Title of Programme: MSc Biosciences Programme
Programme Code: LMBIOM
Course Code: LMCANIM, LMCANIMARM

MSc Cancer Immunotherapy
MSc Cancer Immunotherapy (Sandwich)
MSc Cancer Immunotherapy (with Advanced Research)

Programme Specification

This programme specification is relevant to students entering:
27 September 2021

Associate Dean of School (Academic Quality Assurance):
Stefanie Schmeer

Signature

A programme specification is a collection of key information about a programme of study (or course). It identifies the aims and learning outcomes of the programme, lists the modules that make up each stage (or year) of the programme, and the teaching, learning and assessment methods used by teaching staff. It also describes the structure of the programme, its progression requirements and any programme-specific regulations. This information is therefore useful to potential students to help them choose the right programme of study, to current students on the programme, and to staff teaching and administering the programme.

Summary of amendments to the programme

<table>
<thead>
<tr>
<th>Date</th>
<th>Section</th>
<th>Amendment</th>
</tr>
</thead>
<tbody>
<tr>
<td>30/03/21</td>
<td>G</td>
<td>IELTS requirements for Sandwich route and Advanced Research route updated</td>
</tr>
</tbody>
</table>

If you have any queries regarding the changes please email AQO@herts.ac.uk
Programme Specification MSc Cancer Immunotherapy

This programme specification (PS) is designed for prospective students, enrolled students, academic staff and potential employers. It provides a concise summary of the main features of the programme and the intended 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 teaching, learning and assessment methods, learning outcomes and content for each module can be found in Definitive Module Documents (DMDs) and Module Guides.

Section 1

A. Programme Rationale

The programme is designed to provide a postgraduate education in Cancer Immunotherapy for graduates in the Biosciences. A strong practical foundation is provided in the first semester with the study of modules that concentrate on the basic principles and techniques used in Immunology and on aspects of molecular biology and bioinformatics. In the second semester there is a progression to problem-based learning (PBL) to develop an in-depth understanding and high-level critical analysis skills of cancer immunotherapy and molecular medicine. Students will also learn how to apply cellular and molecular immunological principles to the interpretation of case studies in cancer immunotherapy. During the final semester, the research project carried out in the state-of-the-art multimillion science facility may include aspects of therapeutic antibodies, cytokine-based therapies, complement therapies and extracellular vesicles as drug delivery vehicles. The MSc Cancer Immunotherapy (Sandwich) pathway provides students with the opportunity to gain practical experience of a UK professional workplace and strengthen their employability skills. The MSc Cancer Immunotherapy (with Advanced Research) provides an opportunity to work in a research rich environment, including the completion of an internship with a member of the research staff and an extended research project.

All options will provide students with the skills they need to have for future opportunities in the fast-growing biotechnology and pharmaceutical industry as well as prepare them to have careers in academia and healthcare.

The use of problem based learning approaches is a key feature of the programme and will promote development of investigative skills, the ability to work in a group and confidence in the investigation of new research areas. Another key feature of the programme is the research project which provides training in research methods and hands-on experience of laboratory and bioinformatics techniques including next generation sequencing. Throughout the programme the students will be provided with academic and personal support by their personal tutors, programme leader and academic support unit. Where required, students will be further supported to improve their skills in academic English writing through English language classes.

B. Educational Aims of the Programme

The programme has been devised in accordance with the University's graduate attributes of programmes of study as set out in UPR TL03.
Additionally this programme aims to:

- engender a continuing and independent approach to learning, encouraging initiative and self-discipline such that students will be able to comprehend, contribute to, and harness advances in cellular and molecular immunology and related areas of molecular biology as applied to cancer immunotherapy;

- build and improve on students’ cognitive skills, including the ability to think logically and independently; to be reflective and critical of scientific hypotheses, to analyse, synthesise and be creative;

- enable students to develop a systematic understanding of cancer immunotherapy and a critical awareness of associated issues, some of which are at the forefront of cancer immunotherapy;

- provide a framework for the acquisition of a comprehensive understanding of cancer immunotherapy and toxicology techniques applicable to research, equivalent advanced scholarship and commercial situations;

- develop an ability to apply the techniques described above and an understanding of how the results may be used to inform judgements, and develop and advance ideas;

- provide opportunities for the continuing development of transferable skills including communication, mathematical analysis, use of information technology, problem solving both as part of a team and as an individual.

C. Intended Learning Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills and other attributes in the following areas. The programme outcomes are referenced the Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies (2014), and relate to the typical student. Additionally, the SEEC Credit Level Descriptors for Further and Higher Education (2016) have been used as a guiding framework for curriculum design.

