Pharmaceutical and Cosmetic Science BSc (Hons) Programme Specification

Academic Year:	2026/2027
Degree Awarding Body:	The University of Bradford
Qualifications Framework:	HE Qualifications of UK Degree Awarding Bodies (FHEQ: QAA 2024) and Regulated Qualifications Framework (RQF: Ofqual 2015)
Target Degree Award:	Bachelor of Science with Honours (BSc Hons) Pharmaceutical and Cosmetic Science [FHEQ Level 6]
Intermediate/exit awards:	Ordinary Degree of Bachelor (BSc) [FHEQ Level 6] or Diploma of Higher Education (DipHE) [FHEQ Level 5] or Certificate of Higher Education (CertHE) [FHEQ Level 4] or Foundation Certificate (FdCert) [RQF Level 3]
Programme Admission:	UK and international students
Programme start month:	September
Programme Modes of Study:	(UCAS code B204) 3 years full-time or 4 years with elective placement (UCAS code B206) 4 years full time with Integrated Foundation Year

Please note: The University has a set of terms and conditions for all students accepting an offer to study on a course here at Bradford. This is called the Student Contract. This document sets out the Terms and Conditions which apply when an offer of a place on a programme of study at the University of Bradford is accepted. View our Student Contract for further details. Information about this programme and its modules has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but changes may occur given the interval between publishing and commencement of teaching. Any change which impacts the terms and conditions of an applicant's offer will be communicated to them.

Recent changes

1. March 2025: MAR5011-B replaced by MAR4002-B.
2. July 2025: Annual updates for 2025/26 academic year including change to academic regulations.
3. August 2025: Programme specification moved to new template and made accessible.
4. May 2026: Annual changes for 2026 entry including Integrated Foundation year modules.
5. November 2026: Fixed document formatting error and updated links/references.

About our programme

The BSc Pharmaceutical and Cosmetic Science is an innovative programme delivering a broad-based scientific education along with the knowledge and technical skills needed for a career in the pharmaceutical, nutraceutical and cosmetic science industries. The programme sits within the School of Pharmacy, Optometry and Medical Sciences, which has a strong reputation for pioneering innovative approaches in the broad field of Pharmacy education.

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Graduates from this programme will have hands-on experience in the area of product processing and evaluation, highly developed analytical and problem-solving skills, and the technical skills and knowledge needed for employment in multiple sectors. Importantly, they will be prepared to address the complex problems of industry in pharmaceutical/cosmetic product manufacturing, quality assurance, research, regulatory affairs and business development.

The programme embeds active engagement with sustainable product development and sustainable packaging, as well as consideration of the United Nations sustainable development goals in the areas of good health and wellbeing, quality education, decent work and economic growth, industry, innovation and infrastructure and responsible consumption and production. Consideration of equality, diversity and inclusivity (EDI) is also embedded within the programme and students will be encouraged to consider elements of their own background and culture, as well as that of others - values, communication styles, beliefs and practices - and reflect on the importance of these elements for the pharmaceutical, nutraceutical and cosmetic sectors. Opportunities for graduates to develop their innovation and entrepreneurship abilities, including through digital advancements (artificial intelligence), are provided through the programme's spiral curriculum.

Whilst a degree provides the qualification necessary to start a professional career, graduates will need to continue to develop skills throughout their working life, so this programme couples a scientific education with the development of the skills necessary for lifelong learning.

The development of a range of transferable skills for the workplace is supported at all stages of the programme. For example, time-management, adaptability, self-directed working, reflectiveness, an appreciation of diversity, the ability to apply different approaches to suit a situation or problem and the skills to communicate with specialist and non-specialist audiences.

