

# ASTON UNIVERSITY PROGRAMME SPECIFICATION

<b>Programme Title</b>	Industrial Product Design
<b>UCAS/JACS Code</b>	H772
<b>School/Subject Area</b>	Engineering & Applied Science Mechanical Engineering and Design
<b>Final Award</b>	BSc (Hons) Industrial Product Design
<b>Interim Awards</b>	Certificate of Higher Education (120 credits) Diploma of Higher Education (240 credits)
<b>Mode(s) of Study</b>	Fulltime and Sandwich
<b>Normal Length of Programme</b>	3 years fulltime, 4 years sandwich
<b>Total Credits</b>	360 fulltime (plus 120 at level P for sandwich students)
<b>Programme Accredited By</b>	The Institution of Engineering Designers (for membership)
<b>Dates Programme Specification Written and Revised</b>	April 2011

<b>Education Aims of the Programme</b>	<p>Core Aims (applicable to all Product Design programmes)</p> <p>To provide students with the opportunities to realise their academic potential through a range of learning experiences.</p> <p>To provide a thorough grounding in the principles and practice of Product Design Development including relevant aspects of Business Management.</p> <p>To provide students with appropriately structured curricula, combining teaching and learning in theoretical design issues with practical skills training.</p> <p>To provide an up-to-date and professionally focussed curriculum.</p> <p>To offer students the opportunity to obtain relevant industrial experience by providing the option of a sandwich placement year.</p> <p>Subject Specific Aims (Industrial Product Design)</p> <p>To provide a grounding in the design principles of industrial product design technology, manufacturing and concept development.</p> <p>To provide additional design content in industrial product design working processes and manufacturing approaches.</p> <p>To provide capable graduate engineers who are highly valued by employers especially in the industrial product design sector.</p>
<b>Relevant Subject Benchmark Statements and other External and Internal Reference Points used to inform programme outcomes</b>	<p>Quality Assurance Agency General Engineering and Art &amp; Design benchmark statements.</p> <p>Institution of Mechanical Engineers Educational Base document.</p> <p>UK Quality Code Part a.1 (2011)</p> <p>The Institution of Engineering Designers Education Base</p> <p>CDIO (Conceive, Design, Implement &amp; Operate) Framework</p>

<b>Programme Structures and Requirements: Levels, Modules and Credits</b>						
<b>Stage 1</b>						
<b>Module Title</b>	<b>Credits</b>	<b>Level</b>	<b>Module Code</b>	<b>Core/Option</b>	<b>Condonable</b>	<b>Prerequisites</b>
Design and Experimentation	30	4	ME1501	Core		
Prototyping and Development	30	4	ME1502	Core		
Design Fundamentals	20	4	PD1800	Core		
Specialist Design Project	20	4	PD1801	Core		
Engineering Principles	20	4	PD1803	Core		
<b>TOTAL</b>	120					

<b>Programme Structures and Requirements: Levels, Modules and Credits</b>						
<b>Stage 2</b>						
<b>Module Title</b>	<b>Credits</b>	<b>Level</b>	<b>Module Code</b>	<b>Core/Option</b>	<b>Condonable</b>	<b>Prerequisites</b>
Design and Engineering for the User	30	5	ME2501	Core		
Engineering for Industry	30	5	ME2502	Core		
Specialist Design Project 2	20	5	PD2001	Core		
Commercial Practice	20	5	PD2002	Core		
Engineering Principles (2)	20	5	PD2003	Core		
<b>TOTAL</b>	120					

<b>Programme Structures and Requirements: Levels, Modules and Credits</b>						
<b>Stage 3 P</b>						
<b>Module Title</b>	<b>Credits</b>	<b>Level</b>	<b>Module Code</b>	<b>Core/Option</b>	<b>Condonable</b>	<b>Prerequisites</b>
EAS Study Placement Year	120	P	SEP001	Core		
EAS Industrial Placement Year	120	P	SEP002	Core		
<b>TOTAL</b>	120					

<b>Programme Structures and Requirements: Levels, Modules and Credits</b>						
<b>Stage F</b>						
<b>Module Title</b>	<b>Credits</b>	<b>Level</b>	<b>Module Code</b>	<b>Core/Option</b>	<b>Condonable</b>	<b>Prerequisites</b>
Product Design Final Year Project	40	6	ME3047	Core		
Specialist Design Project 3 (Future Focus)	20	6	PD3001	Core		
Industrial Design (Global Focus)	20	6	PD3002	Core		
Professional Preparation for Industry (Business Focus)	20	6	PD3003	Core		
Design Competitions	20	6	PD3004	Core		
<b>TOTAL</b>	120					

## Programme Outcomes, Learning and Teaching and Assessment Strategies

### Knowledge and Understanding

On successful completion of their programme students, are expected to have knowledge and understanding of:		Learning, Teaching and Assessment Strategies to enable outcomes to be achieved and demonstrated	
		Learning and Teaching Methods	Assessment Methods
1	Basic mathematics, science and technology underpinning Industrial Product Design	Formal lectures Example classes Laboratory work	Unseen written examinations Open book examinations Essays and project reports.
2	Fundamental concepts, principles and methodologies of Product Design	Design surgeries Small group tutorials	Class tests Presentations
3	Design techniques appropriate to the role of the Industrial Designer in the engineering and design sectors.	Individual and group design projects. Seminars Presentations	Online methods Demonstrations of prototypes Peer review
4	Analytical skills using a range of IT and CAD based software.	Directed research	
5	Business, management and design practice skills.		
6	The role of the Designer in society including professional skills, ethics and sustainability.		

