Aston University

PROGRAMME SPECIFICATION
(2012-13)

Programme Title	Transport Product Design
UCAS/JACS Code	H130
School/Subject Area	Engineering & Applied Science Mechanical Engineering and Design
Final Award	BSc (Hons) Transport Product Design
Interim Awards	Certificate of Higher Education (120 credits) Diploma of Higher Education (240 credits)
Mode(s) of Study	Fulltime and Sandwich
Normal Length of Program	3 years fulltime, 4 years sandwich
Total Credits	360 fulltime (plus 120 at level P for sandwich students)
Programme Accredited By	The Institution of Engineering Designers (for membership)
Dates Program Specification Written and Revised	April 2011

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

Programme Structures and Requirements: Levels, Modules and Credits Stage 1				
Module Title	**Credits**	**Level**	**Module Code**	**Core**
Design and Experimentation	30	4	ME1501	YES
Prototyping and Development	30	4	ME1502	YES
Design Fundamentals	20	4	PD1800	YES
Specialist Design Project	20	4	PD1801	YES
Engineering Principles	20	4	PD1803	YES
TOTAL	120			

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

Programme Structures and Requirements: Levels, Modules and Credits Stage P				
Module Title	**Credits**	**Level**	**Module Code**	**Core**
Industrial Placement Year	120	P	MEP001	YES
TOTAL	120			

Programme Structures and Requirements: Levels, Modules and Credits Stage F				
Module Title	**Credits**	**Level**	**Module Code**	**Core**
Product Design Final Year Project	40	6	ME3047	YES
Specialist Design Project 3 (Future Focus)	20	6	PD3001	YES
Industrial Design (Global Focus)	20	6	PD3002	YES
Professional Preparation for Industry (Business Focus)	20	6	PD3003	YES
Design Competitions	20	6	PD3004	YES
TOTAL	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 Transport Product Design	Formal lectures Example classes Laboratory work Design surgeries Small group tutorials Individual design projects Group design projects Seminars Presentations Directed research	Essays and project reports Class tests Presentations Online assessment Demonstration of prototypes Peer review Design Show
2	Fundamental concepts, principles and methodologies of Product Design		
3	Design techniques appropriate to the Transport sector.		
4	Analytical skills using a range of IT and CAD based software.		
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 Transport product design problems.	Formal lectures Design surgeries Model Making Workshops Individual and group design projects. Seminars Presentations Directed research Self-learning in open access design studios	Essays and project reports Class tests Presentations Online assessment Demonstration of prototypes Peer review Design Show
2	Evaluate and integrate information from a variety of sources		
3	Plan, conduct, evaluate and report on a programme of work.		
4	Create a solution to a design problem being aware of constraints, evaluate the design and make improvements.		

Professional 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	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)	Essays and project reports Class tests Presentations Online assessment Demonstration of prototypes Peer review Design Show
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.		

Transferable 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	Interpersonal skills appropriate to a professional designer in the Transport sector.	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 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.		

Entry Requirements	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. 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. Alternative qualifications will be accepted where these are equivalent to the conditions above. 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.
Programme Regulations	**Attendance requirements** 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. 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 maybe instituted in the form of a formal letter. Students who do not attend satisfactorily may be required to withdraw from the programme. **Requirements for the Ordinary Degree** 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: Stage 2 PD2002 Commercial Practice Stage 3 PD3002 Industrial Design **Industrial/Professional Training** Sandwich students are required to undertake an appropriate programme of integrated industrial training of at least 40 weeks duration. **Calculation of Degree Award** In calculating the overall mark in the final stage of the programme the total marks shall be based on: Full-time students: 25% of the second stage of the programme and 75% of the final stage of the programme. For Sandwich students: 15% of the second stage of the programme, 10% of the placement stage (level P) and 75% of the final stage of the programme.

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.