#  University of Huddersfield

# Programme Specification

|  |  |  |
| --- | --- | --- |
| 1 | Awarding institution/body | University of Huddersfield |
| 2 | **Teaching institution/University** | University of Huddersfield |
| 3 | **School and Department** | Applied Sciences/Chemical and Biological Sciences |
| 4 | **Course accredited by:** |  |
| 5 | Mode of Delivery | Full-time |
| 6 | Final Award | MSci  |
| 7 | Course title | Pharmaceutical Chemistry |
| 8 | UCAS code | B203 |
| 9 | **Subject benchmark statement** | N/A |
| 10 | Date of Programme Specification | Sept 2015, updated January 2016 – effective September 2019 Reviewed March 2023 |

**11 Educational aims of the Course**

The pharmaceutical industry is one of the most successful in the UK. It produces medicines of high quality and effectiveness to maintain our health. The excitement and challenges in biochemical and medical research have never been greater than they are today. The pace and diversity of scientific advances are breathtaking and, coupled with the developments in technology, they offer society unrivalled opportunities in health care. Enormous advances in overcoming infectious diseases came with the introduction of antibiotics, resulting from the application of chemical and microbiological principles to medicine. Advances in the treatment of metabolic disorders came more slowly and still present many challenges today. However, there have been significant developments in the treatment of mental illness, heart related diseases and cancer.

The emergence of AIDS, the re-emergence of tuberculosis and the absence of suitable therapies for neurodegenerative diseases illustrates the need to continually design and develop new and effective drugs. The discovery of new medicines depends on a critical understanding of living systems at the molecular level. Pharmaceutical Chemistry covers the fundamental aspects of chemistry and biochemistry and develops the skills required to design and make new drugs such as anti-cancer and anti-viral agents. This course aims to develop your logical reasoning and develop an imaginative approach to solving problems. It provides the knowledge base required to understand the complexities of drug action and drug design.

Huddersfield is fortunate in having staff expertise in a broad cross-section of the sciences from drug action through to drug design and formulation. The MSci is an enhanced degree which provides additional breadth of study and is designed to equip graduates with the knowledge skills necessary for a career in Research and Development within the pharmaceutical industry. Much of the department’s research activity is relevant to pharmaceutical chemistry.

*The main aims of the programme are to:*

(1) instil a sense of enthusiasm for pharmaceutical chemistry in students.

(2) provide a knowledge and critical appreciation in the main relevant branches of chemistry, biology and Pharmaceutical Chemistry.

(3) provide training in the safe and competent use of laboratory equipment.

(4) develop in students an ability to apply their scientific knowledge and skills to the solution of theoretical and practical problems in pharmaceutical chemistry.

(5) develop, through research, industrial experience (where appropriate) and an education in pharmaceutical chemistry, a range of transferable skills, including mathematical and IT skills, of value in pharmaceutical and non-pharmaceutical employment.

###### 12 Intended learning outcomes

|  |
| --- |
| ***Knowledge and Understanding*** |
| Students will:(6) have an in-depth knowledge of chemical, biological, mathematical and statistical principles and their application to scientific study (7) have a basic understanding of the physiology and biochemistry relating to the human body (8) have a deeper knowledge and understanding of certain aspects of chemistry, biology and pharmaceutical science (9) be aware, and able to discuss, the most recent developments in drug design, action and formulation (10) have acquired sufficient knowledge and personal awareness to be able to make an informed choice of future career  |

| ***Skills and Other Attributes*** |
| --- |
| *Students will be able to:*(11) demonstrate knowledge of essential facts, concepts, principles and theories in the areas mentioned above (12) apply their knowledge to the solution of qualitative and quantitative problems of a familiar and unfamiliar nature (13) evaluate, interpret and generate pharmaceutical information and data (14) recognise and implement good measurement science and practice (15) present scientific results and conclusions clearly and correctly, in writing and orally, to a variety of audiences (16) use computers for data processing and retrieving chemical information (17) recognise and analyse novel problems and plan strategies for their solution  |

| ***Professional Practical Skills*** |
| --- |
| *Students will be able to:*(18) handle chemicals and biological materials and carry out standard laboratory synthetic procedures safely (19) operate standard, and a limited range of advanced, pharmaceutical, chemical and biological instrumentation (20) monitor chemical and biological properties, events or changes by the observation, measurement and systematic and reliable recording thereof (21) interpret experimental results in terms of their significance and underlying theory (22) carry out risk assessments on experimental procedures and laboratory procedures (23) plan, design and execute practical investigations from the problem recognition stage through to the evaluation and appraisal of the results  |

| ***Transferrable/Key Skills*** |
| --- |
| *Students will have:*(24) interpersonal skills (25) numeracy and computational skills (26) verbal and written communication skills (27) time management and organisational skills(28) information retrieval skills, including on-line searches (29) study skills for continuing personal development (30) prepared for a career as a research scientist. |

