



Programme Specification

Product Design Technology [Sep][SW][Frenchay][4yrs]

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Section 1: Key Programme Details

Part A: Programme Information

Programme title: Product Design Technology [Sep][SW][Frenchay][4yrs]

Highest award: BSc (Hons) Product Design Technology

Interim award: BSc Product Design Technology

Interim award: DipHE Product Design Technology

Interim award: CertHE Product Design Technology

Awarding institution: UWE Bristol

Affiliated institutions: Not applicable

Teaching institutions: UWE Bristol

Study abroad: No

Year abroad: No

Sandwich year: Yes

Credit recognition: No

Department responsible for the programme: FET Dept of Architecture & Built Environ, Faculty of Environment & Technology

Contributing departments: Not applicable

Professional, statutory or regulatory bodies:

Institution of Engineering Designers (IED)

Apprenticeship: Not applicable

Mode of delivery: Sandwich

Entry requirements: For the current entry requirements see the UWE public website

For implementation from: 01 September 2022

Programme code: W240-SEP-SW-FR-W240

Section 2: Programme Overview, Aims and Learning Outcomes

Part A: Programme Overview, Aims and Learning Outcomes

Overview: The General aims of the programme are:

To produce graduates with the capacity to proactively solve problems.

To produce graduates with strong communication skills, who are able to explain their concepts to a diverse audience using a range of media.

To prepare students for progression to further study and/or research into product design or related disciplines.

To produce practitioners with an ethical awareness who can take on contemporary issues and objectively seek new and innovative solutions.

Educational Aims: The Specific aims of the programme are:

To prepare students for a careers in Product Design.

To produce graduates with a sound understanding of the tools and techniques used to support the product design and development process.

To produce practitioners with the ability to develop initial design concepts into functional engineered product models leading to resolved product concepts.

To give students an understanding of product/system development tools, engineering simulation tools, materials, manufacturing processes and business practices.

To develop students with a through understanding of the technologies underpinning effective engineered product design, realisation and development.

To prepare students for progression to further study and/or research into design or related disciplines.

To develop students' independent study skills and prepare them for lifelong learning experiences.

Programme Learning Outcomes:

On successful completion of this programme graduates will achieve the following learning outcomes.

Knowledge and Understanding

- A1. Design methods, tools and techniques
- A2. Primary and Secondary research techniques
- A3. Materials and Processes
- A4. 2 and 3 dimensional communication techniques
- A5. Multimedia tools and techniques
- A6. Product modelling tools and techniques, including rapid prototyping, hand construction and finishing
- A7. Contextual perspective of product design in western cultures
- A8. The nature of creativity in design and the design process
- A9. Methods and strategies for the generation and evaluation of alternative design solutions
- A10. The contribution and capabilities of IT and computer-based systems for product design, development and optimization
- A11. Applied engineering concepts
- A12. The impact of sustainability upon the process of design

Intellectual Skills

- B1. The formulation of effective approaches to learning
- B2. Critical Thinking
- B3. Analysis
- B4. Synthesis of different types of information
- B5. Evaluation
- B6. Problem Solving
- B7. Appreciate problem contexts
- B8. Balance conflicting objectives

Subject/Professional Practice Skills

- C1. Develop an awareness of group working methods appropriate to the design industries and the benefits of this approach
- C2. Create engineered products/systems that correspond to stated requirements
- C3. Use real and virtual models to develop and refine design concepts
- C4. Develop initial design concepts into functional product descriptions
- C5. Understand the engineering implications of design specifications
- C6. Generate and evaluate alternative design solutions
- C7. Search for, and evaluate, information and solutions using a wide range of information sources – including the internet
- C8. Manage multi- disciplinary projects
- C9. Specify appropriate electro-mechanical devices for incorporation into design solutions

Transferable Skills and other attributes

- D1. Communication skills: to communicate orally or in writing, including, for instance, the results of technical investigations, to peers and/or to “problem owners”

- D2. Self-management skills: to manage one's own time; to meet deadlines; to work with others having gained insights into the problems of team based project development
- D3. IT Skills in Context (to use software in the context of problem-solving investigations, and to interpret findings)
- D4. Problem formulation: to express problems in appropriate notations
- D5. Progression to independent learning: to gain experience of, and to develop skills in, learning independently of structured class work. For example, to develop the ability to use on-line facilities to further self-study
- D6. Comprehension of professional literature: to read and to use literature sources appropriate to the discipline to support learning activities
- D7. Working with Others: to be able to work as a member of a team; to be aware of the benefits and problems which teamwork can bring

Part B: Programme Structure

Year 1

The student must take 120 credits from the modules in Year 1.

Year 1 Compulsory Modules

The student must take 120 credits from the modules in Compulsory Modules.

Module Code	Module Title	Credit
UBLFC8-30-1	Design Communication 2022-23	30
UBLF98-15-1	Design in Context 2022-23	15
UBLFU8-15-1	Graphic Design 2022-23	15
UBLFQ9-30-1	Mechanisms and Structures 2022-23	30
UBLFEA-30-1	Product Design Studio 1 2022-23	30

Year 2

The student must take 120 credits from the modules in Year 2.

Year 2 Compulsory Modules

The student must take 120 credits from the modules in Compulsory Modules.

