

Programme Specification and Curriculum Map for BA/BSc (Hons) Product Design



1. Programme title	BA/BSc Hons Product Design
2. Awarding institution	Middlesex University
3. Teaching institution	Middlesex University
4. Programme accredited by	Institution of Engineering Designers
5. Final qualification	BA/BSc Hons
6. Academic year	2014/2015
7. Language of study	English
8. Mode of study	Full Time/ Part Time/ Thick Sandwich

9. Criteria for admission to the programme

We welcome applicants with a wide variety of educational experience including: A/AS levels, AVCE, BTEC National Diploma, Access Certificates, Scottish Highers, Irish Leaving Certificates (Higher Level), International Baccalaureate and a large number of equivalent home and overseas qualifications.

Generally, we require applicants to have achieved passes in five GCSE subjects including Maths and English at grade C or above and passed at least two subjects through to six-unit Advanced GCE or Vocational Certificate of Education (VCE). Appropriate 12-unit VCE double awards are accepted - as are combinations of 6-unit GCE and VCE.

Offers made on a Tariff-point basis will take into account qualifications taken and points accumulated across both years of study. Generally, these will be at 280 Tariff points with minimum of 200 points from two 6-unit awards (for example, BB + 80)

Alternatively, successful completion of a relevant Foundation Year or any other qualification deemed by the University to be equivalent would be

accepted.

A portfolio is essential and candidates should show a keen interest in design. All candidates are interviewed to assess their suitability for the programme.

Mature applicants with suitable life skills and experiences will be considered.

10. Aims of the programme

This programme aims to develop graduates who are conversant with, and adept at undertaking, contemporary product design practice.

The programme develops graduates' capabilities to develop innovative design propositions that are informed by a sound understanding of Technology, Advanced CAD and manufacturing.

Students are encouraged to develop a commercial approach to design via supported live projects with industrial partners and industrial placements.

11. Programme outcomes

A. Knowledge and understanding

On completion of this programme the successful student will have knowledge and understanding of :

1. Design process
2. Writing a brief/specification
3. How to communicate design intentions
4. Drawing standards
5. Technology (Principles, Hardware and Software)
6. Computer Aided Engineering
7. Manufacturing Processes and Techniques
8. A range of 2D and 3D Computer aided design and visualisation methods.

Teaching/learning methods

Students gain knowledge and understanding through design projects, reading, listening, visiting exhibitions and galleries, observing, experimenting, constructing, drawing, writing, assessing (peer) and discussing.

Assessment Method

Students' knowledge and understanding is assessed by exhibition of coursework, reports, presentations, dissertation and group reviews. Students on some modules are asked to assess their peers.

<ol style="list-style-type: none"> 9. Design for computer aided manufacture and automation. 10. Working with clients. 11. Commercial and business practices in relation to new product development. 12. Moral, ethical and environmental dimensions to design decisions. 13. Product Design Research Methods 1. 14. Data Sources for Product Development 	
<p>B. Cognitive (thinking) skills On completion of this programme the successful student will be able to:</p> <ol style="list-style-type: none"> 1. Problem solving 2. Full engagement with the design process 3. Reading products 4. Critical thinking 2. 5. Making an argument 	<p>Teaching/learning methods Students develop their cognitive skills through design projects, problem solving activities and through report and dissertation writing.</p> <p>Assessment Method Students' cognitive skills are assessed by: The products that they design, with particular reference to their engagement with the design process, and by coursework comprised of reports, essays and a dissertation.</p>
<p>C. Practical skills On completion of the programme the successful student will be able to:</p> <ol style="list-style-type: none"> 1. Graphic communications 2. Technical drawing 3. Model making 4. Prototyping 	<p>Teaching/learning methods Students learn practical skills through design projects, experimenting, specific skills inputs and set exercises and assignments</p> <p>Assessment Method Students' practical skills are assessed</p>

<ol style="list-style-type: none"> 5. 2D CAD 6. 3D CAD 7. Image generation, manipulation and publishing software 8. Robotic skills inc. programming & sensor integration 	<p>by coursework comprising: Projects, assignments and presentation portfolios.</p>
<p>D. Graduate Skills On completion of this programme the successful student will be able to:</p> <ol style="list-style-type: none"> 1. Team Work 2. Written communication 3. Verbal communication 4. Making presentations 5. Numeracy 6. Understanding themselves as a learner 7. ICT 8. Autonomous learning 9. Autonomous practice 	<p>Teaching/learning methods There are a range of opportunities throughout the programme for students to develop their skills and satisfy their personal targets in a range of contexts.</p> <p>Assessment method Students' key skills are assessed by: Reports, essays, dissertation, presentations, team projects, placement and propositional work</p>

12. Programme structure (levels, modules, credits and progression requirements)

12. 1 Overall structure of the programme

The BSc (Hons) Product Design programme is studied over either three years full-time or four years with a placement year or six years part time. Study is undertaken at three levels.