<table>
<thead>
<tr>
<th>Knowledge and Understanding:</th>
<th>Teaching/learning methods &amp; strategies</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 of the relationship of gene expression to the phenotype of an organism via an understanding of gene and protein structure and function.</td>
<td>A1 is achieved through a combination of lectures, laboratory classes, tutorials and guided reading in Molecular Cell Biology and Immunology.</td>
<td>Knowledge and understanding are assessed through a combination of unseen tests (A1-A5) data interpretation exercises (A2, A3) oral presentations (A4, A5), laboratory records (A2, A5), viva voce examinations (A2, A3), PBL assignments (A2, A3), bioinformatics exercise (A2), and the design, execution and reporting of a research project (A2-A4).</td>
</tr>
<tr>
<td>A2 the methodologies of recombinant DNA technology and apply them to the investigation of therapeutic targets at molecular, cellular, tissue and whole organism.</td>
<td>A2 is achieved via a similar teaching programme in Molecular Cell Biology and Immunology and Translational Medical Science.</td>
<td></td>
</tr>
<tr>
<td>A3 of advances in knowledge, at a systems and molecular level, of the pathological basis of disease and their modulation by therapeutic strategies.</td>
<td>A3 is achieved through a combination of lectures and problem-based learning (PBL) exercises in Molecular Medicine and Contemporary Topics in Cancer Immunotherapy</td>
<td></td>
</tr>
<tr>
<td>A4 of molecular concepts of immunotherapeutic action as related to treating cancer.</td>
<td>A4 is achieved through the lecture programme, and problem-based learning (PBL) exercises in Contemporary Topics in Cancer Immunotherapy.</td>
<td></td>
</tr>
<tr>
<td>A5 of the process of</td>
<td>A5 is achieved through the lecture and practical programme in Translational Medical Science</td>
<td></td>
</tr>
</tbody>
</table>
fundamental discovery of novel cancer immunotherapies to developing a translatable product.

and lectures, workshops and PBL exercises in *Molecular Medicine*

Throughout, the learner is encouraged to undertake independent study both to supplement and consolidate what is being taught/learnt and to broaden their individual knowledge and understanding of the subject.

<table>
<thead>
<tr>
<th>Intellectual skills:</th>
<th>Teaching/learning methods &amp; strategies</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1 evaluate the applications of methodologies used in Cancer Immunotherapy in fundamental research and the pharmaceutical industry.</td>
<td>Acquisition of B1 is through the laboratory classes, <em>Research Project with Research Methods</em>, and PBL exercises.</td>
<td>Intellectual skills are assessed through laboratory reports, <em>viva voce</em> examinations, the Research Project and Extended Research Project, research internship portfolio and PBL assignments or placement report.</td>
</tr>
<tr>
<td>B3 integrate research skills, analytical and critical skills in an extended project.</td>
<td>Acquisition of B3 is through the <em>Research Internship</em> and <em>Extended Research Project</em>.</td>
<td></td>
</tr>
<tr>
<td>B4 integrate theoretical and practical skill in a professional working environment.</td>
<td>Acquisition of B4 is through the <em>MSc Biosciences Placement</em>.</td>
<td></td>
</tr>
</tbody>
</table>

Throughout, the learner is encouraged to develop intellectual skills further by independent study.

<table>
<thead>
<tr>
<th>Practical skills:</th>
<th>Teaching/learning methods &amp; strategies</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1 design, execute, interpret and report investigations (practical and theoretical) of cancer immunotherapy problems and critically evaluate the contribution made to current knowledge and propose avenues for future study.</td>
<td>Practical skills are developed through laboratory classes, the PBL exercises, <em>Research Project with Research Methods</em>, <em>Extended Research Project</em> and the work placement modules.</td>
<td>Practical skills are assessed through laboratory reports <em>viva voce</em> examinations the PBL assignments, the project proposal and project.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transferable skills:</th>
<th>Teaching/learning methods &amp; strategies</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1 effectively communicate analyses of case studies in both the written and spoken word and defend the findings of their work.</td>
<td>Transferable skills are developed throughout the programme: Acquisition of D1 is achieved in the PBL modules and the</td>
<td>Transferable skills are assessed through laboratory reports (D1,4); <em>viva voce</em> examinations (D1 and D2); seminars (D1) and PBL reports (D1, D3, D4, D5).</td>
</tr>
</tbody>
</table>
D2 demonstrate self-direction and originality in tackling and solving problems and act autonomously in planning and executing tasks.

D3 contribute effectively to the functioning of a group and reflect on the learning experience.

