

## Programme Specification

1	<b>Awarding body</b>	University of London				
2	<b>Teaching Institution</b>	<b>Birkbeck College</b>				
3	<b>Programme Title(s)</b>	<b>Cert HE Physics and Mathematics</b>				
4	<b>Programme Code(s)</b>	UCHPHYMA_C				
5	<b>UCAS code</b>	N/A				
6	<b>Home Department</b>	School of Science(Biological Sciences)				
7	<b>Exit Award(s)</b>	Cert CE				
8	<b>Duration of Study (number of years)</b>	1 year intensive or 2 years				
9	<b>Mode of Study</b>	FT		PT	<b>x</b>	DL
10	<b>Level of Award (FHEQ)</b>	4				
11	<b>Other teaching depts or institution</b>	N/A				
12	<b>Professional, Statutory Regulatory Body(PSRB) details</b>	N/A				
13	<b><a href="#">QAA Benchmark Group</a></b>	N/A				

14	<b>Programme Rationale &amp; Aims</b>
	<ul style="list-style-type: none"> <li>• to widen and encourage participation in science of mature learners</li> <li>• to promote equal opportunities for non-traditional learners needing to study part-time</li> <li>• to provide a sound framework and body of knowledge for understanding the ideas and methodology of the physical sciences and the science of how the physical world works</li> <li>• to provide laboratory work which aids understanding of underlying scientific concepts and encourages the solution of practical problems</li> <li>• to develop laboratory skills and safe practice</li> <li>• to provide an enjoyable and stimulating learning experience</li> <li>• to encourage and support the development of self-confidence and independence in the learning of science</li> <li>• to provide a programme of study that will enable successful students to progress to more advanced programmes of study in physics, mathematics and all branches of Engineering</li> </ul> <p>Classes for this programme take place on a part-time evening basis with face to face teaching to enable participation of students with employment, domestic or job-seeking responsibilities during the day and to enable access to Birkbeck's science teaching laboratories at each of the weekly classes. This is the only course of this type in the London area.</p>

15	<b>Entry Criteria</b>
	Applicants are advised that this intensive programme requires a high level of commitment and that although there are no formal qualifications for admission they need to have a keen interest in science and sufficient time to devote to their studies

	<p>The department runs a guidance and self-assessment system that all applicants for this programme have to undertake before enrolment.</p> <p>All applicants for this Award first have to complete short self-assessment exercises at home in numeracy, in physics and in basic algebra and then attend on one of the guidance days run by the department for an informal follow-up meeting with members of the lecturing team.</p> <p>The completed diagnostic material provides a good idea of students' skills in relation to the starting level of each module and assists students and lecturers in deciding which modules meet applicants' interest and potential.</p> <p>Those offered places may be required to attend one of the summer top-up courses or be set pre-coursework to revise and improve their numerical and algebraic skills before the start of the modules in September.</p>
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16	<p><b>Learning Outcomes</b></p> <p>On successful completion of this programme a student will be expected to be able to:</p> <p><b>Subject specific:</b></p> <ol style="list-style-type: none"> <li>1. demonstrate knowledge of the underlying concepts and principles associated with physics and modelling the behaviour of the physical universe and be able to evaluate and interpret these within the context of their studies</li> <li>2. apply physical concepts and relevant mathematics to the solution of a diverse range of problems</li> <li>3. analyse and interpret data collected personally in the laboratory or provided in exercises</li> </ol> <p><b>Intellectual:</b></p> <ol style="list-style-type: none"> <li>4. extract, evaluate and accurately document relevant information from scientific sources</li> <li>5. present and interpret qualitative and quantitative data, develop lines of argument and make sound judgements in accordance with basic theories and concepts</li> <li>6. communicate the results of their study/work accurately and reliably in writing with structured and coherent arguments and using academic conventions</li> <li>7. demonstrate scientific and mathematical literacy</li> </ol> <p><b>Practical:</b></p> <ol style="list-style-type: none"> <li>8. use standard laboratory equipment confidently and correctly</li> <li>9. demonstrate an awareness of laboratory safety and materials handling issues</li> <li>10. take measurements, handle, record and process data</li> </ol> <p><b>Personal and Social:</b></p> <ol style="list-style-type: none"> <li>11. work independently and in a group including in a laboratory setting</li> <li>12. manage their time and work to deadlines</li> <li>13. identify and apply for a further programme of study as appropriate</li> <li>14. demonstrate qualities and transferable skills which would be necessary for employment requiring the exercise of some personal responsibility</li> </ol>
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17	<p><b>Learning, teaching and assessment methods</b></p> <p>A wide range of teaching methods including lectures, laboratory experiments and demonstrations, problem-solving, group work and presentations are used.</p>
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On-line learning materials are provided on Moodle, and students are encouraged to make use of the discussion boards.

All modules emphasise the development of active and scholarly engagement with the curriculum. The 15-Credit module 'Study and Research Skills for Physics and Mathematics' supports students in the acquisition of independent study skills including skills for revision and examination preparation. The 15-Credit module 'Personal progress and Development Planning' assists students with their application for further study and career planning.

Diagnostic exercises set in the first two weeks of the Autumn Term enable students to identify gaps in their skills and on-line material is provided to assist them in the practice and enhancement of skills in identified areas.

Home study is encouraged by referenced weekly reading and text book problems, question and problem sheets, and by a programme of home assignments.