The course is divided into study units called modules. Each module has a credit value of 30credits, but some modules are larger units (e.g. 90 for the final Design proposition and 120 credits for the year long placement for those taking the four year option). Each 30 credit module represents approximately 300 hours of student learning, endeavour and assessment including up to a maximum of 72 hours of teaching. Each level has an

equivalent of 120 credits. The year long placement module does not contribute to the final degree award; instead, successful completion will lead to the additional award of a *Diploma in Industrial Studies*.

The BSc (Hons) Product Design programme is constructed from 9 modules: 3 at level 1, 4 at level 2 and 2 at level 3. Modules last for 1 academic year (24 weeks teaching + Assessment)

The nature of projects undertaken in the design project modules reflects the content of students' complementary studies and their emergent personal specialism. The design project modules are the principle mechanism whereby students engage in live sponsored projects with industrial partners.

12.2 Levels and modules

Starting in academic year 2010/11 the University is changing the way it references modules to state the level of study in which these are delivered. This is to comply with the national Framework for Higher Education Qualifications. This implementation will be a gradual process whilst records are updated. Therefore the old coding is bracketed below.

Level 4 (1)

COMPULSORY	OPTIONAL	PROGRESSION REQUIREMENTS
Students must take all of the following: PDE 1300 Design and Studio Practice (60 credits) PDE 1250 Computer Mediated Product Design (30 credits) PDE 1310 Prototyping (30 Credits)		Student must pass all modules at level 1 to be able to progress on to level 2

Level 5 (2)

COMPULSORY	OPTIONAL	PROGRESSION REQUIREMENTS
<p>Students must take all of the following:</p> <p>PDE2200 Human factors and product (30 Credits)</p> <p>PDE 2250 Design Projects (30 credits)</p> <p>PDE 2251 Product Design in Context (30 credits)</p> <p>PDE 2293 Advanced CAD and CAM (30 credits)</p> <p>PDE 2294 Technology Systems for Product Prototyping (30 credits)</p>	<p>Students must also choose at least XX from the following:</p>	<p>To progress on to a placement year students must pass all modules at level 2.</p> <p>To progress into level 3 without a placement students must pass PDE2250 and a minimum of 60 credits from the remaining modules. Additionally for progression to be granted with this credit deficit the assessment board need to be assured that the student has the wherewithal to pass the module at a second attempt with no further teaching.</p>
<p>Level 6 (3)</p>		

COMPULSORY	OPTIONAL	PROGRESSION REQUIREMENTS
<p>Students must take all of the following:</p> <p>PDE 3255 Design Manifestations (30 credits)</p> <p>PDE 3254 Design Propositions (60 Credits)</p> <p>PDE 3253 Design Dissertation (30 credits)</p>	<p>Students may choose to take the year-long placement module:</p> <p>PDE 3250 Thick Sandwich Placement (120 credits – for Diploma of Industrial Studies) :</p>	<p>The student must pass all modules at level 3</p>

12.3 Non-compensatable modules (note statement in 12.2 regarding FHEQ levels)

Module level	Module code
3	PDE 3254
3	PDE 3253
3	PDE 3252

13. A curriculum map relating learning outcomes to modules

See Curriculum Map attached

14. Information about assessment regulations

Please refer to the University Regulations for generic guidance and the PDE Subject Handbook, under section "Assessment", for additional information.

15. Placement opportunities, requirements and support (if applicable)

Students have the option to follow this programme in Thick Sandwich (TKSW) mode. Students in TKSW mode undertake 4 years of study with the

following pattern: Years 1 and 2 at the University; year 3 (36 to 48 weeks) on professional placement with an industrial partner; year 4 at the University.

Students following a TKSW placement year are supported through the process of securing a placement, which includes the legal and QAA requirements for placement learning, via tutorial support and the University Placement office.