D4 demonstrate numeracy and manipulate, analyse and present data.

D5 apply appropriate information technology to the recovery, analysis and reporting of biological data.

D6 continue to learn independently and to develop professionally.

D7 communicate effectively, with colleagues and a wider audience.

Research Project with Research Methods module.

Acquisition of D2 is through the project, PBL and the supporting mentoring programme operated in Semester A.

Acquisition of D3 is achieved through the PBL modules.

Acquisition of D4, D5, D6 and D7 is achieved through all modules but particularly the PBL exercises, the Research Project with Research Methods module, the Extended Research Project module and the work placement modules.

Throughout, the learner is encouraged to develop transferable skills by maintaining a record of evidence and completing a personal development plan.

D. Programme Structures, Features, Levels, Modules, and Credits

The Cancer Immunotherapy programme is offered in full-time mode (Semester A intake, 3 semesters) or as a part-time programme (Sem A intake, 6 semesters) and leads to the award of MSc Cancer Immunotherapy. Entry is normally at level 7.

The programme of study leading to the awards of MSc Cancer Immunotherapy (Sandwich) and MSc Cancer Immunotherapy (with Advanced Research) is offered in full time (2 years) mode (Semester A intake, 5 or 6 semesters) only. Entry is normally at level 7.

Professional and Statutory Regulatory Bodies

None

Work-Based Learning, including Sandwich Programmes

The Sandwich award requires the successful completion of at least 30 weeks full-time equivalent placement activity in addition to the period of academic study required.

The work placement comprises an agreed period of a minimum of 30 weeks full-time equivalent (including employers’ and statutory holidays) of work-based learning at an organisation or company which has agreed to those terms and conditions regarded as essential by the University of Hertfordshire. Students will be supervised according to University regulations. The learning experience will be assessed in the ‘Work Placement Assessment’ module, to enable students to demonstrate both their knowledge of the industry, their skills development and their professional attributes.

Placements are advertised through the Career and Placements Office. Students may also source their own placement, but it must be subsequently approved by the School in terms of health and safety, equality legislation and supervisory guidelines before a student can take it up. The placement will need to take place in the UK.
Depending on the nature of placement, a successful enhanced Disclosure and Barring check or equivalent, immunisation and occupational health check may be required.

All students on the pathway leading to the award MSc Molecular Biotechnology (Sandwich) are eligible to proceed to a placement year provided they have achieved 60 credits by the end of semester A and a further 60 credits by the end of semester B, and they have completed the appropriate placement documentation. Success in the placement will be recognised in the title of the award but does not carry additional credit towards the Masters programme.

Programme Structure
The programme structure and progression information below (Table 1a and 1b) is provided for the award. Any interim awards are identified in Table 1b. The Programme Learning Outcomes detailed above are developed and assessed through the constituent modules. Table 2, 2a and 2b identify where each learning outcome is assessed.

Table 1a Outline Programme Structure

MSc Cancer Immunotherapy
Mode of study Full-Time (one year)
Entry point – Semester A

<table>
<thead>
<tr>
<th>Compulsory Modules</th>
<th>Module Title</th>
<th>Module Code</th>
<th>Credit Points</th>
<th>Language of Delivery</th>
<th>% Examination</th>
<th>% Coursework</th>
<th>% Practical</th>
<th>Semesters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Molecular Cell Biology and Immunology</td>
<td>7LMS0279</td>
<td>30</td>
<td>English</td>
<td>0</td>
<td>100</td>
<td>0</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Translational Medical Science</td>
<td>7LMS0271</td>
<td>30</td>
<td>English</td>
<td>0</td>
<td>75</td>
<td>25</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Contemporary Topics in Cancer Immunotherapy</td>
<td>7LMS0274</td>
<td>30</td>
<td>English</td>
<td>0</td>
<td>80</td>
<td>20</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Molecular Medicine</td>
<td>7LMS0277</td>
<td>30</td>
<td>English</td>
<td>0</td>
<td>80</td>
<td>20</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Research Project with Research Methods</td>
<td>7LMS0278</td>
<td>60</td>
<td>English</td>
<td>0</td>
<td>100</td>
<td>0</td>
<td>ABC</td>
</tr>
</tbody>
</table>

The award of MSc Cancer Immunotherapy requires 180 credit points passed at level 7. Although the modules are assessed by coursework, this will also include some in-class tests.

