London South Bank University
EST 1892

Course Specification

A. Course Information	
Final award title(s)	BSc (Hons) Baking Science and Technology
Intermediate exit award title(s)	DipHE Advanced Baking and Pastry Technology (240 credits) CertHE Baking and Pastry Technology (120 credits)
UCAS Code	D633	**Course Code(s)**	5736
	London South Bank University		
School	☒ ASC ☐ ACI ☐ BEA ☐ BUS ☐ ENG ☐ HSC ☐ LSS		
Division	The National Bakery School		
Course Director	Devon Petrie		
Delivery site(s) for course(s)	☒ Southwark ☐ Havering ☐ Other: please specify		
Mode(s) of delivery	☒Full time ☐Part time ☐other please specify		

Length of course/start and finish dates

Mode	Length years	Start - month	Finish - month
Full time	3	September	June
Full time with placement/ sandwich year	N/A	N/A	N/A
Part time	N/A	N/A	N/A
Part time with Placement/ sandwich year	N/A	N/A	N/A

Is this course generally suitable for students on a Tier 4 visa?	Please complete the International Office questionnaire Yes Students are advised that the structure/nature of the course is suitable for those on a Tier 4 visa but other factors will be taken into account before a CAS number is allocated.
Approval dates:	Course(s) validated	2017
	Course specification last updated and signed off	August 2022

Professional, Statutory & Regulatory Body accreditation	None at present although the School may look to IFST, The Institute of Food Science and Technology, accreditation once the course has been approved and is fully embedded. There will also be scope to include EntreComp accreditation.	
Reference points:	Internal	Corporate Strategy 2020-2025 Academic Quality and Enhancement Website School Strategy LSBU Academic Regulations
	External	QAA Quality Code for Higher Education March 2018 Framework for Higher Education Qualifications Subject Benchmark Statements (2019) PSRB Competitions and Markets Authority SEEC Level Descriptors 2021

B. Course Aims and Features

Distinctive features of course	The previously named FdSc Baking Technology Management Foundation Degree offered by The National Bakery School (NBS) has been instrumental in generating suitable candidates to fulfil roles within the baking industry since 2007 with a level 6 Top Up provision added to the portfolio from 2009. To future proof our provision, we recently redesigned our educational offer. With the elevated standing of the baking profession, the education provided via the NBS is now able to re position/ focus by developing students into broader and deeper thinkers on behalf of the industry. It seeks to build confidence within the individual student to enable them to work in different organisational contexts and manage the manufacturing and baking process/ product and / or service from inception through to the market place. In so doing, it will also embed the skills which will enable students to diagnose operational problems and recommend possible Industry solutions. The NBS now offers a unique and distinctive suite of qualifications which fulfill the needs of all stakeholders. The course provision will allow for 'step on/step off' routes in keeping with changing needs of both students and industry. Students will be able to select the qualification that best suits their needs whether it be the Level 4 Certificate, the Level 5 Diploma or the Level 6 BSc. Content will be delivered holistically allowing for the integration/ interweaving of additional complementary module content as students travel through their educational journey. Rather than semesters, content will largely be delivered in terms to reduce subject matter covered at any one time but offer the greater detail that students need to be of greatest value to the industry and in keeping with personal objectives. Our BSc Baking Science and Technology Advanced course is a three year course of study, and the highest taught qualification offered specifically in the baking industry. While potential students may wish to enrol on to our two year DipHE or one year CertHE courses from the outset, successful completion of the full BSc would be suitable for individuals who wish to develop the core skills required to enter the baking industry, with the advanced skills and scientific knowledge required for future management level roles in a range of settings, as well as providing the basis for working in other areas such as new product development which require a strong foundation in relevant areas of food science. This flexibility of our offer, whereby students may choose whether to study

	for one, two or three years from the outset, is designed to meet the needs of both students and the industry, where different levels of training and education are required for different roles – and reflects our commitment to lifelong learning whereby we recognise that individual students may wish to switch between work and study at different points in their career.
Course Aims	The BSc (Hons) Baking Science and Technology aims: - To provide a course that adds value in relation to entry qualifications and to provide the academic and pastoral support to enable students to progress to awards at successive levels within the undergraduate framework. - To provide an interdisciplinary course of study in a technological environment that offers students every opportunity to develop their intellectual and personal skills. - To be responsive to the changing needs of students, particularly those from local areas in accordance with the policies and practice of equal opportunities and diversity. - To provide a learning environment and course of study that fosters students' enthusiasm for their subject, enabling them to develop intellectual, personal, practical and transferable skills as a sound basis for progression into work or further study. - To prepare students for responsible and technologically authoritative roles within the Baking industry on a European and global basis. - To provide a pool of employable technologists with skills needed by bakeries in the context of local, national and / or international environments. - To develop students' practical skills whilst promoting safe working practices, enabling them to become confident, technically proficient and responsible technologists. - To give students the opportunity to undertake experimental investigations into selected areas of work relevant to their studies and to work effectively as a team member. - To encourage a student awareness of the ethical, moral and social implications of current developments in their field. - To manage and continually improve the quality of the student learning experience through module, subject and course review. - To develop the interdisciplinary knowledge and understanding needed to effectively develop innovative bakery products in a market economy.