Programme Aims

- deliver a programme in Pharmaceutical and Cosmetic Science for students from diverse cultural and educational backgrounds.
- enhance learning by providing a choice of study options to suit students' interests and/or career aspirations.
- develop students' technical knowledge and skills in the area of formulation and processing technologies which can be applied in the development of pharmaceutical, nutraceutical and cosmetic products.
- provide students with the opportunity to enhance their learning and professional and scientific skills by applying their knowledge and understanding in employment through a sandwich placement year (4-year programme).
- create an awareness of the implications of ethnicity, gender as well as social and cultural diversity in health and disease.
- engage and involve stakeholders including employers, regulatory agencies, professional bodies, students and government agencies to prepare graduates with the skills relevant in the wider sectors.

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- develop research skills to prepare students for postgraduate study.
- nurture entrepreneurship, sustainability and students' ability to work in a multidisciplinary environment.
- provide students with the opportunity to apply core principles of sustainable product development and sustainable packing in addressing 'real world' problems.
- develop personal transferable skills that enable students to move successfully into employment, further education and enhance their societal engagement.
- provide a supportive and structured environment in which students are encouraged to develop the independent study skills required for lifelong learning.

Programme Learning Outcomes

Students who start the programme in the Foundation Year (Stage 0) and are eligible to progress to Stage 1 are able to:

0. Apply knowledge and understanding of key academic and professional skills, through exploration of contemporary issues, research, analysis and problem-solving in the subject discipline.

To be eligible for the FHEQ Level 4 Certificate of Higher Education award, students will be able to:

1. Understand and apply the core principles of preformulation and biology related to pharmaceutical and cosmetic sciences.

2. Safely and effectively perform relevant experiments following given protocols.

3. Evaluate and interpret qualitative and quantitative data (including numerical, artificial intelligence and data analytics).

4. Evaluate the appropriateness of different approaches to solving preformulation problems.

5. Accurately present and communicate scientific information to peers and mentors with structured and coherent arguments.

6. Manage time and learning effectively both independently and as part of a group.

7. Explain and contextualise issues of sustainability, ethics and inclusivity within pharmaceutical and cosmetic sciences sectors.

To be eligible for the FHEQ Level 5 Diploma of Higher Education award, students will be additionally able to:

8. Understand and critically appraise established concepts of physicochemical characterisations of active ingredients and excipients.

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9. Apply underlying concepts and principles of sustainable product development in solving ‘real world’ problems.

10. Apply underlying concepts and principles of marketing practice in the context of pharmaceutical and cosmetic business.

11. Critically evaluate experimental design and data (including the incorporation of fundamental statistics, psychology, and digital intervention concepts) to solve formulation problems.

12. Effectively communicate information to non-specialist audiences with structured and coherent arguments.

13. Demonstrate professional, inclusive and ethical collaboration skills.

To be eligible for the FHEQ Level 6 Degree award, students will be additionally able to:

14. Demonstrate a systematic and critical understanding of key concepts and methods including digital advances in the development of pharmaceutical and cosmetic products.

15. Critically and systematically evaluate arguments, assumptions, abstract concepts and data in order to make judgements and creatively solve problems.

16. Demonstrate a systematic and critical understanding of the importance of innovation (including applying entrepreneurialism, regulation and sustainability) within science and industry and know how to promote it.

17. Effectively communicate information to specialist and non-specialist audiences with structured and coherent arguments, respecting difference in all its forms.

To be eligible for the FHEQ Level 6 Honours Degree award, students will be additionally able to:

18. Design and conduct an individual project in the field of Pharmaceutical and Cosmetic Science, drawing on concepts, methods and techniques at the forefront of the discipline and applying advanced professional skills and behaviours.

Learning and Teaching Strategy

Students will develop the knowledge, understanding and skills necessary to meet the learning outcomes of the modules through the programme’s learning and teaching strategy. Students are supported to demonstrate greater autonomy in their learning as they progress through the programme. A variety of teaching and learning opportunities are used to address programme learning outcomes.

Diagnostic activities will take place at the beginning of the programme to help identify areas of strength and those that need development. Students will be able to access tailored support through drop-in clinics to develop their foundational skills in biology, chemistry and laboratory

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practices. Where appropriate students will also be signposted to Academic Skills or the Language Centre for further support.