MSc Cancer Immunotherapy
Mode of study Part Time (two years)
Entry point Semester A

Students study 60 credits in Year 1 and 120 credits in Year 2:

Year 1 (60 credits):

<table>
<thead>
<tr>
<th>Compulsory Modules</th>
<th>Module Title</th>
<th>Module Code</th>
<th>Credit Points</th>
<th>Language of Delivery</th>
<th>% Examination</th>
<th>% Coursework</th>
<th>% Practical</th>
<th>Semesters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Molecular Cellular Biology &amp; Immunology</td>
<td>7LMS0279</td>
<td>30</td>
<td>English</td>
<td>0</td>
<td>100</td>
<td>0</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Molecular Medicine</td>
<td>7LMS0277</td>
<td>30</td>
<td>English</td>
<td>0</td>
<td>80</td>
<td>20</td>
<td>B</td>
</tr>
</tbody>
</table>
Year 2 (120 credits):

<table>
<thead>
<tr>
<th>Compulsory Modules</th>
<th>Module Title</th>
<th>Module Code</th>
<th>Credit Points</th>
<th>Language of Delivery</th>
<th>% Examination</th>
<th>% Coursework</th>
<th>% Practical</th>
<th>Semesters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Contemporary Topics in Cancer Immunotherapy</td>
<td>7LMS0274</td>
<td>30</td>
<td>English</td>
<td>0</td>
<td>100</td>
<td>0</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Translational Medical Sciences</td>
<td>7LMS0271</td>
<td>30</td>
<td>English</td>
<td>0</td>
<td>100</td>
<td>0</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Research Project with Research Methods</td>
<td>7LMS0278</td>
<td>60</td>
<td>English</td>
<td>0</td>
<td>100</td>
<td>0</td>
<td>ABC</td>
</tr>
</tbody>
</table>

The award of MSc Cancer Immunotherapy requires 180 credit points passed at level 7. Although the modules are assessed by coursework, this will also include some In-class tests.

MSc Cancer Immunotherapy (Sandwich)
Mode of Study Full Time (2 years)
Entry point Semester A

Students study 120 credits in year 1 and 60 credits in year 2:

Year 1 (120 credits):

<table>
<thead>
<tr>
<th>Compulsory Modules</th>
<th>Module Title</th>
<th>Module Code</th>
<th>Credit Points</th>
<th>Language of Delivery</th>
<th>% Examination</th>
<th>% Coursework</th>
<th>% Practical</th>
<th>Semesters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Molecular Cellular Biology &amp; Immunology</td>
<td>7LMS0279</td>
<td>30</td>
<td>English</td>
<td>0</td>
<td>100</td>
<td>0</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Molecular Medicine</td>
<td>7LMS0277</td>
<td>30</td>
<td>English</td>
<td>0</td>
<td>80</td>
<td>20</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Contemporary Topics in Cancer Immunotherapy</td>
<td>7LMS0274</td>
<td>30</td>
<td>English</td>
<td>0</td>
<td>80</td>
<td>20</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Translational Medical Sciences</td>
<td>7LMS0271</td>
<td>30</td>
<td>English</td>
<td>0</td>
<td>75</td>
<td>25</td>
<td>A</td>
</tr>
</tbody>
</table>

To progress to a placement, students on the ‘Sandwich’ award must normally have completed 120 credits. Students who have not met these progression requirements, including students with outstanding deferrals, will be transferred from the ‘Sandwich’ award to the two-year ‘with Advanced Research’ programme. Entrants may alternatively transfer onto the standard, one-year programme.

Year 1 (120 credits):
### Compulsory Modules

<table>
<thead>
<tr>
<th>Module Title</th>
<th>Module Code</th>
<th>Credit Points</th>
<th>Language of Delivery</th>
<th>% Examination</th>
<th>% Coursework</th>
<th>% Practical</th>
<th>Semesters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Placement Assessment</td>
<td>7LMS2003</td>
<td>0</td>
<td>English</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
</tr>
<tr>
<td>Research Project with Research Methods</td>
<td>7LMS0278</td>
<td>60</td>
<td>English</td>
<td>0</td>
<td>100</td>
<td>0</td>
<td>BC</td>
</tr>
</tbody>
</table>

The award of MSc Cancer Immunotherapy (Sandwich) normally requires 180 credit points passed at level 7, with successful completion of the required placement activity and the module Work Placement Assessment.