	- To maintain an up-to-date curriculum, delivered by high quality teaching and informed by consultancy, research and current practice, providing graduates that meet the needs of employers and professional bodies. - To build a strong awareness of the interdisciplinary nature of baking technology where the production and distribution of safe products demands commercial and technological compromise.
Course Learning Outcomes	The programme outcomes have primary reference to the benchmark statements for food manufacturing and for **BSc Honours degrees**. The detailed learning outcomes associated with each module of study are set out in the module guides, which also supply details of specific content and the assessment schedule for each module. **A. Students will acquire knowledge and understanding of the:** **A1** Underlying Scientific Processes and Applications for the Baking Industry to include methods and techniques commonly used to evaluate Quality Assurance within the Baking Industry. **A2** Main UK/EU Legislative controls in relation to the Baking industry and how they are enforced. **A3** Systems, practices and procedures employed to conduct effective business planning initiatives. **A4** Research methodologies and data sources for enabling critical assessing and evaluation of evidence in support of project submission. **A5** Appropriate level of planning, designing, managing and executing of practical activities using appropriate techniques and procedures whilst demonstrating high levels of relevant skill. **A6** Environmental, moral, ethical, sustainable and safety issues which are directly relevant to the Baking Industry. **B. Students will develop their intellectual skills such that they are able to:** **B1** Analyse problems, develop sustained reasoned argument, identify associated key issues and suggest possible methods of investigation that will lead to workable and realistic solutions. **B2** Generate creative ideas/ concepts, proposals and solutions to meet differing needs. **B3** Work effectively independently and with others. **B4** Apply a theory, concept or subject-specific principle to a new context and be able to effectively describe, synthesise, interpret, analyse and evaluate

information and data relevant to the Baking Industry

C. Students will acquire and develop practical skills such that they are able to:

C1   Execute practical activities with continuous regard for safety and risk assessment and demonstrate relevant level of skill by using appropriate techniques and procedures.

C2   Demonstrate vocationally relevant managerial skills and knowledge by exposure to professional practice.

C3   Demonstrate evidence of practical competence within scientific methods of enquiry.

C4   Present data within a seminar or lecture and within related coursework/ project submission as appropriate.

D. Students will acquire and develop transferrable skills such that they are able to:

D1   Apply knowledge to the solution of familiar and unfamiliar problems.

D2   Demonstrate effective communication and presentation skills and be able to access and effectively utilise the full range of information sources, citing references in an appropriate, recognised manner

D3   Take and demonstrate responsibility for their own learning and continuing personal and professional development.

D4   Self appraise and reflect on practice.

C. Teaching and Learning Strategy

All modules employ teaching methods that encourage students to consider and challenge the evidence with which they are presented. Very often the assessment schedule encourages students to question and evaluate the arguments surrounding some key concept or principle. This may either be formally assessed or simply be part of group discussions, debates or as part of some problem-solving exercises. All modules are designed to intellectually challenge students and encourage them to develop the skills above. The programme encourages constructive feedback from all relevant parties to further enhance student ability to progress. This is both formative and summative and includes tutors/ peers/ external input via External Examiners and / or business operatives. All students can learn from their own and others contributions.

Lectures, seminars and workshops:

Lectures will deliver key topic areas across the academic levels. Guest speakers from the sector will bring specialist knowledge into the classroom/ practical laboratories. Interactive seminars and workshops will support the lectures

with strong focus on small group activities to encourage the active participation of students, develop peer learning, and the sharing of knowledge and support amongst our diverse student body. This mode of delivery will apply across all modules with particular emphasis on scientific and technological application, (Bread Fermentation, Patisserie Design, Baking Innovation Project and Business Strategy), although there will be aspects of this embedded within the remaining level 6 modules as sharing of practice within industry assists in assimilating content delivered in class.

An integrated formative and summative assessment and feedback process will be a key component to a student's independent acquisition of knowledge and understanding in **every** module on this course. Seminars and workshops will encourage student development in this area with the application of knowledge to baking case studies and practitioner-driven live cases to develop creativity and problem-solving skills, i.e. within the project and advanced NPD. In-class presentations/ debate will allow for the sharing of ideas amongst peers and the evaluation of opinions within a diverse student body to enable students to develop and learn from each other. (Through practical application in Bread Fermentation and Patisserie Design). The key practical skills are embedded in module delivery and built throughout each term demonstrating progressive development. There will be a series of workshops at Level 6 further developing independent and group interaction, generating work ready ethics and allowing focus on enterprise awareness and the entrepreneurial mind-set. (Baking Innovation Project, Business Strategy).

As students move through the programme their ability to evaluate and synthesise information will undergo further development. Methods will be interactive and practical by nature, for example, group work based upon case study and in-class presentations are used across all modules. Where possible teaching, learning and assessment is applied using existing and projected scenarios within the Food manufacturing/ bakery sector which helps develop real life problem-solving skills, ideas and solutions.

At level 6 study the nature of delivery switches to circa 20 credits practical application and 100 credits for theory based content. Nonetheless students will still be expected attend at least 80% of modular content as to miss more would severely limit students understanding and application.

Self-managed & independent learning:

Self-managed learning activities to supplement and consolidate classroom-based activity are included within each module (refer to module descriptors). This may include reading recommended texts and relevant journal articles, demonstrating application of knowledge to additional problem-based exercises, engaging in coursework, group discussion, review of key topics and examination preparation where appropriate. Many of these activities are supported via Moodle, the virtual learning environment (VLE). The development of intellectual skills will be delivered via a structured and progressive strategy of support, delivered over the length of the programme. The learning style moving forward will continue to provide greater emphasis on a blended learning approach which will help students to assimilate content whilst off campus yet still remain engaged/ focussed. All practical components will predominantly be delivered on campus although there is scope to include aspects of remote learning via the use of lecture capture and embedded video links which can repeatedly demonstrate some of the simpler yet essential aspects of knowledge acquisition, i.e. the use of equipment within bakeries.

Learning support:

LSBU's well-stocked library provides a range of study environments for individual and group/social learning, course materials, online information resources as well as library staff who are dedicated to the
School of Applied Sciences to provide support. Free computer access is available for all students across the University. Printing, scanning, photocopying, and wireless internet access facilities are available, along with specialist online support and training. The library provides bookable group rooms and laptop computers for loan. The Learning Resource Centre also offers a wealth of additional support as students transition from FE to HE provision and require guidance. Many workshops/ seminars/ video tutorials are also available to assist as required. Current students can find more information on https://my.lsbu.ac.uk.

Teaching staff:
A variety of experienced academic staff teach on the course, some of whom have considerable industry experience which they bring to the classroom. Others are actively engaged in relevant real-world research which they use to inform their teaching. Please refer to the appendices of the Resources Document for staff CVs.

Virtual learning environment:
Digital technology is used to increase academic support for students and to improve the efficiency of the teaching and assessment processes –with the eventual transformation of student learning so that the student experience becomes truly 'blended' and extends well beyond the use of the VLE as merely a document repository.

