

# PROGRAMME SPECIFICATION

## FOR TAUGHT PROGRAMMES AT ALL LEVELS



THE UNIVERSITY OF  
**BUCKINGHAM**

<b>Name of Programme:</b>		Certificate of Medical Foundation Studies	
<b>Final award (BSc, MA etc):</b>		Certificate of Medical Foundation Studies	
<b>Awarding institution/body:</b>	University of Buckingham	<b>Teaching institution:</b>	University of Buckingham
<b>School of Study:</b>	Medipathways/Science & Medicine	<b>Parent Department:</b>	
<b>Length of the programme:</b>	1 year	<b>Method of study:</b>	Full time
<b>Framework for Higher Education Qualifications (FHEQ) Level</b>	3	<b>Relevant subject benchmark statement (SBS)</b>	Academic Level 3 curricula, including Cambridge Pre-U (recommended as set texts)
<b>Professional body accreditation (if applicable):</b>	N/A		
<b>Criteria for admission to the programme:</b>	<ul style="list-style-type: none"> <li>Typically, recent successful study in English at college level in the natural sciences</li> <li>IELTS 6.0 and prior mathematics study</li> <li>Details appendicised</li> </ul>	<b>Cohort(s) to which this programme specification is applicable:(</b>	From September 2018 onwards
<b>UCAS Code</b>	N/A		

### Summary of Programme

This one-year level 3 qualification is primarily designed to prepare students for undergraduate studies in the Life/Healthcare Sciences. Students attend for two semesters, with a possibility of a prior semester of English and Academic Skills if required. At the end of each semester there is a revision period followed by examinations.

All applicants will have to demonstrate significant academic aptitude to be admitted. This said, it is expected that applicants will come from a diverse selection of academic backgrounds. The programme is designed to develop a foundation in the fundamental knowledge and skills a student will need in their undergraduate studies. See Educational Aims, below.

The programme consists of 5 modules. The natural sciences (Biology, Chemistry and Physics) span both semesters of study. Additionally, students study Medicine, Disease and Society in the first semester and an Independent Investigation in the second. The modules studied are listed below:

1) Foundation Biomedicine, from Genes and Cells to System Regulation and Population biology. 2) Foundation Chemistry, including physical, periodic and organic chemistry. 3) Foundation quantitative studies in mathematics, physics and introductory computing. 4) Medicine, Disease and Society. 5) Independent Investigation in Biomedicine.

A diverse range of student-centred learning and teaching methods are used. Particularly, the programme contains plentiful small-group, active learning sessions. Much of the directed learning is designed to be formatively assessed, including self- and peer-assessment taking place inside tutorials.

Students are summatively assessed by both examination and coursework, with a large emphasis (80%) on examination in the Natural Sciences component of the programme. Summative coursework is designed to be as varied and cognitively demanding as reasonably possible to both develop skilled Certificate holders and to engage them in a stimulating skills-focussed programme.

### Educational Aims of the Programme

Students leaving this course with a Certificate will be thoroughly prepared for undergraduate studies in the Life/Healthcare Sciences. Enrolling students for this programme are expected to study towards becoming a healthcare professional, whilst wishing to develop their skills and knowledge in the natural sciences. This programme, therefore, is designed to provide a rigorous natural sciences syllabus with a healthcare emphasis.

The educational aims are to:

1. Prepare students for the transition to undergraduate study
2. Develop a rich understanding of key concepts required in the Life/Healthcare Sciences
3. Promote critical reflection, including knowledge of one's own motivators and developmental goals
4. Introduce the key cognitive skills required in the Life/Healthcare Sciences
5. Provide rigorous training in the key transferable academic skills associated in the Life/Healthcare Sciences