Module Code	Module Title	Credit
UBLFD9-15-2	Materials and Processes 2023-24	15
UBLF9A-15-2	Physical Computing 2023-24	15
UBLFDA-15-2	Product CAD 2023-24	15
UBLLXR-15-2	Product Design Engineering 2023-24	15
UBLLYA-60-2	Product Design Technology Studio 2 2023-24	60

Year 3

Year Out:

We recommend that students take this opportunity to do a year-long placement in industry or research. However, this is not necessary and students can enter the third year immediately after year 2. For students wishing to take a sandwich year, the module “Workbased Research Project UBLMG4-15-3” must be taken.

Module Code	Module Title	Credit
UBLMG4-15-3	Work-Based Research Project 2024-25	15

Year 4

The student must take 105 credits from the modules in Year 4.

Year 4 Compulsory Modules

The student must take 105 credits from the modules in Compulsory Modules.

Module Code	Module Title	Credit
UBLFB8-15-3	Design Research Methods 2025-26	15
UBLF79-45-3	Individual Project (Product Design) 2025-26	45
UBLFM9-15-3	Innovation, Technology and Design 2025-26	15
UBLFFA-30-3	Product Design Studio 3 2025-26	30

Part C: Higher Education Achievement Record (HEAR) Synopsis

The BSc(Hons) Product Design Technology prepares students for successful careers in product design and the design industries. Within the programme there is a particular focus on real world experience and preparing young professionals for industry. Graduates are able to demonstrate excellent creative and technical competence, the capacity to critically evaluate complex information and the skills to apply their knowledge in solving challenging product and design engineering design problems.

Part D: External Reference Points and Benchmarks

QAA subject benchmark statements:

QAA Art and Design benchmark statement 2008:

The programme design team has taken special note of the definition of Art and Design, outlined in section 3.1 of the QAA document Subject Benchmark Statement: Art and Design (2008). "Art and design is a subject that embraces an overlapping and changing community of many disciplines. It also engages with many other subjects, including media and communications; the performing arts; the built environment; information technology and computing; engineering; business; and, notably, the history of art, architecture and design." As a product design programme, the Product Design Technology degree is deliberately multidisciplinary, embracing elements of product design, engineering, history, art practice and reference to other disciplines such as media and communication. This approach has informed the combination of study modules and the projects contained within them, and seeks to be responsive to changing social needs (such as market forces, design techniques and shifts in practice). This approach has clear links with other strategic drivers, including employability and networking.

In terms of Level 6 (graduating level), requirements such as critical evaluation and the understanding of professional practice issues related to the designer's relationship with clients, markets, users and consumers were key in the development of the studio modules. At the heart of the programme lies the ability to generate ideas independently and/or collaboratively in response to set briefs and/or self-

initiative activities. The programme has also taken into consideration the application of information skills to navigate, retrieve, and manage information from a variety of sources and to communicate ideas and information in visual, oral and written forms this is specially evidenced in the Design Research Methods and the studio modules.

In designing this programme, the faculty has drawn upon the following external reference points:

The QAA Framework for Higher Education Qualifications in England, Wales and Northern Ireland

The QAA Benchmark Statement for Engineering:

The QAA Subject Benchmark Statement for Engineering outlines skills and knowledge expected of a graduate in an engineering discipline (Section 4 of the Statement refers), while noting that they should be interpreted in the context of the particular engineering discipline which is being studied. These benchmarks map closely to the skills contained in the learning outcomes for this programme, and hence we have confidence that the programme is in accordance with the precepts of the Statement.

UWE's Learning and Teaching Strategy has informed the faculty's policy for the delivery of its programmes.

The Institute of Engineering Designers (IED) Learning Outcomes document:

The IED Learning Outcomes (based on the Engineering Council UKSPEC criteria for CEng status) has provided our benchmark for ensuring that our students are receiving an education that will enable them to become accredited engineers, and go on to seek professional status after graduation.

The programme design team has also looked at:

UWE's 20/20 Strategy

UWE Employability Strategy

QAA code of practice: section 8 Career Education, information, advice and guidance

UWE Widening Participation Strategy

UWE Sustainability Strategy

QAA Education for Sustainable Development

The programme design team has taken full account of the UWE Bristol Strategy 2020, specifically the themes “Ready and able graduates”, “Outstanding learning and Strategic partnerships” and “Connections and networks” (the 4th theme of “Research with Impact” has also been considered in relation to this undergraduate degree, especially in terms of research informed teaching, where students are exposed to ideas and techniques which form the research interests of teaching staff, evidenced in the Design Research Methods and Individual Project modules). Further, the Creative product Design programme is linked with employers, institutions and other bodies throughout the Bristol city region and beyond. Sustainability and behaviour change inform the Creative Product Design programme, explicitly and implicitly: the degree programme focuses its attention on integrating sustainable design in the design process, while also producing graduates who place human-centred at the heart of a creative design process.

Faculty Technology Enhanced Learning (TEL) Strategy (2012-2017): The delivery of the programme has been informed by the Faculty’s TEL policy on teaching, learning and assessment including a strong emphasis on formative work, skills development and innovative approaches to teaching and learning.

Students provide end of module feedback which is incorporated into module actions and development. Students also provide feedback via Student-Staff Forums and Programme Management Committees.

The NSS is thoroughly evaluated and action plans devised to improve performance

year on year.

The feedback of External Examiners is valued and key to ensuring a competitive and appropriate offering in the broader academic context.

All modules and programmes are required to produce action focused annual reports to constantly review and enhance teaching and learning within the programme, Staff development and training along with innovation in module delivery and assessment (within the confines of Professional Body requirements where necessary) are strongly encouraged.

The curriculum has been developed to allow access to all involving wider consultation within the faculty and taking on board existing policies.

Part E: Regulations

Approved to University Regulations and Procedures.