Enterprise:
Students are actively encouraged to engage with The Clarence Centre for Enterprise which offers phenomenal support in the way of business set up and / or encourage a more intrapreneurial mind-set for those working alongside others in business. There are regular opportunities to network and learn skills which will enhance the calibre of graduates leaving university and either seeking employment or setting up in their own right.

Work Experience/ Placements:
The ability to participate within 'in house' work experience opportunities via the NBS Bake Shop in addition to the annual scheduled placement/ internship offering, students are in a unique position of being able to continue their teaching/ learning whilst also being able to fully demonstrate their learning and understanding within a working environment. Students will readily be able to draw together the range of skills acquired across all modules and implement these into effective practice generating a positive impact whilst also adhering to the importance of work ethic.

Extra-Curricular:

- Links with societies, in particular student membership of ABST
- Attending Student June Conference for ABST
- Entry to a variety of shows/ conferences, for example: Hotel, Restaurant and Catering Show/ Cake and Bake Show/ Food matters Live with opportunities to participate in external competitions and receive professional feedback to inform on future practice.
- Careers Fairs
- Industry visits

To summarise, teaching and learning strategies to enable outcomes to be achieved and demonstrated will include lectures; tutor led tutorials; student and tutor led seminars; practical work within a realistic work environment and via the use of problem-based scenarios which can be both theoretical and practical in nature.

D. Assessment

Students experience a variety of assessment during their Level 6 study. Practical knowledge is tested on an ongoing basis with practical examinations staged at the end of each block of input. Portfolios are also recommended to encourage reflection and evaluation and inform future practice. Theoretical modules assess using essays, practical laboratory work, reports of investigations, case studies, assignments or problem-solving exercises. Written examinations are only used where there is a need to demonstrate full credibility to the industry, i.e. accredited nutritional qualifications. The integration of NBS Bake Shop production at various intervals throughout the curriculum also feeds into the mode of assessment employed to allow students to meet learning outcomes whilst enhancing their work ready capabilities.

The School of Applied Sciences has recently undergone TESTA (Transforming the Experience of Students through Assessment), with the intention of ensuring that assessment and feedback is both more meaningful and useful, helping direct students forward. With this in mind, module assessment generally comprises a 100% coursework model. However, this is further subdivided to allow for effective formative and summative assessment as the student progresses through the year.

Formative :

Formative assessment activities provide opportunity for developmental feedback and reflective learning and are a key feature of teaching and learning strategy throughout the course, to ensure students engage in a process of continuous learning.

As students progress through the course, in-class debate and discussion will provide students and staff with an understanding of the knowledge gained and areas of syllabi needing further reinforcement and delivery. This will allow staff to reflect on student performance and feed forward into future delivery.

The VLE and in-class presentations can provide formative feedback to both staff and students as to the development of key intellectual skills.

Formative assessment via in-class tests, observation, peer review and debate can inform students and staff of the progress that has been made in areas of skill development.

Peer and staff review on a variety of in-class activities can provide formative feedback to students on the development of their transferable skills. This will allow staff to reflect on student performance and feed forward into future delivery.

Summative :

The summative coursework assignments will be used to assess knowledge, understanding and application of baking and pastry processes. These will be diverse, taking into consideration current needs/ trends whilst also projecting and considering future industry goals.

Examples of the range of assessment types are practical examination, lab reports, written examinations, group work and individual assignments.

As students progress through the course, assessment methods will reflect the expectation that students will exhibit greater autonomy in their learning, refine their intellectual skills, and approach their work in a more evaluative manner.

Summative assessment will be via individual and group coursework through which practical skills can be demonstrated. IT skills will be necessary to produce supplementary evidence via portfolio for practical input and for coursework to be submitted in support of theoretical modules.

The diversity of assessment will also allow for the summative assessment of transferable skills.

The double project module will be crucial in enabling students to develop their critical thinking, reflect upon their practice and effectively demonstrate their capacity to fully synthesise subject matter at level 6.

Students are required to pass all core and one optional module in order to achieve the full BSc (Hons) degree qualification in Baking, Science and Technology.

On completion of the level 6 programme, students will be equipped to enter the industry at a management level, having demonstrated competence, understanding and intellectual ability in the application of a more scientific based comprehension within the field of Baking/ Food Manufacture.

E. Academic Regulations

The University's Academic Regulations apply for this course.

https://my.lsbu.ac.uk/page/regulations

F. Entry Requirements

Students seeking admission to the Programme will normally be 18 years of age by December 31st in year of entry and will also be expected to have:

- A Level: BCC or;
- BTEC National Diploma DMM or;
- Access to Science with 18 Distinctions, 24 Merits and 3 Passes including;
- Equivalent level 3 qualifications worth 104 UCAS points
- Applicants must hold 5 GCSEs minimum grade C including Maths and English or equivalent (reformed GCSEs grade 4 or above).

For students seeking direct entry on to the second year/Level 5 of the BSc, they would be expected to have:

- Successfully completed the NBS L4 CertHE Baking and Pastry Technology within the last 5 years;
- Another qualification judged by the Admissions Tutor as being equivalent to a L4 CertHE Baking and Pastry Technology;
- Other qualifications or experiential learning judged by the Admissions Tutor to be equivalent. Applications in this class will be considered in accordance with the University's policy on APL and APEL.

For students seeking direct entry on to the third year/Level 6 of the BSc, they would be expected to have:

- Successfully completed the NBS L5 DipHE Advanced Baking and Pastry Technology within the last 5 years;
- Another qualification judged by the Admissions Tutor as being equivalent to a L5 DipHE Advanced Baking and Pastry Technology;
- Other qualifications or experiential learning judged by the Admissions Tutor to be equivalent. Applications in this class will be considered in accordance with the University's policy on APL and APEL. Such knowledge and skills should be commensurate with those identified in the guidelines on levels and learning outcomes produced by the South East of England Consortium for Credit

Accumulation and Transfer (SEEC/CAT, 2010).

LSBU welcomes qualifications from around the world. English language qualifications for international students: IELTS score of 6.0 **or** Cambridge Proficiency or Advanced Grade C.