The assessment strategy is designed to support the students' development with a balance of coursework, in class tests and examination changing as the programme progresses. The final examinations for the Part 3 Physics and Mathematics modules are double-marked, and all coursework and tests are subject to sampling and moderation.

#### **Physics and Mathematics modules:**

The first two modules (Parts 1&2) in both these subject areas provide the opportunity for four assessments as follows: two theory (home) assignments, one in-class assignment (laboratory experiment in Physics, open-book exercise in mathematics) and an unseen in-class End-of-Module Test which provides formative examination practice for the final examination at the end of Module 3.

Students are strongly encouraged to attempt all four assessments and the overall mark for each of the Part 1 & 2 modules is calculated from the average of the best two marks gained in the two theory (home) assignments and in-class assignment (laboratory experiment in Physics, open-hook exercise in mathematics) and the unseen in-class End-of-Module test. The three total assessments require a minimum total of 120 marks for a pass of 40%. A minimum of two of the four assessments has to be submitted to have a chance of gaining a pass.

Consisting of the best two results from assessments 1, 2 and 3 plus the in-class test

Taking the best two marks from the at home and in class assessments plus obliging students to have to take the end of module test for these part 1 and Part 2 modules allows students to treat the end of module tests as formative assessment in line with QAA guidance of avoiding premature summative assessment and the provision of sufficient time for students to mature and synthesise the knowledge, which is tested summatively in the 3 hour examination at the end of the Part 3 module.

The final module (Part 3) for each subject is assessed by a final unseen 3 hour examination, which contributes 80% of the final mark for the module. The remaining 20% is calculated from a coursework assignment. Both, the examination and the coursework element must be passed in order to gain an overall pass for each Part 3 science module.

#### **Module -Personal Progress and Development Planning. Assessed Pass/Fail only**

Online application and Personal Statement for further study or employment submitted via password protected web-site

	<p>(50%) and an essay/report based on career research submitted via password accessed plagiarism software (50%)</p> <p><b>Module -Study and Research Skills for Physics and Mathematics. Assessed Pass/Fail only.</b></p> <p>Skills Portfolio (50%), and Critical Review of on-line web-sites/ background texts (50%) submitted via password accessed plagiarism software.</p> <p>The minimum pass mark for each module is 40%, and students must pass all eight modules to be awarded the Certificate of Higher Education. Students may apply for re-assessment in modules they failed at the next possible opportunity, which is usually in the subsequent academic year</p>
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18	<p><b>Programme Description</b></p> <p>To gain the Certificate of Higher Education, students must successfully complete the following 8 modules (all 15 credits each), worth a total of 120 credit points:</p> <ul style="list-style-type: none"> <li>Physics: Part 1 of 3 (FFSC013H4)</li> <li>Physics: Part 2 of 3 (FFSC023H4)</li> <li>Physics: Part 3 of 3 (FFSC033H4)</li> <li>Mathematics: Part 1 of 3 (FFMT011H4)</li> <li>Mathematics: Part 2 of 3 (FFMT021H4)</li> <li>Mathematics: Part 3 of 3 (FFMT031H4)</li> <li>Personal Progress and Development Planning (SCBS041H4)</li> <li>Study and Research Skills for Science and Mathematics (FFSC300H4)</li> </ul>
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19	<p><b>Programme Structure</b></p>			
<p><b>Part Time programme</b></p>				
<p><b>Year 1</b></p>				
Level	Module Code	Module Title	Credits	Status*
4	SCBS041H4	Personal Progress and Development Planning	15	Comp
4	FFSC300H4	Study and Research Skills for Physics and Mathematics	15	Comp
4	FFSC013H4	Physics: Part 1 of 3	15	Comp
4	FFSC023H4	Physics: Part 2 of 3	15	Comp
4	FFSC033H4	Physics: Part 3 of 3	15	Comp
4	FFMT011H4	Mathematics: Part 1 of 3	15	Comp
4	FFMT021H4	Mathematics: Part 2 of 3	15	Comp
4	FFMT031H4	Mathematics: Part 3 of 3	15	Comp

**Part Time 2-Year Programme: Students take 60 credits per Year .**

**NB: Usually students take Physics in the first year but maths can also be taken as the first year modules.**

**Year 1**

Level	Module Code	Module Title	Credits	Status*
4	FFSC300H4	Study and Research Skills for Physics and Mathematics	15	Comp
4	FFSC013H4	Physics: Part 1 of 3	15	Comp
4	FFSC023H4	Physics: Part 2 of 3	15	Comp
4	FFSC033H4	Physics: Part 3 of 3	15	Comp

**Year 2**

Level	Module Code	Module Title	Credits	Status*
4	SCBS041H4	Personal Progress and Development Planning	15	Comp
4	FFMT011H4	Mathematics: Part 1 of 3	15	Comp
4	FFMT021H4	Mathematics: Part 2 of 3	15	Comp
4	FFMT031H4	Mathematics: Part 3 of 3	15	Comp

**Status\***

*CORE – Module must be taken and passed by student; COMPULSORY – Module must be taken, mark can be reviewed at sub-exam board; OPTIONAL – Student can choose to take this module*

20	<b>Programme Director</b>	Dr Vincent Tong
21	<b>Start Date</b> ( <i>term/year</i> )	Autumn 2010
22	<b>Date approved by TQEC</b>	Autumn 2009
23	<b>Date approved by Academic Board</b>	Spring 2010
24	<b>Date(s) updated/amended</b>	October 2017 ( <i>module code correction</i> )