###### 13 Course structures and requirements, levels, modules, credits and awards:

The Course is consistent with the University Credit Accumulation and Transfer Scheme (CATS) where modules are predominantly of 20 credits, delivered and assessed over one year. In the first year, modules are at foundation level (“F” level credits) and provide underpinning knowledge, competencies and skills for the later intermediate, honours and masters level modules (“I”, “H” and “M” level credits, respectively) taken in later years. Students are required to take 120 “F” level credits in the first year, 120 “I” level credits in the second year and 80 “H” level and 40 “M” level credits during the third year in industry. In their final year they take 80 “M” level credits and a further 40 “H” level credits.

Year 1 - All modules are core modules and cover fundamental topics such as chemistry, biochemistry, physiology and metabolism. These modules are supported by others which are intended to aid the understanding, manipulation, analysis and presentation of chemical and biological data. Basic IT and communication skills are introduced.

**Year 1**

|  |  |  |
| --- | --- | --- |
| **Module Code** | **Module Title** | **Credits** |
|  |  |  |
| SFC1004 | Analytical Science 1 | 20 |
| SFC1002 | Organic Chemistry 1 | 20 |
| SFC1003 | Physical Chemistry 1 | 20 |
| SFC1011 | Pharmaceutics I | 20 |
| SFB1004 | Biochemistry 1 | 20 |
| SFB1006 | Physiology 1: Structure and Function | 20 |

Year 2 - Some of the modules build on the concepts introduced in the first year, whilst others introduce new topics relevant to Pharmaceutical Chemistry. There is a continuing development in IT, analytical and communication skills.

**Year 2**

|  |  |  |
| --- | --- | --- |
| **Module Code** | **Module Title** | **Credits** |
|  |  |  |
| SIC2002 | Synthesis and Stereochemistry of Organic Molecules | 20 |
| SIC2004 | Analytical Science 2 | 20 |
| SIB2015 | Infectious Diseases and Therapeutics | 20 |
| SIC2024 | Pharmaceutics 2 | 20 |
| SIB2012 | Molecular Aspects of Drug Action | 20 |
| SIB2004 | Biochemistry 2 | 20 |

Year 3 – Students spend Year 3 in a research-based laboratory setting, either in one of the university research laboratories or in a commercial/industrial company, governmental organisation, research establishment or hospital setting. During Year 3, students will carry out a research project and write this up as a scientific communication. Students will also critically analyse the sector in which they are based and carry out assessment tasks related to business aspects of other relevant sectors. M level modules have a 50% pass mark.

**Year 3**

|  |  |  |  |
| --- | --- | --- | --- |
| **Module Code** | **Module Title** | **Credits** |  |
| SHC3013 | Laboratory Techniques | 40 |  |
| SHC4040 | Business Aspects of Science | 20 |  |
| SMC4004 | Scientific Communication | 20 |  |
| SHC4041 | Drug Degradation | 20 |  |
| Depending on the type of placement |
| SHC3004 | Industrial Project | 20 |  |
| or |  |  |  |
| SHC3014 | Investigative Project | 20 |  |

Year 4 - The final year research project allows the student to work independently, but with guidance, on a problem which enables them to develop their own line of investigation. The final year taught modules bring together some of the aspects studied earlier to enable students to understand present drug design, activity and delivery. M level modules have a 50% pass mark.