Selection will be considered via submission of portfolio and UCAS statement. Applicants may be invited to attend an interview process which may include an element of practical testing to gauge level of practical ability. Further evidence of experiential learning/ work experience and academic integrity may also be sought as informed by the above.

G. Course structure(s)

Course overview:
Level 6 BSc (Hons) Baking Science and Technology- Full Time over one academic year.

The development of the course has been informed by the QAA Subject Benchmark Draft Statement: Agriculture, Horticulture, Forestry, Food, Nutrition and Consumer Sciences: Draft for consultation February 2016, Framework for Higher Qualifications (QAA, 2014) and the SEACC guidelines (2010).

The curriculum is designed to be delivered as a full-time programme with the optionality from the outset for students to elect the number of years which they are required to complete to obtain the end qualification offered. In this way, students can study one, two or three years in total depending upon the end result desired. Much of this will also be dictated by career opportunities within the industry. For example at level 4, students can seek employment in bakery production. At level 5, job opportunities include Assistant Bakery Manager/ Assistant Food Technologist/ Assistant Production Manager and at level 6 with the progression of more scientific informed research coupled with analytical thinking/ problem solving and project management, student will be better suited for jobs in management roles. Each year will comprise 120 credits across the modules taken.

Module options will become available from level 5 with business enterprise or nutrition allowing students to specialise within the most appropriate channel for their desired outcomes/ career progression. At level 6, there is an additional option of NPD.

The curriculum is therefore devised as follows:

Level 4 CertHE Baking and Pastry Technology
Level 5 DipHE Advanced Baking and Pastry Technology
Level 6 BSc (Hons) Baking Science and Technology

In keeping with guidelines, the 20 CAT points per module will imply a notional student study time of 200 hours with around 48 hours contact time per theoretical module and 75 for practical modules. Placement and blended learning hours will also contribute towards the 200 hours of study time allocated per module.

Each level of the programme will now be delivered in semesters.. The chart below outlines a rough structure.

Level of Study	Semester 1	Semester 2	
4	Baking Core Skills (20)		
4	Bread Production and Technology (20)		
4		Chocolate Production (20)	

4		Confectionery and Pastry Production (20)	
4	Applied and Sustainable Food Safety (20)		
4		Applied Baking Chemistry (20)	
5		Advanced Bread Fermentation and Technology (20)	
5	Artisan Chocolate Production (20)		
5	Advanced Confectionery and Pastry Production (20)		
5		Baking Products Composition Properties and Analysis(20)	
5	New Product Design and Development (20)		
	Optional Modules, Choose one of :		
5		Entrepreneurial Mindset Business Discovery and Development (20)	
5		Human Nutrition (20)	
6	Baking Innovation Project(40)	Baking Innovation Project (40)	
6		The Science and Technology of Bread Fermentation (20)	
6		Creative and Innovative Patisserie Design (20)	
6	Applied Baking Science (20)		
	Optional Modules, Choose one of: (Level 5 students progressing to Level 6 to retain the same optional topic going forward into Level 6 Study)		
6	Business Leadership and Strategy (20) or		
6	Advanced Topics in Human Nutrition (20) or		
6	Advanced New Product Development (20)		

Across all three levels, theoretical modules will be delivered as above and formative/ summative assessment is retained within those modules. Students are encouraged to apply these theoretical skills during their practical application of work experience and during the scheduled production/ NBS Bake Shop weeks.

Practical modules are again delivered over semesters as listed above. Practical application is further tested during scheduled production / NBS Bake Shop weeks. Level 4 practical assessment takes place within each module. This will be the same for Level 5 and 6 practical assessment. Additionally, there will be an opportunity for formative assessment to be judged during practical classes and during scheduled production/ NBS Bake Shop weeks.

This will be a full-time undergraduate course, leading to a level 6 BSc (Hons) in Baking Science and Technology. Should students be seeking to progress their academic study on successful completion of level 6, further study opportunities will be available and could include an MSc or PhD. Many students will elect to complete their higher education on completion of their degree and enter the baking sector.

Due to predicted numbers in student cohort and resource availability, students are likely to be split into two (or more) groups. The NBS cannot accommodate 40 students in a practical setting so whilst practical modules can be delivered in semesters, they may not be timetabled on the same day for each group.. Instead, the days may be different. In this way, the course structure will remain true and ensure that the relevant module content will be delivered within the specified semester. Programme modules are addressed throughout delivery and will provide the necessary focus to allow students to fully engage rather than learn 'in silo' as has been the case up until now. (For further guidance refer to appendix 2 supplied with Course Rationale and Overview).

This new structure will come into effect from September 2021. Due to the complex nature of scheduling delivery the recommendation will be to launch all levels of delivery from September 2021. This has been approved through student consultation with existing students who will be affected by this transition. The revised curricula however is sufficiently nuanced to retain the individual levels of expertise that attracted students to the varying pathways which previously existed (i.e. Management/ Science/ Nutrition/ NPD). These aspects are now included more holistically within the programme and also allow for additional relevant content to be shared by a wider audience rather than being restricted to a specific pathway. It should also be noted that at this present moment in time, the vast majority of students are still working towards a management focussed pathway so are likely to review the proposed changes in a favourable light. The responses from a recent student survey also verify this stance. This suggested recommendation has been subject to further review prior to full launch/ implementation to allow the team to remain confident that the best decision has been made in accordance with all relevant stakeholders.

A number of the modules include opportunities for focussed visits and field trips.

At the moment there is no intention to offer the programme via a part time mode of study but this can be subject to further review once the full time programme is in place and thoroughly embedded to ensure effective implementation.

Placements information:

Students will complete realistic work experience 'in house' for the NBS Bake Shop. Placements/ Internships will also be encouraged especially if they are able to enhance the student experience and allow for industry collaborations to facilitate individual student projects. This however will not be prescriptive and will very much depend upon students/ circumstances and opportunities available which will not detract from the student

study and learning experience. Where possible, students will be invited to engage in work placement opportunities as part of their practical modules. This is especially the case during levels 4 and 5 study.