**MSc Cancer Immunotherapy (with Advanced Research)**

**Mode of Study** Full Time (2 years)

**Entry point** Semester A

Students study 120 credits in year 1 and 120 credits in year 2:

#### Year 1 (120 credits):

<table>
<thead>
<tr>
<th>Module Title</th>
<th>Module Code</th>
<th>Credit Points</th>
<th>Language of Delivery</th>
<th>% Examination</th>
<th>% Coursework</th>
<th>% Practical</th>
<th>Semesters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular Cellular Biology &amp; Immunology</td>
<td>7LMS0279</td>
<td>30</td>
<td>English</td>
<td>0</td>
<td>100</td>
<td>0</td>
<td>A</td>
</tr>
<tr>
<td>Molecular Medicine</td>
<td>7LMS0277</td>
<td>30</td>
<td>English</td>
<td>0</td>
<td>80</td>
<td>20</td>
<td>B</td>
</tr>
<tr>
<td>Contemporary Topics in Cancer Immunotherapy</td>
<td>7LMS0274</td>
<td>30</td>
<td>English</td>
<td>0</td>
<td>80</td>
<td>20</td>
<td>B</td>
</tr>
<tr>
<td>Translational Medical Sciences</td>
<td>7LMS0271</td>
<td>30</td>
<td>English</td>
<td>0</td>
<td>75</td>
<td>25</td>
<td>A</td>
</tr>
</tbody>
</table>

#### Year 2 (120 credits):

<table>
<thead>
<tr>
<th>Module Title</th>
<th>Module Code</th>
<th>Credit Points</th>
<th>Language of Delivery</th>
<th>% Examination</th>
<th>% Coursework</th>
<th>% Practical</th>
<th>Semesters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Internship</td>
<td>7LMS2004</td>
<td>30</td>
<td>English</td>
<td>0</td>
<td>50</td>
<td>50</td>
<td>A</td>
</tr>
<tr>
<td>Extended Research Project</td>
<td>7LMS2005</td>
<td>90</td>
<td>English</td>
<td>0</td>
<td>80</td>
<td>20</td>
<td>ABC</td>
</tr>
</tbody>
</table>

The award of an MSc Cancer Immunotherapy (with Advanced Research) normally requires 240 credit points passed at level 7, with successful completion of the modules Research Internship and Extended Research.
The programme provides the following final and interim awards:

### Final Award

<table>
<thead>
<tr>
<th>Masters</th>
<th>Cancer Immunotherapy</th>
<th>180 credit points including at least 150 at level 7</th>
<th>3 Semesters</th>
<th>All programme learning outcomes except B3 and B4 (see Table 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masters</td>
<td>Cancer Immunotherapy (with Advanced Research)</td>
<td>240 credit points</td>
<td>5 semesters</td>
<td>All programme learning outcomes except B4 (see Table 2b)</td>
</tr>
<tr>
<td>Masters</td>
<td>Cancer Immunotherapy (Sandwich)</td>
<td>180 credit points including at least 150 at level 7</td>
<td>6 semesters</td>
<td>All programme learning outcomes except B3 (see Table 2a)</td>
</tr>
</tbody>
</table>

### Interim Award

<table>
<thead>
<tr>
<th>Postgraduate Diploma</th>
<th>Cancer Immunotherapy</th>
<th>120 credit points, including at least 90 at level 7</th>
<th>2, 3 Semesters</th>
<th>A1, A2, A3, A4, B1, B2, C1, D1, D2, D3, D4, D5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postgraduate Certificate</td>
<td></td>
<td>60 credit points, including at least 45 at level 7</td>
<td>1-2 Semesters</td>
<td>For untitled awards: See UPR AS11, section 13: <a href="http://sitem.herts.ac.uk/secreg/upr/AS11.htm">http://sitem.herts.ac.uk/secreg/upr/AS11.htm</a></td>
</tr>
</tbody>
</table>

Masters and Diploma awards can be made "with Distinction" or "with Commendation" where criteria as described in UPR AS14, Section D and the students' handbook are met.

### Programme-specific assessment regulations

The programme is compliant with the University's academic regulations (in particular, UPR AS11, UPR AS12/UPR AS13, and UPR AS14) with the exception of those listed below, which have been specifically approved by the University:

- None

Further points of clarification and interpretation relevant to this specific programme are given below:

- For the award of Postgraduate Certificate and Postgraduate Diploma in Cancer Immunotherapy the 60 or 120 credit points, respectively, must include either 7LMS0271 Translational Medical Science (30 credit points) or 7LMS0274 Contemporary Topics in Cancer Immunotherapy (30 credit points)
- To qualify for the 'with Advanced Research' award, students must successfully complete the 30-credit Research Internship and 90-credit 'Extended Research Project' module.
- The award calculation for the MSc Cancer Immunotherapy (with Advanced Research) is based on the average of the best 150 credits; these will include the 90-credit point Extended Research Project.
- To gain the 'Sandwich' award, students must successfully complete the 180 taught credits, successfully complete a 30-week full-time equivalent placement and pass the 'Work Placement Assessment' module.
Students who do not successfully complete the placement and associated module assessments will be offered the award MSc Cancer Immunotherapy, on successful completion of the Research Project with Research Methods module.