### Programme Outcomes

<u>Knowledge and understanding:</u>	→	<u>Teaching/Learning Strategy</u>
<ol style="list-style-type: none"> <li>1. Band C1 in reading, writing, speaking and comprehension. (a score of 6.5 to 7.5 in the IELTS test, or equivalent)</li> <li>2. Basic mechanistic explanations for various cellular processes</li> <li>3. Cellular structure, function and phenomena</li> <li>4. The relationship between events at the cell surface and changes in gene action and cell function.</li> <li>5. Physical chemistry at the molecular / particulate level</li> <li>6. Chemical reactions and changes of state</li> <li>7. Quantitative physical chemistry</li> <li>8. Trends in chemical properties in terms of atomic structure</li> <li>9. Chemical reactions and their mechanisms</li> <li>10. The relationship between the structure of biomaterials and their various properties</li> <li>11. Selected simple physical principles underlying biological phenomena</li> <li>12. Solve straightforward problems in mathematical biology using functions, calculus and probability</li> <li>13. Write simple pseudocode to describe a biological process</li> <li>14. Orders of magnitude in the life sciences</li> <li>15. Biology as a population as well as a reductionist science</li> <li>16. The changing priorities and practices of healthcare</li> <li>17. The evidence base for claims about health and disease</li> <li>18. The roles and responsibilities of patients and healthcare professionals</li> <li>19. Physiological responses to changes of state, including infection</li> <li>20. State changes in cellular and molecular terms</li> <li>21. The body's main life support systems, with examples of their interdependence</li> <li>22. How state changes manifest themselves in patient symptoms (or vice-versa)</li> </ol>	→	<p><u>Teaching/Learning Strategy</u></p> <ul style="list-style-type: none"> <li>● Lectures</li> <li>● Class tutorials with preparation, including flipped learning</li> <li>● Small group tutorials and task forces</li> <li>● Student-led sessions</li> <li>● In silico labs</li> <li>● Wet labs</li> <li>● Directed study</li> </ul> <p><u>Assessment Strategy:</u></p> <ul style="list-style-type: none"> <li>● Essay</li> <li>● Presentation</li> <li>● Poster with discussion</li> <li>● Examination</li> <li>● Timed open-source task</li> <li>● Closed-book in-class test</li> <li>● Wet lab report</li> <li>● Case study</li> </ul>
<u>Cognitive (thinking) skills:</u>		<p><u>Teaching/Learning Strategy</u></p> <ul style="list-style-type: none"> <li>● Lectures</li> </ul>

<ol style="list-style-type: none"> <li>1. Reflect/evaluate progress and learning gaps</li> <li>2. Discuss motivations and challenges in pursuing a healthcare career</li> <li>3. Problem solving</li> <li>4. Connecting principles to applied examples and between modules</li> <li>5. Approximation and estimation</li> <li>6. Logical and algorithmic thinking</li> <li>7. Active listening</li> <li>8. Application of principles acquired in one context to an unfamiliar context</li> <li>9. Data retrieval and evaluation</li> <li>10. Use analytical results to suggest suitable further experiments</li> </ol>	→	<ul style="list-style-type: none"> <li>● Class tutorials with preparation, including flipped learning</li> <li>● Small group tutorials and task forces</li> <li>● Feed-forward assignments</li> <li>● Directed study</li> <li>● Investigation supervision</li> </ul>
<p><b><u>Practical/Transferable skills (able to):</u></b></p> <ol style="list-style-type: none"> <li>1. A deliberate approach to task completion</li> <li>2. A constructive response to tutor and peer feedback</li> <li>3. Clear and concise written expression</li> <li>4. Presentation &amp; verbal communication</li> <li>5. Observation and description skill</li> <li>6. Practical laboratory skills</li> <li>7. Data analysis and discussion</li> <li>8. Citation and referencing (good academic conduct) skills</li> <li>9. Application of numerical and physical concepts to biomedical contexts</li> <li>10. Team working</li> <li>11. Responding to tutor and peer feedback</li> <li>12. Independent study skills</li> <li>13. Pursue independent inquiry, under supervision, meeting milestones along the way.</li> <li>14. Design and produce pieces of coursework in standard academic style, including:             <ol style="list-style-type: none"> <li>a. Essay</li> <li>b. Lab report</li> <li>c. Portfolio</li> <li>d. Poster</li> <li>e. Independent report</li> </ol> </li> </ol>	→	<p><b><u>Teaching/Learning Strategy</u></b></p> <ul style="list-style-type: none"> <li>● Class tutorials with preparation, including flipped learning</li> <li>● Small group tutorials and task forces</li> <li>● Feed-forward assignments</li> <li>● Student-led sessions</li> <li>● In silico labs</li> <li>● Wet labs</li> <li>● Directed study</li> <li>● Investigation supervision</li> </ul> <p><b><u>Assessment Strategy:</u></b></p> <ul style="list-style-type: none"> <li>● Essay</li> <li>● Presentation</li> <li>● Poster with discussion</li> <li>● Timed open-source task</li> <li>● Closed-book in-class test</li> <li>● Wet lab report</li> <li>● Case study</li> <li>● Portfolio entries, some on collaborative online documents</li> <li>● Report</li> </ul>