**Year 4**

|  |  |  |  |
| --- | --- | --- | --- |
| **Module Code** | **Module Title** | **Credits** |  |
|  |  |  |  |
| SMC4018 | Research Project | 40 | core |
| SMC4011 | Molecular Targets and Drug Design | 20 | core |
| SMC4009 | Chemical Therapeutics | 20 | core |
| Choose one of the following: |
| SHB4017 | Pharmaceutical Formulation and Drug Analysis | 20 | Optional |
| SHC4004 | Separation Techniques and Analytical Toxicology | 20 | Optional |
| AND |
| Choose one of the following: |
| SMC4002 | Targeted Synthesis of Organic Compounds | 20 | Optional |
| SMC4007 | Advanced Spectroscopic Techniques; Electroanalysis and Sensors | 20 | optional |

**MSci in Pharmaceutical Chemistry** can be awarded upon successful completion of modules which give the student 480 credits of which no more than 120 must be at Foundation level, no more than 120 must be at Intermediate level, no more than 120 must be at Honours level and no more than 120 must be at Masters level. To obtain an MSci Pharmaceutical Chemistry award a student shall also normally have undertaken andpassed a project or dissertation on a suitable academic subject worth 40 M level credits and 60 credits of other final year modules. They must also have achieved an average of at least 50% in the third year H and M level modules. Students must normally have achieved 120 credits to progress to the relevant next stage each year. To progress to the third year of the MSci the student must achieve an average > 60% in their first and second year modules. Students with an average of < 60% will transfer to the third year of the BSc (Hons) Pharmaceutical Chemistry Degree.

The class of award is determined at the Course Assessment Board. Classification will be determined from an average of the marks obtained from the second year I level modules and the third and final year H and M level modules. Those marks obtained from the M level modules shall have twice the weighting of those obtained from the I and H level modules. The averages for each stage will be calculated from the best 100 credits, with the proviso that not more than 100 credits can be counted from any one academic year of study.

The aggregate percentage mark and the relevant classification will be as follows:

 70 - 100 First Class

 60 - 69 Upper Second Class

 50 - 59 Lower Second Class

 < 50 Fail

Students who score less than 50% may be eligible for the award of BSc (Hons) with a classification based on the aggregate mark of all H and I level modules studied:

 > 60 Upper Second Class

 50 - 59 Lower Second Class

 40 - 49 Third

 < 40 May be eligible for BSc

Students who enter directly into the third or final years will be classified based on the aggregate mark of the final year modules only.

Students who are unable or do not wish to complete the MSci programme are able to gain intermediate awards determined by the number and type of credits as follows:

**Certificate of Higher Education in Pharmaceutical Chemistry** 120 “F” credits

**Diploma of Higher Education** **in Pharmaceutical Chemistry** 120 “F” credits + 120 “I” credits

**BSc Pharmaceutical Chemistry** 120 “F” credits + 180 “I”/”H” credits

 (at least 60 “H” credits)

###### 14 Teaching, Learning and Assessment

Modules are delivered over two terms with normally two hours formal contact per week per module. Practical sessions are normally 3 or 4 hours. A variety of teaching methods are used, including lectures, tutorials, seminars, practicals and directed reading. The VLE (Unilearn) is widely used for the provision or supporting material. Individual student centred learning is achieved by the use of structured assignments, workbooks for practicals and IT based resources.

Most modules are assessed through coursework (during the year) and a formal unseen examination in the third term. Coursework is made up mainly from laboratory reports, problem solving assignments and short tests, including MCQs, as well as a small number of essays, oral and poster presentations. Formative tests are widely used, especially in the first year. A summary of assessment is given in appendix 3. A schedule is given to all students at the start of the academic year.

###### 15 Support for students and their learning

All students are assigned a personal tutor. For each individual course there is a year tutor who often fulfills many of the roles of the personal tutor and is more often the main point of contact for students. The role of the year tutor/personal tutor in supporting students is seen as of primary importance. Students are encouraged to see their year tutor or personal tutor about any problems they have which do or may affect their ability to study and learn. The tutor will keep track of any serious on-going issues, but respects student confidentiality. Students may see other staff about an issue if they feel more comfortable doing so. Students are encouraged to see academic tutors if they have difficulty understanding material or with coursework.

Students are also supported in their study and learning through the following activities and services:

- Induction week

- Student Handbook

- Access to the virtual learning environment

- University Library

- School of Applied Sciences Resource Centre which provides a range of services including short-term loans, printing and photocopying facilities

- Three specialised computing laboratories and three chemical/Pharmaceutical Chemistry laboratories

- Student e-mail and open personal access to teaching staff including the Head of Division and the Courses Leader.