H. Course Modules

Module Code	Module Title N = New E = Existing O = Option	Level	Semester	Credit Value	Assessment
NBS_4_BCS	Baking Core Skills - N	4	Semester 1	20	100% Cw (60/ 40)
NBS_4_BPT	Bread Production and Technology - N	4	As above	20	60% Test 40% Cw
NBS_4_CHP	Chocolate Production -N	4	Semester 2	20	60% Test 40% Cw
NBS_4_CPP	Confectionery and Pastry Production - N	4	As above	20	60% Test 40% Cw
NBS_4_ASF	Applied and Sustainable Food Safety - N	4	Semester 1	20	40% Cw 60% Test
NBS_4_ABC	Applied Baking Chemistry - N	4	Semester 2	20	100% Cw
NBS_5_AFT	Advanced Bread Fermentation and Technology - N	5	Semester 2	20	60% Cw 40% Ex
NBS_5_APR	Artisan Chocolate Production - N	5	Semester 1	20	60% Cw 40% Ex
NBS_5_ACP	Advanced Confectionery and Pastry Production - N	5	As above	20	60% Cw 40% Ex
NBS_5_BPA	Baking Products Composition Properties and Analysis - N	5	Semester 2	20	40% Test 60% Cw
NBS_5_NPD	New Product Design and Development - N	5	Semester 1	20	60% Ex 40% Cw
Options, Choose one of :					
NBS_5_BMM	Entrepreneurial Mindset Business Discovery and Development - NO	5	Semester 2	20	100% (25/75)CW
ASC_5_440	Human Nutrition - EO	5	Semester 2	20	100% Ex

NBS_6_BIP	Baking Innovation Project - N	6	Semester 1 and 2	40	100% Cw
NBS_6_STB	The Science and Technology of Bread Fermentation - N	6	Semester 2	20	60% Test 40% Cw
NBS_6_CIP	Creative and Innovative Patisserie Design - N	6	As above	20	60% Test 40% Cw
NBS_6_APB	Applied Baking Science - N	6	Semester 1	20	100% Test
Optional Modules, Choose one of:					
NBS_6_BSB	Business Leadership and Strategy (20) - N	6	Semester 1	20	100% Cw (60/40)
ASC_6_442	Advanced Topics in Human Nutrition (20) - E	6	As above	20	100% Cw
NBS_6_ANP	Advanced New Product Development (20) - N	6	As above	20	100% Cw (60/40)

Please refer to content supplied within section G regarding course structure. This provides further detail. The above chart provides an indication as to module status (New/ Existing/ Optional).

Students can elect to take one of three optional modules offered at level 6 (Business, Nutrition or NPD). This allows students to focus on the required area of specialism that better suits their needs. Continuing students are recommended to retain the same optional subject matter at level 6 study to further advance their knowledge and intellectual capabilities within this area. Optional modules will only run if there is a minimum of 5 students per module.

On successful completion of the level 6 programme, students will be eligible to receive a degree classification in recognition of BSc (Hons) in Baking Science and Technology. Students are likely to be well sought after in the industry for the higher management positions which will involve students effectively utilising their problem solving and analytical skills to inform on the future direction of the industry.

I. Timetable information

Timetabling takes place in consultation with central timetabling which ensures that the confirmed versions are released for student view/ access well in advance of commencement of study. Similarly, any amendments are also notified in this fashion with further supporting communications released by the Course Director/ Course Teams from a central communications channel which serves to reach out to all students within the National Bakery School.

It is recognised that students are permitted to a teaching-free afternoon to allow for sporting/ cultural activities. As far as is possible, this will be addressed within the timetable. However, it should be noted that there can be exceptional circumstances which occur which preclude from this being fully effective/ possible.

Dependent upon student numbers, there may also be a need to introduce further delivery options to ensure that the NBS does not exceed capacity levels at any one time within its practical bakery labs. In all cases, due and advance notice will be provided.

J. Costs and financial support

Equipment Provided for Students

Students are provided with specific equipment and resources to support their learning, as part of the standard course fee:

- Protective Clothing – including personalised Baker's Whites
- Essential small equipment, including knives and a protective case

Course related costs

Students who commit to this course may incur additional optional expenditure, beyond the annual tuition fees, such as:

- ABST/ IFST Membership
- Additional expenditure to cover optional extracurricular course materials delivered and tested via an external source. These complement delivery and enhance student employability options, i.e. Level 2 Nationally recognised qualification in HACCP.

Tuition fees/financial support/accommodation and living costs

- Information on tuition fees/financial support can be found by clicking on the following link - http://www.lsbu.ac.uk/courses/undergraduate/fees-and-funding or
- http://www.lsbu.ac.uk/courses/postgraduate/fees-and-funding
- Information on living costs and accommodation can be found by clicking the following link- https://my.lsbu.ac.uk/my/portal/Student-Life-Centre/International-Students/Starting-at-LSBU/#expenses

List of Appendices

Appendix A: Curriculum Map
Appendix B: Educational Framework (undergraduate courses)
Appendix C: Terminology

Appendix A: Curriculum Map

This map provides a design aid to help course teams identify where course outcomes are being developed (D), taught (T) and assessed (A) within the course. It also provides a checklist for quality assurance purposes and may be used in validation, accreditation and external examining processes. Making the learning outcomes explicit will also help students to monitor their own learning and development as the course progresses.