### **External Reference Points**

The following reference points were used in designing the programme

- Cambridge Pre-U qualifications <http://www.cambridgeinternational.org/programmes-and-qualifications/cambridge-advanced/cambridge-pre-u/>
- Framework for Higher Education Qualifications <http://www.qaa.ac.uk/en/quality-code/the-existing-uk-quality-code>
- Relevant Subject Benchmark Statement(s) [http://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/sbs-biosciences-15.pdf?sfvrsn=4eef781\\_18](http://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/sbs-biosciences-15.pdf?sfvrsn=4eef781_18)  
[http://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/sbs-biomedical-sciences-15.pdf?sfvrsn=3deef781\\_14](http://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/sbs-biomedical-sciences-15.pdf?sfvrsn=3deef781_14)  
[http://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/subject-benchmark-statement-medicine.pdf?sfvrsn=559af781\\_8](http://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/subject-benchmark-statement-medicine.pdf?sfvrsn=559af781_8)

Biosciences, Biomedical Science, Medicine

**Please note:** This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes, content and teaching, learning and assessment methods of each course unit/module can be found in the departmental or programme handbook. The accuracy of the information contained in this document is reviewed annually by the University of Buckingham and may be audited by the Quality Assurance Agency.

<b>Programme Director(s) Name(s):</b>	
<b>Date of Production:</b>	
<b>Date approved by School Learning and Teaching Committee</b>	
<b>Date approved by School Board of Study</b>	
<b>Date approved by University Learning and Teaching Committee</b>	
<b>Date of Annual Review:</b>	

# Programme Structure: Certificate of Medical Foundation Studies

## September Entry with the prior semester of English and Academic Skills

Semester				
1	English and Academic Skills			
2	Biomedicine I: Genes, Cells and Development (L3, 20)	Chemistry I: Atoms, Molecules and Reactions (L3, 20)	Medicine, Disease and Society (L3, 10)	Measurement in the Life Sciences (L3, 20)
	<b>Formative Examinations (2 papers (Biomedicine &amp; Chemistry) and one report (MLS))</b>			
3	Biomedicine II: Tissues, Systems and Regulation (L3, 20)	Chemistry II: Periodic and Organic Chemistry (L3, 20)	Investigation in Biomedicine (L3 10)	
	<b>Examinations (3 papers (Biomedicine &amp; Chemistry &amp; MLS) and one report (IB))</b>			

## September and January Entry

Semester				
1	Biomedicine I: Genes, Cells and Development (L3, 20)	Chemistry I: Atoms, Molecules and Reactions (L3, 20)	Medicine, Disease and Society (L3, 10)	Measurement in the Life Sciences (L3, 20)
	<b>Formative Examinations (2 papers (Biomedicine &amp; Chemistry) and one report (MLS))</b>			
2	Biomedicine II: Tissues, Systems and Regulation (L3, 20)	Chemistry II: Periodic and Organic Chemistry (L3, 20)	Investigation in Biomedicine (L3 10)	
	<b>Examinations (3 papers (Biomedicine &amp; Chemistry &amp; MLS) and one report (IB))</b>			

### Appendix: Detailed admissions criteria

Successful applicants will usually satisfy at least ONE of the following: please note that the whole application is considered, and that there is no automatic admission on the basis of meeting the threshold qualifications.

- BBB at A-level, but not in natural sciences subjects
- A Bachelor degree, but not in a natural science
- Alternative level 3 qualifications that demonstrate academic ability in the natural sciences but are not equivalent to BBB at A-level.
- B at A-level in a single natural science or mathematics

In addition, successful applicants will have:

- GCSE grade B or 6 or equivalent in Mathematics, English and Science (at least single subject)
- Evidence that they have recently successfully studied in English
- IELTS 6.0 overall (or equivalent) for international students. 6.0 in reading and writing, 5.5 in listening and speaking