- Access to student counsellors at the University of Huddersfield and at the Student Village

- Access to Student Services, which provides assistance and guidance with learning difficulties

- Access to the School of Applied Sciences’ Academic Skills Tutor

- Access to the Students' Union Academic Affairs Officer

Students on placement are supported by the SWE Tutor and the SWE Administrative Assistant. Staff provide guidance in the preparation of CVs, letters of application and interview techniques. Students apply for advertised posts or set up a suitable position through their own contacts. Students are supervised by visits during the placement period.

###### 16 Criteria for admission

Entry qualifications will normally be in accordance with those detailed in the School of Applied Sciences Scheme Document.

Normally candidates will be at least 18 years of age by 31st December of the year of entry.

For full-time and Sandwich Courses, it is desirable that candidates have GCE/GCSE Grade C or above in English and Mathematics and an approved science subject.

For entry to the undergraduate degree candidates normally will have:

- Passes in 5 subjects at GCE/VCE/AVCE/GCSE including 12 units of study from 3, 6 and 12 unit awards with at least one 6 unit award in Chemistry or a 12 unit award in Science, *or*

- A BTEC Certificate/Diploma in science, *or*

- Successfully completed the University of Huddersfield Science Extended Degree*, or*

- Advanced, level 3, GNVQ or NVQ at an appropriate level, *or*

- Other qualifications deemed by the School to be acceptable

Mature students, without formal qualifications may apply for admission through the School Accreditation of Prior Experiential Learning panel.

Entry to different stages is possible for all Courses. At least 120 of the total credits for an award must be obtained through study at the University. Each course has identified requirements for entry at different points and stages. Accreditation is approved by the SAVP in accordance with the procedures outlined in the School of Applied Sciences Undergraduate Scheme Document.

###### 17 Methods for evaluating and improving the quality and standards of teaching and learning

***Mechanisms for review and evaluation of teaching, learning, assessment, the curriculum and outcome standards.***

Module reviews (student evaluations and staff report)

Annual course monitoring report prepared by the Course Leader and considered by Course Committee and School Annual Evaluation Committee

Peer observation of teaching

External Examiners' reports

Employers' reports for Year 3 students that spend Year 3 in industry

***Committees with responsibility for monitoring and evaluating quality and standards***

Student Panel

Course Committee

School of Applied Sciences Teaching and Learning Committee

School of Applied Sciences Annual Evaluation Committee

University Teaching and Learning Committee

Course Assessment Board - meets in June and July to consider marks, progression and awards

***Mechanisms for gaining student feedback on the quality of teaching and their learning experience***

Student Panel and student representation on Course Committee

Student evaluation of modules

***Staff development priorities include:***

Staff appraisals and institutional staff development courses

Updating professional developments

Regular course meetings and annual review and planning for subsequent academic year.

###### 18 Regulation of assessment

The minimum pass mark for each module is 40%.

An overview of assessment details and procedures is provided in the Students Handbook of Regulations and Appendix 3.

To qualify for the award of MSci students must be credited with 480 credits and complete all the requirements of the course as detailed in the University of Huddersfield Regulations for Awards booklet.

The university regulations can be found at the following web address:

<http://www.hud.ac.uk/media/universityofhuddersfield/content2013/services/registry/V1%20Sept%202013.pdf>

***Role of External Examiners***

External Examiners are appointed by the University Teaching and Learning Committee.

External Examiners are appointed from the academic community.

The role of the External Examiner is that of moderator. In order to do this they:

- approve examination papers

- review coursework and examination scripts

- interview borderline candidates for award

- attend the Course Assessment Board

###### 19 Indicators of quality and standards

Reports of validation panels

Annual course reviews

External examiners’ reports

Qualifications and experience of staff

**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 module can be found in the study module guide and course handbook. The accuracy of the information contained in this document is reviewed by the University and may be checked by the Quality Assurance Agency for Higher Education.**

**Key sources of information about the course can be found in:**Student Handbook (Available on the VLE, Unilearn)

University of Huddersfield Students Handbook of Regulations (Available online)

University of Huddersfield Prospectus (issued yearly)

University of Huddersfield Regulations For Awards (Available online)

Appendix 1. Staffing and Management

**MANAGEMENT OF PROGRAMMES**

The management structure for the MSci in Pharmaceutical Chemistry courses operates within the School of Applied Sciences Scheme and acts on behalf of this and other courses for which the Department of Chemical & Biological Sciences is responsible.