Modules			Course outcomes																	
Level	Title	Code	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
6	Baking Innovation Project	NBS_6_BIP	TD A			TD A	D A	TD A	TD A	D	D A	TD A	TD A	TD A	TD A	TD A	TD A	TD A	TD A	TD A
6	The Science and Technology of Bread Fermentation	NBS_6_STB	D A	D	D A	D	TD A	D A	D A	D A	TD A	A	TD A	TD A	D	D A	TD A	D A	D A	TD A
6	Creative and Innovative Patisserie Design	NBS_6_CIP	D A	D	D A	D	TD A	D A	D A	D A	TD A	A	TD A	TD A	D	D A	TD A	D A	D A	TD A
6	Applied Baking Science	NBS_6_APB	TD A			TD A		TD A	TD A	TD A	D A	TD A			TD A	TD A	TD A	TD A	D A	TD A
6	Business Leadership and Strategy (Optional)	NBS_6_BSB		TD A	TD A	D		TD A	TD A	D A	D A	TD A		D		TD A	TD A	TD A	TD A	TD A
6	Advanced Topics in Human Nutrition (Optional)	ASC_6_442		D		D	TD A	D	D A	D A	D A	D				D	TD A	TD A	TD A	TD A
6	Advanced New Product Development (Optional)	NBS_6_ANP	TD A	TD A	D A	D	TD A	TD A	TD A	TD A	TD A	TD A	TD A	D	TD A	D A	D A	D A	D A	TD A
5	Advanced Bread Fermentation and Technology	NBS_5_AFT	TD A	TD A	TD A	TD A	D A	D A		D A	D A	D A	TD A	TD A	TD A	D	D A	A	D A	D A
5	Artisan Chocolate Production	NBS_5_APR	TD A	TD A	TD A	TD A	D A	D A		D A	D A	D A	TD A	TD A	TD A	D	D A	A	D A	D A
5	Advanced Confectionery and Pastry Production	NBS_5_ACP	TD A	TD A	TD A	TD A	D A	D A		D A	D A	D A	TD A	TD A	TD A	D	D A	A	D A	D A
5	Baking Products Composition Properties and Analysis	NBS_5_BPA	TD A	D	D	TD A	D		TD A	TD A	TD A	TD A		D	D A	TD A	TD A	TD A	TD A	D
5	New Product Design and Development	NBS_5_NPD	D	TD A	TD A	TD A	TD A	TD A	TD A	TD A	TD A	TD A	TD A	TD A	TD A	TD A	TD A	TD A	TD A	D A

5	Entrepreneurial Mindset Business Discovery and Development (Optional)	NBS_5_BMM	D	TDA	DA		TDA	TDA	TDA	TDA		TDA					TDA	TDA	TDA	TDA
5	Human Nutrition (Optional)	ASC_5_440	D	D	T	D	TD	DA	DA	TDA	TDA	TDA		D		D	TDA	TDA	DA	TDA
4	Baking Core Skills	NBS_4_BCS	TD	TD	D	DA	D	TDA		TD	TD	D			TDA	TDA	TDA	D	TD	TDA
4	Bread Production and Technology	NBS_4_BPT	DA	TDA	TDA	DA	TDA	DA		TDA	DA	TDA	TDA	TDA	TDA	A	TDA	DA	DA	TDA
4	Chocolate Production	NBS_4_CHP	DA	TDA	TDA	DA	TDA	DA		TDA	DA	TDA	TDA	TDA	TDA	A	TDA	DA	DA	TDA
4	Confectionery and Pastry Production	NBS_4_CPP	DA	TDA	TDA	DA	TDA	DA		TDA	DA	TDA	TDA	TDA	TDA	A	TDA	DA	DA	TDA
4	Applied and Sustainable Food Safety	NBS_4_ASF		TDA	TD	TDA	TDA	D	TDA	D	D	TDA			D	TDA	TDA	TDA	DA	D
4	Applied Baking Chemistry	NBS_4_ABC	TDA	D	TDA	D	D	D	TDA	TDA	TDA	TDA			D	TDA	TDA	TDA	DA	D

Appendix B: Embedding the Educational Framework for Undergraduate Courses

The Educational Framework at London South Bank University is a set of principles for curriculum design and the wider student experience that articulate our commitment to the highest standards of academic knowledge and understanding applied to the challenges of the wider world.

The Educational Framework reflects our status as University of the Year for Graduate Employment awarded by *The Times and The Sunday Times Good University Guide 2018* and builds on our 125 year history as a civic university committed to fostering social mobility through employability and enterprise, enabling our students to translate academic achievement into career success.

There are four key characteristics of LSBU's distinctive approach to the undergraduate curriculum and student experience:

- Develop students' professional and vocational skills through application in industry-standard facilities
- Develop our students' graduate attributes, self-awareness and behaviours aligned to our EPIIC values
- Integrate opportunities for students to develop their confidence, skills and networks into the curriculum
- Foster close relationships with employers, industry, and Professional, Statutory and Regulatory Bodies that underpin our provision (including the opportunity for placements, internships and professional opportunities)

The dimensions of the Educational Framework for curriculum design are:
- **informed by employer and industry** needs as well as professional, statutory and regulatory body requirements
- **embedded learning development** for all students to scaffold their learning through the curriculum taking into account the specific writing and thinking requirements of the discipline/profession
- **high impact pedagogies** that enable the development of student professional and vocational learning through application in industry-standard or authentic workplace contexts
- **inclusive teaching, learning and assessment** that enables all students to access and engage the course
- **assessment *for* learning** that provides timely and formative feedback

All courses should be designed to support these five dimensions of the Educational Framework. Successful embedding of the Educational Framework requires a systematic approach to course design and delivery that conceptualises the student experience of the curriculum as a whole rather than at modular level and promotes the progressive development of understanding over the entire course. It also builds on a well-established evidence base across the sector for the pedagogic and assessment experiences that contribute to high quality learning.

This appendix to the course specification document enables course teams to evidence how their courses meet minimum expectations, at what level where appropriate, as the basis for embedding the Educational Framework in all undergraduate provision at LSBU.