- Students are responsible for securing their own placement. Students are usually required to secure their placement by the end of April in order to process the necessary paperwork in order to embark on the placement in sufficient time to complete the 30 weeks of full-time equivalent work required. Students who do not secure a placement within this timescale will be transferred from the ‘Sandwich’ award to the two-year ‘with Advanced Research’ award or to the standard one-year full time MSc course.
- Students are expected to attend all classes including lectures, workshops and practicals and attendance will be monitored for each module.

E. Management of Programme & Support for student learning

Management

The programme is managed and administered through:
- Dean of School
- Associate Deans (Academic Quality Assurance and Education)
- A Programme Leader who is responsible for the day to day management of the programme and admissions tutor who is responsible for the admissions
- A designated Programme Administration team.
- Module Co-ordinators who are responsible for individual modules
- A Programme Committee with the following membership: Programme Leader (chair), a Programme Administrator, Module Co-ordinators, School Learning Information Services Consultant, lecturing staff who have a substantial input into the programme, and student representatives.

Support

Students are supported by:
- An induction period at the beginning of the academic session
- An extensive Learning Resources Centre, incorporating a library and computer centre
- A Programme Leader to give advice on the programme regulations
- Personal tutors to provide pastoral and academic support
- Project tutors
- Module guides providing module information and study guidance
- On-line module information provided via the University’s managed learning environment “Studynet” a University-wide system for study support
- A student handbook
- Comprehensive feedback on assessed assignments
- Student representatives on the Programme Committee
- An English Language Teaching Centre
- A substantial Student Centre that provides advice on issues such as finance, University regulations, legal matters etc
- An Accommodation Office
- An Overseas Student Orientation course
- A Mathematics Drop-in Centre
- A Disabled Student Co-ordinator
- An Equal Opportunities Officer
- The Students’ Union
- Careers, Enterprise and Employment Service

F. Other sources of information

In addition to this Programme Specification, the University publishes guidance to registered students on the programme and its constituent modules:
• A Programme (or Student) Handbook;
• A Definitive Module Document (DMD) for each constituent module;
• A Module Guide for each constituent module.
• University of Hertfordshire Course website: http://www.herts.ac.uk/courses/

• Information on Programme and Module External Examiners http://www.study.net1.herts.ac.uk/ptl/common/studentcentre.nsf/Teaching+Documents/184A221E5EECA6B78257A5C00250BA9?OpenDocument

The Ask Herts website provides information on a wide range of resources and services available at the University of Hertfordshire including academic support, accommodation, fees, funding, visas, wellbeing services and student societies.

As a condition of registration, all students of the University of Hertfordshire are required to comply with the University's rules, regulations and procedures. These are published in a series of documents called ‘University Policies and Regulations’ (UPRs). The University requires that all students consult these documents which are available online, on the UPR website, at: http://www.herts.ac.uk/secreg/upr/. In particular, UPR SA07 ‘Regulations and Advice for Students' Particular Attention - Index’ provides information on the UPRs that contain the academic regulations of particular relevance for undergraduate and taught postgraduate students.

In accordance with section 4(5) of the Higher Education and Research Act 2017 (HERA), the UK Office for Students (OFS) has registered the University of Hertfordshire in the register of English higher education providers. The Register can be viewed at: https://www.officeforstudents.org.uk/advice-and-guidance/the-register/the-ofs-register/. Furthermore, the OFS has judged that the University of Hertfordshire delivers consistently outstanding teaching, learning and outcomes for its students. It is of the highest quality found in the UK. Consequently, the University received a Gold award in the 2018 Teaching Excellence and Student Outcomes (TEF) exercise. This award was made in June 2018 and is valid for up to 3 years. The TEF panel’s report and conclusions can be accessed at: https://www.officeforstudents.org.uk/advice-and-guidance/teaching/tef-outcomes/#/provider/10007147

G. Entry requirements

“For current entry tariff point requirements, please refer to the relevant page for the Course on the University website or on the online prospectus”.

The normal entry requirements for the programme are:

i. a first or second class Honours Degree in Biosciences or Biological Chemistry with a final classification grade of a minimum 55%; or
ii. a professional qualification accepted as equivalent to the above; or
iii. a qualification in veterinary science, medicine or dentistry or
iv. a first or second class Honours Degree in disciplines other than those described above with a final classification grade of 55% but where the applicant, in the opinion of the Programme Leader, would benefit from, and succeed on, the programme

In addition, all international students are required to demonstrate an English Language capability of IELTS 6.5 (with no less than 6.0 in any band) or equivalent qualification.