**Course Committee**

The course will be under the overall management of the Course Committee which meets at least once per term and is responsible for any decisions concerning the suitability of modules for inclusion on the Course. The chair of that Committee is the Course Leader. The Course Leader will implement policies and decisions of that committee and be responsible for the day to day running of the course. Feedback from student representatives is a standing item on the agenda.

**Year Tutors** are responsible to the Course Committee for the proper management and monitoring of each year of the Course. They will be responsible for advising students of their choice of modules and for support, guidance and counseling when appropriate. The final year tutor is responsible for the co-ordination and administration of the final year project. They will be responsible for allocating project supervisors to each student and will co-ordinate and oversee the assessment of the project.

**Module Leaders will** arrange and co-ordinate the teaching programme for the module(s) for which they are responsible, and maintain appropriate records. Module leaders meet on a regular basis with the teaching team involved in the delivery of the module and the year tutor. The module leader also seeks feedback from student representatives regarding the module.

**Personal Tutors** are allocated to all first year students by the first year tutor.

**Admissions Officer** is responsible, through the Course Leader, to the Course Committee for the proper processing of all applications for admission to the course.

**Examination Officer** is responsible, on behalf of the Course Manager/Leader, for coordinating examination arrangements, including the setting and vetting of examination papers.

**A specialist tutor** is responsible for preparing students for their Year 3 position, liaising with providers to secure positions and (year 3 tutor) monitoring students whilst they are in Year 3

Appendix 2. Mapping of learning outcomes on to modules

**Year 1 - Foundation Level**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Learning Outcome | SFC1004 | SFC1002 | SFC1003 | SFC1011 | SFB1004 | SFB1006 |
| 1 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 2 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 3 | ✔ | ✔ | ✔ | ✔ | ✔ |  |
| 4 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 5 |  |  | ✔ |  |  |  |
| 6 | ✔ | ✔ | ✔ | ✔ |  |  |
| 7 |  |  |  |  | ✔ | ✔ |
| 8 |  |  |  | ✔ |  |  |
| 9 |  |  |  |  |  |  |
| 10 | ✔ | ✔ | ✔ |  | ✔ | ✔ |
| 11 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 12 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 13 |  |  |  |  |  |  |
| 14 | ✔ | ✔ | ✔ | ✔ | ✔ |  |
| 15 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 16 |  |  | ✔ | ✔ |  | ✔ |
| 17 |  |  |  | ✔ |  |  |
| 18 | ✔ | ✔ | ✔ | ✔ |  |  |
| 19 | ✔ | ✔ | ✔ | ✔ | ✔ |  |
| 20 | ✔ | ✔ | ✔ | ✔ | ✔ |  |
| 21 | ✔ | ✔ | ✔ | ✔ | ✔ |  |
| 22 |  |  |  |  |  |  |
| 23 |  |  |  | ✔ |  |  |
| 24 | ✔ | ✔ | ✔ | ✔ | ✔ |  |
| 25 |  |  | ✔ | ✔ |  |  |
| 26 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 27 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 28 |  |  |  |  |  | ✔ |
| 29 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 30 |  |  |  |  |  |  |

**Year 2 - Intermediate Level**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Learning Outcome | SIC2002 | SIC2004 | SIB2004 | SIB2015 | SIC2024 | SIB2012 |
| 1 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 2 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 3 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 4 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 5 |  | ✔ |  | ✔ | ✔ | ✔ |
| 6 |  | ✔ |  | ✔ | ✔ | ✔ |
| 7 |  |  |  |  |  | ✔ |
| 8 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 9 |  |  |  |  | ✔ | ✔ |
| 10 | ✔ | ✔ | ✔ | ✔ |  |  |
| 11 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 12 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 13 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 14 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 15 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 16 |  | ✔ |  | ✔ | ✔ | ✔ |
| 17 | ✔ | ✔ | ✔ | ✔ |  |  |
| 18 | ✔ | ✔ |  | ✔ | ✔ | ✔ |
| 19 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 20 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 21 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 22 |  |  |  |  | ✔ |  |
| 23 |  | ✔ |  |  |  |  |
| 24 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 25 |  | ✔ |  | ✔ | ✔ | ✔ |
| 26 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 27 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 28 |  | ✔ |  | ✔ | ✔ | ✔ |
| 29 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 30 |  |  |  |  |  |  |

