the Diploma in Creative Computing

Mark range	Class equivalent
70 and over	<p>Distinction - EXCELLENT</p> <p>Demonstration of a thorough grasp of relevant concepts, methodology and content appropriate to the subject discipline; indication of originality in application of ideas, in synthesis of material or in performance; insight reflects depth and confidence of understanding the material.</p>
60–69	<p>Merit - VERY GOOD</p> <p>Demonstration of a sound level of understanding based on a competent grasp of relevant concepts, methodology and content; display of skill in interpreting complex material; appropriate organisation of material.</p>
50–59	<p>Credit - GOOD</p> <p>Demonstration of an adequate level of understanding of relevant concepts, methodology and content; display of sufficient skills to tackle some complex problems; appropriate organisation of material.</p>
35–49	<p>Pass - ACCEPTABLE</p> <p>Demonstration of a limited level of understanding of relevant concepts, methodology and content; clear if limited attempt to tackle problems; display of some skills in organisation of material.</p>
0–34	<p>Fail - FAIL</p> <p>Work is deficient in most respects, revealing insufficient grasp of material and poor organisation, inability to identify and address the task required.</p>