Students' knowledge, understanding and discipline skills are developed through lectures, Team-Based Learning (TBL), 'Company to Classroom' sessions, practicals, workshops, online quizzes, simulations, external visits and computer-assisted and self-directed learning, case studies, content writing (blogs), podcasts, video CV, elevator pitch and Dragons' Den presentations. Within the core curriculum of the integrated laboratory and skills development modules, which span the whole of each stage, students will develop their laboratory skills and build professional and transferrable capabilities in self-directed learning and reflective practice in preparation for lifelong learning. Where appropriate, students' learning will be supported through integrated digital resources enabling students to learn in a flexible and independent way.

Personal and professional development, including academic skills, the UN Sustainable Development Goals (in particular, 3. Good health and wellbeing, 4. Quality education, 8. Decent work and economic growth, 9. Industry, innovation and infrastructure and 12. Responsible consumption and production), entrepreneurship, EDI in practice, digital advances (artificial intelligence) are key themes throughout the programme to enable students to build on essential transferable skills (communication to specialist and general audiences, teamwork, time management, consumer behaviour, maths, statistics, data analytics) for graduate employment or further study. Students will be taught how to identify their own learning needs, and to utilise skills assessment strategies and action planning to support the development of their personal transferable skills.

There will be two career development workshops per stage to create awareness of employer needs and opportunities.

Assessment Strategy

The assessment strategy is designed to allow students to demonstrate achievement of the learning outcomes of individual modules appropriate to the level of study. At level 4, students will be examined, primarily, on breadth of knowledge and problem- solving skills. The coursework assignments and group task will provide an opportunity to demonstrate understanding and application of core principles, problem-solving skills, report writing, data handling and interpretation, group work and time management. At this stage, students undertake one end of year exam (biology).

As students progress through levels 5 and 6 they will have the opportunity to demonstrate increasing skills of analysis, synthesis and criticism through a wide variety of assessment strategies. The research project report (dissertation) and elevator pitch presentation with peer assessment provides a key opportunity to demonstrate autonomy in data handling and critical interpretation in a research context.

Formative assessments are embedded throughout the programme to allow students to become familiar with new types of assessment and to reflect on their own progress. Formative

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assessments will often be delivered as ongoing, in-class assessments using a variety of different methods as opposed to being formal examinations.

Classroom tests (individual and team-readiness assurance tests) allow students to work independently as well as in teams. The integrated lab sessions in small groups provide an opportunity for students to hone their practical skills and consolidate knowledge of underpinning theoretical principles alongside a tutor and peers in a formative setting, in preparation for the lab work record.

Assessment, Continuation and Award Regulations

This programme follows the Assessment, Continuation and Award regulations published on the University's website for undergraduate courses (**Regulation 2**).

Curriculum

The curriculum is designed to enable students to develop the necessary level of knowledge in the stream of Pharmaceutical and Cosmetic Science. The knowledge of formulation science and the technical principles and skills required for processing of formulations are the same for pharmaceutical, nutraceutical and cosmetic formulations. The curriculum trains students to disseminate their knowledge to consumers and specialized audiences in the healthcare system and the formulation industry. The programme will develop graduates for a career across different sectors ranging from pharmaceutical, personal care, nutraceuticals and other innovation, formulation and processing industries in different roles that include entrepreneurship.

Students will study 120 credits at all levels of the programme. Modules throughout the programme are all core with integrated elements for student choices. The integrated programme is designed to prepare and support you for a career in pharmaceutical and cosmetic science. From the moment you enrol, you will begin developing the knowledge and skills needed to understand how products are designed, developed and evaluated.

As you progress, you will explore pharmaceutical and cosmetic science in greater depth, including formulation, product development and manufacturing processes. You will develop your understanding of how products are designed for safety and effectiveness. The programme prepares you for careers in pharmaceutical science, cosmetic science, product development and related fields.

Students may enter the course directly at Stage 1 or join our foundation year Stage 0 before progressing to Stage 1.