Whilst on placement, each student is allocated a University placement tutor and a company workplace supervisor who provide the necessary support for a student to undertake a successful placement

16. Future careers (if applicable)

Whilst on the programme students are encouraged to develop a commercial approach to design via supported live projects with industrial partners and industrial placements. They undertake contextual studies into the nature and contexts of the profession. They interact with a variety of guest lecturers with professional backgrounds. They are supported in developing their exit portfolio, a CV and a career entry plan.

Through these experiences they come to understand design in a commercial context, the nature of the design industries and to plan for their own career entry and development.

17. Particular support for learning (if applicable)

Meeting the learning outcomes of this programme requires active participation in the subject and the development of autonomous practice in meeting design objectives. Supporting this level of active participation and autonomous practice is achieved via regular tutorial contact with academic staff, productive and informed support from technical staff and the use of online, resource-based learning materials where appropriate.

The subject provides extensive studio, laboratory and workshop facilities where students can engage with their coursework assignments in a supported and productive environment.

18. JACS code (or other relevant coding system)	
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19. Relevant QAA subject benchmark group(s)	
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20. Reference points
N/A

21. Other information
N/A

Please note programme specifications provide a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve if s/he takes full advantage of the learning opportunities that are provided. More detailed information about the programme can be found in the student programme handbook and the University Regulations.

Curriculum map for BSc Product Design

This section shows the highest level at which programme outcomes are to be achieved by all graduates, and maps programme learning outcomes against the modules in which they are assessed.

Programme learning outcomes

Module Code by Level	Programme outcomes																																					
	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	C6	C7	D1	D2	D3	D4	D5	D6	D7	D8	D9			
Level 1																																						
PDE 1300	X	X	X	X	X		X						X	X	X	X	X	X	X	X	X	X	X				X	X	X	X	X	X	X	X	X	X		
PDE 1250			X	X		X		X							X	X		X	X	X	X	X	X	X	X	X						X	X	X	X	X		
PDE 1310	X		X	X	X		X							X	X	X		X	X	X	X	X	X	X				X		X	X	X	X	X	X	X	X	
Level 2																																						
PDE 2200 (BA Only)	X	X	X	X				X		X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	
PDE 2250	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	
PDE 2251							X		X		X	X	X	X			X	X	X								X		X							X	X	X
PDE 2293	X		X	X		X	X	X	X					X	X	X		X	X	X	X	X	X	X	X	X	X	X	X			X		X	X	X	X	
PDE 2294 (BSc Only)	X		X	X	X	X	X							X	X	X		X	X	X	X	X	X	X				X	X	X	X	X		X	X	X	X	

Module Code by Level	Programme outcomes																																				
	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	C6	C7	D1	D2	D3	D4	D5	D6	D7	D8	D9		
Level 3																																					
PDE 3250															X			X										X	X	X	X	X		X	X	X	
PDE 3253												X	X	X	X	X	X	X	X									X						X	X	X	
PDE 3254	X	X	X	X	X	X	X			X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X		X	X	X
PDE 3255	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Programme outcomes – highest level to be achieved by all graduates																																			
A 1	A 2	A 3	A 4	A 5	A 6	A 7	A 8	A 9	A1 0	A1 1	A1 2	A1 3	A1 4	B 1	B 2	B 3	B 4	B 5	C 1	C 2	C 3	C 4	C 5	C 6	C 7	D 1	D 2	D 3	D 4	D 5	D 6	D 7	D 8	D 9	
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Knowledge and understanding		Practical skills	
A1	Design process	C1	Graphic communications
A2	Writing a brief/specification	C2	Technical drawing
A3	How to communicate design intentions	C3	Model making
A4	Drawing standards	C4	Prototyping
A5	Technology (Principles, hardware and software)	C5	2D CAD
A6	Computer Aided Engineering	C6	3D CAD
A7	Manufacturing processes and techniques	C7	Image generation, manipulation and publishing software
A8	A range of 2 and 3D computer aided design and visualisation methods		
A9	Design for computer aided manufacture and automation		
A10	Working with clients		
A11	Commercial and business practices in new product development		
A12	Moral, ethical and environmental dimensions to design decisions		
A13	Product Design Research Methods		
A14	Data Sources for Product Development		
Cognitive skills		Key skills	
B1	Problem solving	D1	Team work
B2	Full engagement with the design process	D2	Written communication
B3	Reading products	D3	Verbal communication
B4	Critical thinking	D4	Making presentations
B5	Making an argument	D5	Numeracy
		D6	Understanding themselves as a learner
		D7	ICT
		D8	Autonomous learning
		D9	Autonomous practice