MSc Cancer Immunotherapy (Sandwich) and MSc Cancer Immunotherapy (with Advanced Research) (two year full time):

• 65% or above average grade in an undergraduate degree in the Biological Sciences
• Students will be selected through interview
In addition, all international students are required to demonstrate an English Language capability of IELTS 6.5 (with no less than 6.0 in any band) or equivalent qualification.

**Applicants will be interviewed in order to establish their suitability based upon the following criteria:**

The applicant will be rated on a 5-point scale for their ability to demonstrate:

1. an advanced knowledge in the field of cancer immunotherapy and how this has been developed.
2. critical awareness of current issues in cancer therapy, immunology and cancer immunotherapy, in particular the impact of molecular biology and immuno-technologies on recent developments in the discipline.
3. practical experience in a range of laboratory techniques relevant to the biosciences.

In addition, all international students are required to demonstrate an English Language capability of IELTS 7.0 (with no less than 6.5 in any band) or equivalent qualification.

**Non-Standard Entry**

Applicants not within the categories described above, but who can demonstrate by other means, as specified below, that they can succeed on the programme will be considered on an individual basis.

i. The equivalent of at least 5 years’ experience of working full-time in the biotechnology or pharmaceutical industry.

**Applicants will be interviewed in order to establish their suitability based upon the following criteria:**

The applicant will be rated on a 5 point scale for their ability to demonstrate:

1. an advanced knowledge in the field of cancer immunotherapy and how this has been developed during employment.
2. critical awareness of current issues in cancer therapy, immunology and cancer immunotherapy, in particular the impact of molecular biology and immuno-technologies on recent developments in the discipline.
3. practical experience in a range of laboratory techniques relevant to the biosciences.

The programme is subject to the University’s Principles, Policies and Regulations for the Admission of Students to Undergraduate and Taught Postgraduate Programmes (in UPR SA03), along with associated procedures. These will take account of University policy and guidelines for assessing accredited prior certificated learning (APCL) and accredited prior experiential learning (APEL).

If you would like this information in an alternative format please contact: ask@herts.ac.uk

If you wish to receive a copy of the latest Programme Annual Monitoring and Evaluation Report (AMER) and/or the External Examiner’s Report for the programme, please email a request to aqo@herts.ac.uk
### MSc Cancer Immunotherapy

**Table 2: Development of Intended Programme Learning Outcomes in the Constituent Modules**

This map identifies where the programme learning outcomes are assessed in the constituent modules. It provides (i) an aid to academic staff in understanding how individual modules contribute to the programme aims (ii) a checklist for quality control purposes and (iii) a means to help students monitor their own learning, personal and professional development as the programme progresses.

<table>
<thead>
<tr>
<th>Module Title</th>
<th>Module Code</th>
<th>Knowledge &amp; Understanding</th>
<th>Intellectual Skills</th>
<th>Practical Skills</th>
<th>Transferable Skills</th>
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<tbody>
<tr>
<td>Molecular Cell Biology and Immunology</td>
<td>7LMS0279</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>D1 D2 D3 D4 D5 D6 D7</td>
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<tr>
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<td>x</td>
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<tr>
<td>Molecular medicine</td>
<td>7LMS0277</td>
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<tr>
<td>Research Project with Research Methods</td>
<td>7LMS0278</td>
<td>x</td>
<td>x</td>
<td>x</td>
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</tbody>
</table>
### MSc Cancer Immunotherapy (Sandwich)

**Table 2a: Development of Intended Programme Learning Outcomes in the Constituent Modules**

This map identifies where the programme learning outcomes are assessed in the constituent modules. It provides (i) an aid to academic staff in understanding how individual modules contribute to the programme aims (ii) a checklist for quality control purposes and (iii) a means to help students monitor their own learning, personal and professional development as the programme progresses.