Stage 0 (Foundation Year)
UK/home students who join at Stage 0 will build a strong foundation for studying science at university level. Students will develop key academic and professional skills such as communication skills, teamwork, critical thinking and independent learning, while developing core knowledge in scientific principles and their real-world applications. Through project work and practical activities, students will begin to analyse data, understand scientific processes and develop skills in problem-solving.

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Stage 0 Pharmaceutical and Cosmetic Sciences Core Modules (RQF Level 3) Table:

Module Code	Module Title	Credit	Study Period
BIS3009-C	Professional Practice in Health and Science	30	Academic Year
BIS3010-C	Scientific Inquiry and Data Analysis	30	Academic Year
BIS3011-C	Anatomy, Physiology, and the Human Body	30	Academic Year
CLS3006-C	Chemistry	30	Academic Year

Stage 1

At Stage 1, students will study application of the basics of preformulations to understand the physicochemical properties of pharmaceutical and cosmetic formulation ingredients. This will be coupled with an introduction to human physiology, biochemistry, and microbiology. Laboratory sessions will integrate the theoretical aspects covered in different modules which will provide the opportunity for students to enhance their understanding of particular study topics.

Students will be introduced to basic laboratory skills and skills for data handling and interpretation. Students will be engaged with research-informed group work, presentations and application exercises during this stage. Students will also develop key transferable skills including problem-solving and autonomous study skills and will start to build a progress file. Students will be supported to develop a reflective attitude to learning, to develop entrepreneurship, numerical, data analysis and artificial intelligence skills, and to improve their organization, time-management, written and oral communication, and IT and group working skills.

At this stage awareness will be raised about the significance of inclusivity and sustainability to address current global challenges. Students will have opportunities for discussion on sustainability concepts and facts, which will be used in the development of content (blog) writing and reflection on inclusivity values, communication styles, beliefs, and practices.

Stage 1 Pharmaceutical and Cosmetic Sciences Core Modules (FHEQ Level 4) Table:

Module Code	Module Title	Credit	Study Period
PHA4013-D	Pharmaceutical and Cosmetic Preformulation	40	Academic Year
PHA4014-D	Human Physiology, Biochemistry and Microbiology	40	Academic Year
PHA4015-D	Integrated Laboratory and Skills Development 1	40	Academic Year

Stage 2

At Stage 2, the curriculum continues to focus on core areas of pharmaceutical and cosmetic science. Students are introduced to the application of preformulation knowledge for development of formulations, particularly liquid, semi-solid and solid-state formulations and technologies for their manufacture. Cosmetic formulations, especially for application to skin, hair, and eyes, and dental cosmetics, are also introduced. Stage 2 modules develop students' knowledge of foundations of marketing and sustainable product development. In the Foundations of Marketing module, students will develop an understanding of the principles of marketing and how such concepts apply to marketing practice in pharmaceutical and cosmetic business. The Sustainable

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Product Development module will focus on formulations with a low carbon footprint, green processing technologies, and environmental working group (EWG) scores for personal care products, herbal ingredients and their variability, analysis, sustainability and regulatory guidelines.

This module makes use of the School's world-leading expertise in Team-Based Learning (TBL). TBL is proven to help to develop teamwork, communication and problem-solving skills and critical thinking. Integrated laboratory sessions provide the opportunity to enhance understanding of topics studied in theory. At Stage 2, students develop their depth of knowledge and laboratory and data handling skills and are encouraged to continue to develop autonomy in their learning by producing research-informed individual and group work and developing increasing responsibility for achieving the learning outcomes of their modules and level of study. Stage 2 also introduces digital interventions such as block-chain technology for source tracking and applications of artificial intelligence in health and personal care sectors. Students are encouraged to self-evaluate their skills and identify and address areas for improvement.

There is significant involvement of different stakeholders in the delivery of the programme including companies, regulatory experts, and professional associations such as **Cosmetic Cluster UK**. At Stages 2 and 3 there will be provision of at least two guest lectures per year on pharmaceutical, nutraceutical and/or personal care product development and manufacturing technologies. The integrated laboratories each year will be supplemented by at least one 'Company to Classroom' session where a company expert will present online the formulation, development or manufacturing, from the company floor, explaining pilot or commercial scale operations. This approach will provide students with the opportunity to interact with the experts, stimulate their critical thinking, and provide opportunity to develop sustainability concepts and employability skills.