**Third Year - Honours and Masters Level**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Learning Outcome | SHC3013 | SHC4041 | SHC4040 | SMC4004 | SHC3004 | SHC3014 |
| 1 | ✔ | ✔ | ✔ | ✔ |  |  |
| 2 |  |  |  |  |  |  |
| 3 | ✔ | ✔ |  |  |  |  |
| 4 | ✔ | ✔ |  | ✔ |  |  |
| 5 | ✔ | ✔ | ✔ | ✔ |  |  |
| 6 | ✔ | ✔ | ✔ | ✔ |  |  |
| 7 | ✔ | ✔ | ✔ | ✔ |  |  |
| 8 |  |  |  |  |  |  |
| 9 | ✔ | ✔ |  | ✔ |  |  |
| 10 |  |  |  |  |  |  |
| 11 | ✔ | ✔ |  |  |  |  |
| 12 |  |  |  | ✔ |  |  |
| 13 | ✔ | ✔ |  | ✔ |  |  |
| 14 | ✔ | ✔ |  |  |  |  |
| 15 | ✔ | ✔ | ✔ |  |  |  |
| 16 | ✔ | ✔ | ✔ |  |  |  |
| 17 | ✔ |  |  |  |  |  |
| 18 | ✔ |  |  |  |  |  |
| 19 | ✔ | ✔ | ✔ |  |  |  |
| 20 | ✔ | ✔ | ✔ |  |  |  |
| 21 | ✔ | ✔ |  |  |  |  |
| 22 | ✔ | ✔ |  | ✔ |  |  |
| 23 | ✔ | ✔ |  |  |  |  |
| 24 | ✔ | ✔ |  |  |  |  |
| 25 |  |  |  |  |  |  |
| 26 |  |  |  | ✔ |  |  |
| 27 | ✔ | ✔ |  | ✔ |  |  |
| 28 | ✔ | ✔ |  |  |  |  |
| 29 |  | ✔ |  |  |  |  |
| 30 | ✔ | ✔ | ✔ | ✔ |  |  |

**Year 4 - Honours and Masters Levels**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Learning Outcome | SMC4018 | SHB4017 | SHC4004 | SMC4011 | SMC4009 | SMC4002 | SMC4007 |
| 1 | ✔ | ✔ |  | ✔ |  |  |  |
| 2 | ✔ | ✔ | ✔ | ✔ | ✔ |  |  |
| 3 | ✔ | ✔ |  |  |  |  |  |
| 4 | ✔ | ✔ | ✔ | ✔ | ✔ |  |  |
| 5 | ✔ | ✔ |  | ✔ |  |  |  |
| 6 |  | ✔ |  | ✔ |  |  |  |
| 7 |  |  |  | ✔ |  |  |  |
| 8 | ✔ | ✔ |  | ✔ | ✔ |  |  |
| 9 | ✔ | ✔ | ✔ | ✔ | ✔ |  |  |
| 10 | ✔ |  | ✔ | ✔ | ✔ |  |  |
| 11 | ✔ | ✔ | ✔ | ✔ | ✔ |  |  |
| 12 | ✔ | ✔ | ✔ | ✔ | ✔ |  |  |
| 13 | ✔ | ✔ | ✔ | ✔ | ✔ |  |  |
| 14 | ✔ | ✔ | ✔ | ✔ |  |  |  |
| 15 | ✔ | ✔ |  | ✔ | ✔ |  |  |
| 16 | ✔ | ✔ | ✔ | ✔ |  |  |  |
| 17 | ✔ | ✔ |  | ✔ | ✔ |  |  |
| 18 | ✔ | ✔ | ✔ |  |  |  |  |
| 19 | ✔ | ✔ |  |  |  |  |  |
| 20 | ✔ | ✔ |  | ✔ |  |  |  |
| 21 | ✔ | ✔ |  | ✔ |  |  |  |
| 22 | ✔ |  |  |  |  |  |  |
| 23 | ✔ | ✔ |  | ✔ |  |  |  |
| 24 |  |  |  | ✔ |  |  |  |
| 25 |  |  |  | ✔ |  |  |  |
| 26 | ✔ | ✔ |  | ✔ | ✔ |  |  |
| 27 | ✔ | ✔ | ✔ | ✔ | ✔ |  |  |
| 28 | ✔ | ✔ | ✔ | ✔ |  |  |  |
| 29 | ✔ | ✔ |  | ✔ | ✔ |  |  |
| 30 | ✔ |  | ✔ | ✔ |  |  |  |