### Intellectual Skills

On successful completion of their programme students, are expected to have knowledge and understanding of:		Learning, Teaching and Assessment Strategies to enable outcomes to be achieved and demonstrated	
		Learning and Teaching Methods	Assessment Methods
1	Analyse and solve Industrial Design problems.	Formal lectures Design surgeries	Unseen written examinations Open book examinations Essays and project reports.
2	Evaluate and integrate information from a variety of sources	Model Making Workshops Individual and group design projects.	Class tests Presentations
3	Plan, conduct, evaluate and report on a programme of work.	Seminars Presentations	Online methods Demonstrations of prototypes Peer review
4	Create a solution to an industrial design problem being aware of constraints, evaluate the design and make improvements.	Directed research Self-learning in open access design studios	

<b>Professional Skills</b>			
	<b>On successful completion of their programme students, are expected to have knowledge and understanding of:</b>	<b>Learning, Teaching and Assessment Strategies to enable outcomes to be achieved and demonstrated</b>	
		<b>Learning and Teaching Methods</b>	
		<b>Assessment Methods</b>	
1	Plan and execute safely a series of measurements.	Formal lectures Design surgeries Model Making Workshops Individual and group design projects. Seminars Presentations CAD Workshops and surgeries Self-learning in open access design studios Work based learning (sandwich students only)	Unseen written examinations Open book examinations Essays and project reports. Class tests Presentations Online methods Demonstrations of prototypes Peer review
2	Use and apply a variety of model making techniques.		
3	Prepare a technical report or presentation.		
4	Use ICT as both a management and presentation tool.		
5	Use proprietary CAD/CAM packages including 3D solid modelling.		

<b>Transferable Skills</b>			
	<b>On successful completion of their programme students, are expected to have knowledge and understanding of:</b>	<b>Learning, Teaching and Assessment Strategies to enable outcomes to be achieved and demonstrated</b>	
		<b>Learning and Teaching Methods</b>	
		<b>Assessment Methods</b>	
1	Interpersonal skills appropriate to a professional Industrial Designer	Formal lectures Design surgeries Model Making Workshops Individual and group design projects. Seminars Presentations CAD Workshops and surgeries Self-learning in open access design studios	Essays and project reports Class tests Presentations Online assessment Demonstration of prototypes Peer review Design Show
2	Ability to communicate effectively (written, oral and through use ICT techniques)		
3	Team working skills.		
4	Creativity, consultancy and problem solving skills.		
5	Modelling skills using CAD and prototyping processes.		
6	Time and resource management skills		
7	Ability to learn independently and to facilitate professional development.		

<b>Entry Requirements</b>	<p>The general entry requirement for this programme is Grade C in GCSE English Language (or equivalent) and grade B in GCSE Mathematics (if not offered at A2/AS level) plus at least two A2 subjects.</p> <p>For this programme students must typically achieve at least 300 points from 3 A2 subjects or from 2 A2 and 2 AS subjects. The A2 subjects must include a physical science, technology or product design subject.</p> <p>Alternative qualifications will be accepted where these are equivalent to the conditions above.</p> <p>Students already reading another degree programme at Aston University may be allowed to transfer to this programme with the agreement of the Associate Dean Undergraduate Programmes.</p>
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<b>Programme Regulations</b>	<p><b>Attendance requirements</b></p> <p>Full-time students are normally required to attend for three stages. Sandwich students are normally required to attend for four stages and to undertake an approved placement for one stage with the placement as the third stage.</p> <p>In order to qualify for the award of a degree a student must have attended the required proportion of tutorials, seminars, practical classes and lectures as specified in the Programme Handbook. In the case of repeated unexcused absence over a period of two weeks or more disciplinary proceedings may be instituted in the form of a formal letter. Students who do not attend satisfactorily may be required to withdraw from the programme.</p> <p><b>Requirements for the Ordinary Degree</b></p> <p>The credit requirements for the BSc Ordinary Degree are as specified in the General Regulations for Undergraduate Programmes. The following modules are not required to be taken by students on the Ordinary Programme:</p> <p>Stage 2 PD2002 Commercial Practice</p> <p>Stage 3 PD3002 Industrial Design</p> <p><b>Industrial/Professional Training</b></p> <p>Sandwich students are required to undertake an appropriate programme of integrated industrial training of at least 40 weeks duration. Each student is required to submit satisfactory reports and/or assignments relating to the work carried out at the placement stage. The placement stage will be assessed as one module worth 120 credits at level P, and will contribute to the final degree classification.</p>
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General Regulations (<http://www1.aston.ac.uk/registry/for-staff/regsandpolicies/general-regulations/>) and the Regulations for the programme (above) take precedence over other information sources such as student handbooks if there is a conflict. If there is a conflict between General Regulations and Programme Regulations then General Regulations take precedence unless an exemption has been approved.

This specification provides a concise summary of the main features of the programme and the threshold learning outcomes that a student might normally be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. **The individual modules included in the programme may differ from those included in this programme specification as our programmes are subject to continuous review.** Information on admissions requirements and career opportunities is available in the relevant prospectus. More detailed information on the learning outcomes, content and teaching, learning and assessment methods of each module can be found in the appropriate module guides and programme handbook(s) which are available to students on enrolment.