Students will have opportunities for research-informed discussion, debate on sustainable development goals in the context of healthcare and personal care formulations and enhancing the assimilation of ideas which can be disseminated as a podcast. Students will also reflect on inclusive and sustainable formulations (cruelty-free cosmetics, Halal and Kosher certified formulations, plant-based cosmetics).

Stage 2 Pharmaceutical and Cosmetic Sciences Core Modules Table:

Module Code	Module Title	Credit	Level	Study Period
MAR4002-B	Foundations of Marketing	20	FHEQ 4	Academic Year
PHA5016-D	Fundamentals of Formulation Development and Manufacturing Technology	40	FHEQ 5	Academic Year
PHA5017-B	Sustainable Product Development	20	FHEQ 5	Academic Year
PHA5018-D	Integrated Laboratory and Skills Development 2	40	FHEQ 5	Academic Year

After completing Stage 2 students will either progress to Stage 3 or to the elective placement year.

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Competitive placement opportunity
This programme provides the option for students to undertake a competitive work placement (0 credit module) between Stages 2 and 3. Students will be supported with two career and placement guidance workshops during each stage. The placement provides valuable experiential learning in the pharmaceutical, nutraceutical, personal care or other formulation and processing industries. It will enable students to develop autonomy and initiative and work effectively as a member of a professional team.

Students wishing to take this option will be transferred to the "sandwich year" placement route. Students registered on the placement route who successfully progress to stage 3 at the stage 2 assessment, award and continuation board (at their first attempt) will be eligible for the placement.

Stage 2E Pharmaceutical and Cosmetic Sciences Placement Module (FHEQ Level 5):

Module Code	Module Title	Credit	Study Period
PHA5019-Z	Placement (Pharmaceutical and Cosmetic Science)	0	Full Year

While student placement work is directed by their workplace supervisor, the academic Placement Tutor from the University will be in regular contact with students during their placement year. Not only will the placement improve students' understanding of final year material, but it may also significantly enhance employment opportunities after graduation. Student performance during the placement will be evidenced by: a Placement Report, a Presentation and the workplace Supervisor's Assessment report.

Stage 3
At Stage 3 (the final year of study) the curriculum supports students to further develop their knowledge and understanding of formulation and manufacturing technologies, quality assurance, pharmaceutical and cosmetic product development, national and international pharmacopoeias and advanced manufacturing technologies, including 3D printing and electrospinning.

The module 'Advanced Formulation Development and Manufacturing Technology' links well to previous modules, enabling an understanding of the complete journey from preformulation, formulation development, manufacturing to final product sustainable packaging. To continue this journey, students study modules including Entrepreneurship and Innovation: From Concept to Consumer and Sustainable Packaging and Regulatory Affairs. Students gain an understanding of the innovation to market journey and further develop their knowledge in packaging of products, how packaging is approached differently in pharmaceutical and personal care markets and regulatory affairs concerning these sectors.

Students' teamwork, leadership, critical thinking, and problem-solving skills are further sharpened through the use of Team Based Learning in the Sustainable Packaging and Regulatory affairs module. In addition, students design and conduct an individual research project in the field of pharmaceutical and cosmetic science, drawing on concepts, methods and techniques at the forefront of the discipline and develop further their numerical, critical reviewing, written and oral communication, particularly disseminating research outcomes to the lay audience through a '3 minute elevator' pitch.

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Students will be expected to take increasing responsibility for their own learning as well as group and individual outcomes. Students will also reflect on EDI in practice with Vegan compliant cosmetics, unisex cosmetics and substitutes of gelatine in pharmaceuticals. Throughout the curriculum students will have the opportunity to develop the skills associated with laboratory practice including the ability to undertake COSHH and risk assessments and procedures to ensure compliance, and the importance of quality control and quality assurance.