Dimension of the Educational Framework	Minimum expectations and rationale	How this is achieved in the course
Curricula informed by employer and industry need	Outcomes focus and professional/employer links All LSBU courses will evidence the involvement of external stakeholders in the curriculum design process as well as plan for the participation of employers and/or alumni through guest lectures or Q&A sessions, employer panels, employer-generated case studies or other input of expertise into the delivery of the course provide students with access to current workplace examples and role models. Students should have access to employers and/or alumni in at least one module at level 4.	• Guest Lectures • Workshops • Demonstrations • Field Trips • Competitions • Careers Fairs • Alumni input • Employer Panels for real world impact/ feedback
Embedded learning development	Support for transition and academic preparedness At least two modules at level 4 should include embedded learning development in the curriculum to support student understanding of, and familiarity with, disciplinary ways of thinking and practising (e.g. analytical thinking, academic writing, critical reading, reflection). Where possible, learning development will be normally integrated into content modules rather than as standalone modules. Other level 4 modules should reference and reinforce the learning development to aid in the transfer of learning.	• Core Skills module enables this support at level 4 • At Level 5, Bakery Science and Business will support • Additional modules such as Applied Chemistry and Applied Food Safety assist in the transition. • APEL evidence required at Level 6 if Direct Entry
High impact pedagogies	Group-based learning experiences The capacity to work effectively in teams enhances learning through working with peers and develops student outcomes, including communication, networking and respect for diversity of perspectives relevant to **professionalism** and	• Practical modules include a team based learning experience. • Further formative assessment opportunities enable this in Applied Bakery Science.

	inclusivity. At least one module at level 4 should include an opportunity for group working. Group-based learning can also be linked to assessment at level 4 if appropriate. Consideration should be given to how students are allocated to groups to foster experience of diverse perspectives and values.	
Inclusive teaching, learning and assessment	<u>Accessible materials, resources and activities</u> All course materials and resources, including course guides, PowerPoint presentations, handouts and Moodle should be provided in an accessible format. For example, font type and size, layout and colour as well as captioning or transcripts for audio-visual materials. Consideration should also be given to accessibility and the availability of alternative formats for reading lists.	• The School is adopting a standardised and consistent approach to enhance the student learning experience. The main site used for this purpose is the VLE. This will become ever more focussed with a move to more blended learning opportunities.
Assessment *for* learning	<u>Assessment and feedback to support attainment, progression and retention</u> Assessment is recognised as a critical point for at risk students as well as integral to the learning of all students. Formative feedback is essential during transition into university. All first semester modules at level 4 should include a formative or low-stakes summative assessment (e.g. low weighted in final outcome for the module) to provide an early opportunity for students to check progress and receive prompt and useable feedback that can feed-forward into future learning and assessment. Assessment and feedback communicates high expectations and develops a commitment to **excellence**.	• The incorporation of TESTA has facilitated this provision to allow for formative and summative assessment whereby the formative helps prepare the students for the end assessment in addition to maintaining the relevance and on going understanding and assimilation for the student.
High impact pedagogies	<u>Research and enquiry experiences</u> Opportunities for students to undertake small-scale independent enquiry enable students to understand how knowledge is generated and tested in the discipline	• Research and enquiry experiences continue at level 6 within all modules. APEL evidence required for Direct Entry students.

	as well as prepare them to engage in enquiry as a highly sought after outcome of university study. In preparation for an undergraduate dissertation at level 6, courses should provide opportunities for students to develop research skills at level 4 and 5 and should engage with open-ended problems with appropriate support. Research opportunities should build student autonomy and are likely to encourage **creativity** and problem-solving. Dissemination of student research outcomes, for example via posters, presentations and reports with peer review, should also be considered.	• There is an opportunity for poster review/ presentations and peer review to help build the framework for research and enquiry.
Curricula informed by employer and industry need / Assessment *for* learning	Authentic learning and assessment tasks Live briefs, projects or equivalent authentic workplace learning experiences and/or assessments enable students, for example, to engage with external clients, develop their understanding through situated and experiential learning in real or simulated workplace contexts and deliver outputs to an agreed specification and deadline. Engagement with live briefs creates the opportunity for the development of student outcomes including **excellence**, **professionalism**, **integrity** and **creativity**. A live brief is likely to develop research and enquiry skills and can be linked to assessment if appropriate.	• Employer and alumni interaction allows for the integration/ use of realistic work based scenarios which can be used to allow for experiential learning. • Work experience and internship openings also allow for this. • Additional support within extra curricular content available via the Clarence Centre for Enterprise will offer further basis to cement understanding/ knowledge and application. • There is also scope for further interaction with LSBU careers/ placement departments alongside external professional bodies. • Students can also be encouraged to obtain HEAR recognition through extra curricular activities.
Inclusive teaching, learning and assessment	Course content and teaching methods acknowledge the diversity of the student cohort An inclusive curriculum incorporates images, examples, case studies and other	• The NBS works within a sector which is both inclusive and diverse and full consideration is given to this in the course content.

	resources from a broad range of cultural and social views reflecting diversity of the student cohort in terms of, for example, gender, ethnicity, sexuality, religious belief, socio-economic background etc. This commitment to **inclusivity** enables students to recognise themselves and their experiences in the curriculum as well as foster understanding of other viewpoints and identities.	
Curricula informed by employer and industry need	Work-based learning Opportunities for learning that is relevant to future employment or undertaken in a workplace setting are fundamental to developing student applied knowledge as well as developing work-relevant student outcomes such as networking, **professionalism** and **integrity**. Work-based learning can take the form of work experience, internships or placements as well as, for example, case studies, simulations and role-play in industry-standards settings as relevant to the course. Work-based learning can be linked to assessment if appropriate.	• Work based learning takes place via in house work experience and annual work placements/ internships.
Embedded learning development	Writing in the disciplines: Alternative formats The development of student awareness, understanding and mastery of the specific thinking and communication practices in the discipline is fundamental to applied subject knowledge. This involves explicitly defining the features of disciplinary thinking and practices, finding opportunities to scaffold student attempts to adopt these ways of thinking and practising and providing opportunities to receive formative feedback on this. A writing in the disciplines approach recognises that writing is not a discrete representation of knowledge but integral to the process of knowing and understanding in the discipline. It is expected that assessment utilises formats that are recognisable and	• The broad curriculum offered affords the opportunity for students to develop, learn from others and improve writing skills to fully meet the requirements of the discipline. Students will be involved in report submissions/ presentations and lab reports as an example. Furthermore, students are required to complete a 40 credit dissertation module which will fully embed this learning development.