| Module Title                                      | Module Code   | A1 | A2 | A3 | A4 | A5 | B1 | B2 | B4 | C1 | D1 | D2 | D3 | D4 | D5 | D6 | D7 |
|---------------------------------------------------|---------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Molecular Cell Biology and Immunology              | 7LMS0279      | x  | x  |    |    |    | x  | x  |    |    |    |    |    |    |    |    |
| Translational Medical Science                      | 7LMS0271      | x  | x  | x  |    |    | x  |    |    |    |    |    |    |    |    |    | x  |
| Contemporary topics in Cancer Immunotherapy        | 7LMS0274      |    |    | x  | x  |    | x  |    |    |    |    | x  | x  |    |    |    |    |
| Molecular medicine                                 | 7LMS0277      | x  | x  | x  | x  |    | x  | x  | x  | x  | x  |    |    |    |    |    |    |
| Research Project with Research Methods             | 7LMS0278      | x  | x  | x  | x  |    | x  | x  | x  | x  | x  | x  |    |    |    |    |    |
| MSc Biosciences Placement Year                     | 7LMS2002      |    |    |    |    |    |    |    |    |    | x  |    |    |    |    |    | x  |
| Work Placement Assessment                          | 7LMS2003      |    |    |    |    |    | x  | x  |    |    |    |    |    |    |    |    |    |
MSc Cancer Immunotherapy (with Advance Research)

Table 2b: Development of Intended Programme Learning Outcomes in the Constituent Modules

This map identifies where the programme learning outcomes are assessed in the constituent modules. It provides (i) an aid to academic staff in understanding how individual modules contribute to the programme aims (ii) a checklist for quality control purposes and (iii) a means to help students monitor their own learning, personal and professional development as the programme progresses.

| Module Title                                               | Module Code | A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | C1 | D1 | D2 | D3 | D4 | D5 | D6 | D7 |
|------------------------------------------------------------|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Molecular Cell Biology and Immunology                      | 7LMS0279    | x  | x  |    |    |    | x  | x  | x  |    |    | x  | x  | x  |    |    |
| Translational Medical Science                              | 7LMS0271    | x  | x  |    |    |    | x  | x  | x  | x  |    |    | x  | x  | x  | x  | x  |
| Contemporary topics in Cancer Immunotherapy                | 7LMS0274    |    |    | x  | x  | x  |    |    |    | x  | x  | x  | x  | x  | x  | x  | x  |
| Molecular medicine                                         | 7LMS0277    | x  | x  | x  |    |    | x  | x  | x  | x  | x  | x  | x  | x  | x  | x  | x  |
| Extended Research Project                                  | 7LMS2005    | x  | x  | x  | x  |    | x  | x  | x  | x  |    | x  | x  | x  | x  | x  | x  |
| Research Internship                                        | 7LMS2004    | x  | x  | x  | x  | x  |    |    |    |    | x  | x  | x  |    |    |    |    |
KEY TO PROGRAMME LEARNING OUTCOMES

Knowledge and Understanding

A1. the relationship of gene expression to the phenotype of an organism via an understanding of gene and protein structure and function.

A2. the methodologies of recombinant DNA technology and apply them to the investigation of therapeutic targets at molecular, cellular, tissue and whole organism.

A3. advances in knowledge, at a systems and molecular level, of the pathological basis of disease and their modulation by therapeutic strategies.

A4. molecular concepts of immunotherapeutic action as related to treating cancer.

A5. the process of fundamental discovery of novel cancer immunotherapies to developing a translatable product

Practical Skills

C1. design, execute, interpret and report investigations (practical and theoretical) of cancer immunotherapy problems and critically evaluate the contribution made to current knowledge and propose avenues for future study

Intellectual Skills

B1. evaluate the applications of pharmacological and toxicological methods in fundamental research and the pharmaceutical industry.

B2. critically evaluate scientific and clinical literature and experimental data.

B3. to integrate research skills, analytical and critical skills in an extended project.

B4. to integrate theoretical and practical skills in a professional working placement environment

Transferable Skills

D1. effectively communicate analyses of case studies in both the written and spoken word and defend the findings of their work.

D2. demonstrate self-direction and originality in tackling and solving problems and act autonomously in planning and executing tasks.

D3. contribute effectively to the functioning of a group and reflect on the learning experience.

D4. demonstrate numeracy and manipulate, analyse and present data.
D5. apply appropriate information technology to the recovery, analysis and reporting of biological data

D6. continue to learn independently and to develop professionally.

D7. communicate effectively, with colleagues and a wider audience.
Section 2

Programme management

Relevant QAA subject benchmarking statements
None

Type of programme
Taught postgraduate

Date of validation/last periodic review
February 20

Date of production/ last revision of PS
March 2021

Relevant to level/cohort
Level 7 entering September 2021

Administrative School
School of Life and Medical Sciences

Table 3 Course structure

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course description</th>
<th>HECOS</th>
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<tr>
<td>LMCANIM</td>
<td>MSc Cancer Immunotherapy</td>
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<tr>
<td>LMCANIMARM</td>
<td>MSc Cancer Immunotherapy (with Advanced Research)</td>
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