Appendix 3. Assessment Strategies for modules

**YEAR ONE – FOUNDATION LEVEL MODULES**

|  |  |  |  |
| --- | --- | --- | --- |
| **Module** **Code** | **Module** **Title** | **Assessment Weighting** | **Assessment** **Strategy** |
| **Exam** | **C/W** |
| **practical** | **other** |
| SFC1004 | Analytical Science 1 |  | 30 | 70 | lab reports (30%), tests (70%) |
| SFC1002 | Organic Chemistry I | 60 | 20 | 20 | 2 hr exam (60%), lab reports (20%), assignment (20%) |
| SFC1003 | Physical Chemistry 1 | 60 | 20 | 20 | 2 hr exam (60%), lab reports (20%), 2 tests (20%)  |
| SFC1011 | Pharmaceutics I | 50 | 50 |  | Laboratory reports (50%), 2 hr exam (50%) |
| SFB1004 | Biochemistry 1 | 60 | 40 |  | lab reports (40%), exam 2hr (60%)  |
| SFB1006 | Human Physiology | 60 | 40 |  | 2hr exam (60%), practical reports and test (40%) |

**YEAR TWO – INTERMEDIATE LEVEL MODULES**

|  |  |  |  |
| --- | --- | --- | --- |
| **Module** | **Module Title** | **Assessment Weighting** | **Assessment Strategy** |
| **Code** |  | **Exam** | **C/W** |  |
|  |  |  | **practical** | **other** |  |
| SIC2002 | Organic Chemistry 2 | 60 | 25 | 15 | 2.5 hr exam (60%), lab reports (25%), assignment (15%) |
| SIC2004 | Analytical Science 2 |  | 20 | 80 | Coursework (20%), practical assignments (20%), 2 x in-class test (30% each) |
| SIB2015 | Infectious Diseases and Therapeutics | 60 |  | 40 | Coursework (40%) and exam (60%) |
| SIC2024 | Pharmaceutics 2 | 60 | 40 |  | Exam (60%), lab reports, MCQ test and presentation (40%) |
| SIB2012 | Molecular Aspects of Drug Action | 60 |  | 40 | workshop and lab report (40%), 2hr Exam (60%) |
| SIB2004 | Biochemistry 2 | 60 | 40 |  | 2.5 hr exam (60%), lab reports (40%) |

**YEARS THREE & FOUR – HONOURS and MASTERS LEVEL MODULES**

|  |  |  |  |
| --- | --- | --- | --- |
| **Module** **Code** | **Module** **Title** | **Assessment Weighting** | **Assessment** **Strategy** |
| **Exam** | **C/W** |
| **practical** | **other** |  |
|  |
| SHC3013 | Laboratory Techniques(40 credits) |  |  | 100 | Supervisor assessment (50%), portfolio (50%) |
| SHC4041 | Drug Degradation |  | 100 | Project and distance learning |
| SHC4040 | Business Aspects of Science |  |  | 100 | Assignments (60%), company review (40%) |
| SMC4004 | Scientific Communication |  |  | 100 | Critique (40%), scientific paper (40%), oral (20%) |
| SHC3004 | Industrial project |  | 100 |  | Practical work |
| SHC3014 | Investigative Project |  |  | 100 | Continuous assessment |
|  |  |  |  |  |  |
| SMC4018 | Research Project |  | 100 |  | Project |
| SHB4017 | Pharmaceutical Formulation and Drug Analysis | 70 | 30 |  | 3 hr exam (70%), lab report(s) (30%)  |
| SHC4004 | Analytical Science 3 |  |  | 100 | 2 x tests (50% each) |
| SMC4011 | Molecular Targets and Drug Design | 60 |  | 40 | 3 hr exam (60%), assignment (40%) |
| SMC4009 | Chemical Therapeutics | 60 |  | 40 | 3 hr exam (60%), assignment (40%) |
| SMC4002 | Targeted Synthesis of Organic Compounds | 45 |  | 55 | Exam (45%). Test (45%), continual assessment (10%) |
| SMC4007 | Advanced Spectroscopic Techniques; Electroanalysis and Sensors | 40 |  | 60 | Exam (40%), coursework (10%), literature review (10%), test (40%) |