	applicable to those working in the profession. For example, project report, presentation, poster, lab or field report, journal or professional article, position paper, case report, handbook, exhibition guide.	
High impact pedagogies	Multi-disciplinary, interdisciplinary or interprofessional group-based learning experiences Building on experience of group working at level 4, at level 5 students should be provided with the opportunity to work and manage more complex tasks in groups that work across traditional disciplinary and professional boundaries and reflecting interprofessional work-place settings. Learning in multi- or interdisciplinary groups creates the opportunity for the development of student outcomes including **inclusivity**, communication and networking.	• This will have become effective for level 5 students through the range of core and optional modules and will continue across all modules at Level 6. For Direct Entry students, APEL evidence will be required.
Assessment *for* learning	Variation of assessment An inclusive approach to curriculum recognises diversity and seeks to create a learning environment that enables equal opportunities for learning for all students and does not give those with a particular prior qualification (e.g. A-level or BTEC) an advantage or disadvantage. An holistic assessment strategy should provide opportunities for all students to be able to demonstrate achievement of learning outcomes in different ways throughout the course. This may be by offering alternate assessment tasks at the same assessment point, for example either a written or oral assessment, or by offering a range of different assessment tasks across the curriculum.	• Modules are assessed using a wide variety of methodologies. For example : group work/ Individual work/ presentations/ assignments/ reports/ portfolios/ reflection/ video/ practical examination. • A mix is used to allow for diversity yet retaining the need to address the industry work ready requirements and not disadvantaging students.
Curricula informed by employer and industry need	Career management skills Courses should provide support for the development of career management skills that enable student to be familiar with and understand relevant industries or professions, be able to build on work-	• Focus throughout the curriculum with particular emphasis within the core skills module.

	related learning opportunities, understand the role of self-appraisal and planning for lifelong learning in career development, develop resilience and manage the career building process. This should be designed to inform the development of **excellence** and **professionalism**.	• The course team maintain currency to also help mentor/ prepare/ support students with career management skills.
Curricula informed by employer and industry need / Assessment *for* learning / High impact pedagogies	Capstone project/dissertation The level 6 project or dissertation is a critical point for the integration and synthesis of knowledge and skills from across the course. It also provides an important transition into employment if the assessment is authentic, industry-facing or client-driven. It is recommended that this is a capstone experience, bringing together all learning across the course and creates the opportunity for the development of student outcomes including **professionalism**, **integrity** and **creativity**.	• This becomes effective at level 6. Students are encouraged to research and present content which will be a meaningful/ beneficial contributions to both their on CPD and their opportunity for demonstrating their employability potential.

Appendix C: Terminology

ABST	Alliance for Bakery Students and Trainees
awarding body	a UK higher education provider (typically a university) with the power to award higher education qualifications such as degrees

bursary	a financial award made to students to support their studies; sometimes used interchangeably with 'scholarship'
collaborative provision	a formal arrangement between a degree-awarding body and a partner organisation, allowing for the latter to provide higher education on behalf of the former
compulsory module	a module that students are required to take
contact hours	the time allocated to direct contact between a student and a member of staff through, for example, timetabled lectures, seminars and tutorials
coursework	student work that contributes towards the final result but is not assessed by written examination
current students	students enrolled on a course who have not yet completed their studies or been awarded their qualification
delivery organisation	an organisation that delivers learning opportunities on behalf of a degree-awarding body
distance-learning course	a course of study that does not involve face-to-face contact between students and tutors
extracurricular	activities undertaken by students outside their studies
feedback (on assessment)	advice to students following their completion of a piece of assessed or examined work
formative assessment	a type of assessment designed to help students learn more effectively, to progress in their studies and to prepare for summative assessment; formative assessment does not contribute to the final mark, grade or class of degree awarded to students
HEAR	Higher Education Achievement Report

higher education provider	organisations that deliver higher education
IFST	Institute of Food Science and Technology
independent learning	learning that occurs outside the classroom that might include preparation for scheduled sessions, follow-up work, wider reading or practice, completion of assessment tasks, or revision
intensity of study	the time taken to complete a part-time course compared to the equivalent full-time version: for example, half-time study would equate to 0.5 intensity of study
lecture	a presentation or talk on a particular topic; in general lectures involve larger groups of students than seminars and tutorials
learning zone	a flexible student space that supports independent and social earning
material information	information students need to make an informed decision, such as about what and where to study
mode of study	different ways of studying, such as full-time, part-time, e-learning or work-based learning
modular course	a course delivered using modules
module	a self-contained, formally structured unit of study, with a coherent and explicit set of learning outcomes and assessment criteria; some providers use the word 'course' or 'course unit' to refer to individual modules
national teaching fellowship	a national award for individuals who have made an outstanding impact on student learning and the teaching profession
navigability (of websites)	the ease with which users can obtain the information they require from a website
optional module	a module or course unit that students choose to take
performance (examinations)	a type of examination used in performance-based subjects such as drama and music
professional body	an organisation that oversees the activities of a particular profession and represents the interests of its members
prospective student	those applying or considering applying for any programme, at any level and employing any mode of study, with a higher education provider

regulated course	a course that is regulated by a regulatory body
regulatory body	an organisation recognised by government as being responsible for the regulation or approval of a particular range of issues and activities
scholarship	a type of bursary that recognises academic achievement and potential, and which is sometimes used interchangeably with 'bursary'
semester	either of the parts of an academic year that is divided into two for purposes of teaching and assessment (in contrast to division into terms)
seminar	seminars generally involve smaller numbers than lectures and enable students to engage in discussion of a particular topic and/or to explore it in more detail than might be covered in a lecture
summative assessment	formal assessment of students' work, contributing to the final result
TESTA	Transforming the Experience of Students through Assessment
term	any of the parts of an academic year that is divided into three or more for purposes of teaching and assessment (in contrast to division into semesters)
total study time	the total time required to study a module, unit or course, including all class contact, independent learning, revision and assessment
tutorial	one-to-one or small group supervision, feedback or detailed discussion on a particular topic or project
work/study placement	a planned period of experience outside the institution (for example, in a workplace or at another higher education institution) to help students develop particular skills, knowledge or understanding as part of their course
workload	see 'total study time'
written examination	a question or set of questions relating to a particular area of study to which candidates write answers usually (but not always) under timed conditions