Stage 3 Pharmaceutical and Cosmetic Sciences Modules (FHEQ level 6) Table:

Module Code	Module Title	Credit	Study Period
PHA6022-D	Advanced Formulation Development and Manufacturing Technology	40	Academic Year
PHA6023-B	Entrepreneurship and Innovation: From Concept to Consumer	20	Semester 1
PHA6024-B	Sustainable Packaging and Regulatory Affairs	20	Semester 2
PHA6025-D	Integrated Laboratory, Research Project and Skills Development	40	Academic Year

Admission Requirements

We take into consideration a number of factors when assessing your application. It's not just about your grades; we take the time to understand your personal circumstances and make decisions based on your potential to thrive at university and beyond. Consideration of applications will be based on a combination of formal academic qualifications and other relevant experience.

The **minimum entry requirements** for the programme are as follows:

- All GCSE passes must be to at least C grade (grade 4) and must include English Language, two Sciences, and Mathematics or equivalent at grade C (grade 4) or above.
- International students must have IELTS: 6.0 overall, with at least 5.5 in each component. If you do not meet the IELTS requirement, you can take a University of Bradford pre-sessional English course. For more information and other test scores we can accept search our website for **English language requirements**.
- International students must also have equivalent Level 2 qualifications at this level in Science and Mathematics. If you do not meet the entry requirements, you may be interested in our International College incorporated degree pathway. Search our website for **University of Bradford International College** to find out more.
- Students with a range of alternative UK and international qualifications, including combinations of qualifications will be encouraged to apply to the programme.
- Applications are welcome from students with non-standard qualifications or mature students (those over 21 years of age on entry) with significant relevant experience.

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Typical UCAS offers for the programme

- **A level:** 104 UCAS points, equivalent to BCC. You should have 2 Science subjects, one of which should be Biology or Chemistry at grade B or above. We do not accept General Studies or Critical Thinking A-levels.
    - Please note that where a science A Level is awarded since August 2017, the University requires applicants to pass the practical element.
- **International Baccalaureate**: 104 UCAS tariff points to include either HL Chemistry or Biology at Grade 6 and 1 other HL Science subject, plus HL 3 or SL 4 in Mathematics and English Language and Literature A or English B.
- **Access to Higher Education:** 104 UCAS tariff points from an Access to Higher Education Diploma – Science subject required. Must include a minimum of 12 credits of Biology or Chemistry at Distinction.
- **Pearson BTEC Extended Diploma**: Applied Science - DMM in a relevant science to include at least 4 units of Chemistry or Biology at Merit.

If you do not meet the subject entry requirements for this course, but have otherwise met the UCAS entry tariff, our Foundation Year in Clinical Sciences and Medicine course has a route to transfer to Pharmaceutical and Cosmetic Science after the first year.

Internal transfer and progression requirements

- **International Incorporated Bachelor's Degree (University of Bradford International College)**: An overall average of at least 55% and at least 55% in Chemistry, Biology and Applied Life Sciences plus the equivalent of IELTS 6.0 (5.5) in the final English module.
- **Foundation in Clinical Sciences and Medicine leading to BSc Clinical Sciences:** Pass the Foundation Year (Stage 0) with at least 55% overall and pass all modules.

Advanced entry

Applications for advanced entry will not be considered for this programme. However, evidence of completing a Foundation Year from another UK university may be accepted into the first year at a pass rate of 55% or above. Contact our Admissions team for further information.

Recognition of Prior Learning

If applicants have prior certificated learning or professional experience which may be equivalent to parts of this programme, the University has procedures to evaluate and recognise this learning to provide applicants with exemptions from specified modules or parts of the programme. Search our website for **Prior Learning** for more information about how we make RPL decisions.

Please note: Information in this document is for the contemporary recruitment cycle and was accurate at time of publication. The current tariff and accepted qualifications for entry onto the programme is published at the online course page:
https://www.bradford.ac.uk/courses/ug/pharmaceutical-and-cosmetic-science/

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