

**Glasgow School of Art Programme Specification
Programme Title: MSc in Product Design Engineering**



Image: MSc PDE Postgraduate Show 2024 (photo credit, McAteer)

Please note that this programme specification is correct on the date of publication but may be subject to amendment prior to the start of the Academic Year.

1. Programme Details	
Programme Title	MSc in Product Design Engineering
School	School of Design
Programme Leader	Stuart Bailey
Award to be Conferred	Master of Science in Product Design Engineering
Exit Awards	Stage 1: Postgraduate Certificate in Product Design Engineering Stage 2: Postgraduate Diploma in Product Design Engineering Stage 3: Master of Science (MSc) in Product design Engineering
SCQF Level	11
Credits	180
Mode of Study	Full-time (12 months)
HECOS Code	

Academic Session	2026-27
Date of Approval	Programme Approval September 2025

Awarding Institution	University of Glasgow
Teaching Institutions	The Glasgow School of Art, University of Glasgow
Campus	Glasgow
Lead School/Board of Studies	School of Design
Other Schools/Board of Studies	James Watt School of Engineering, University of Glasgow
Programme Accredited By (PSRBs)	Institute of Mechanical Engineers, Institute of Engineering and Technology, Institute of Engineering Designers.

2. Entry Qualifications	
Highers	N/A
A Levels	N/A
Other	<p>An undergraduate degree with Honours, minimum 2.2 or equivalent (eg GPA of 3.0 or above) in a relevant technical design subject area (product design engineering, mechanical engineering, electronic and electrical engineering being of particular relevance) or equivalent professional design experience within a technical context.</p> <p>Additional entry requirements: Applicants are normally asked to submit visual evidence of practical projects or a portfolio of work, along with satisfactory references, a written personal statement and short video introduction. Applicants may also be requested to attend an interview as part of their admission assessment, and depending on their previous experience and qualifications, applicants may be asked to complete a design engineering assignment as part of their application.</p>

<p>English Language Requirements</p>	<p>Applicants who are not a national of, nor have obtained a degree in one of the countries on the approved UKVI exemption list or those who require a Student Visa, will need to provide evidence of their English language ability.</p> <p>GSA's preferred test is the IELTS for UKVI (Academic) test taken at a UKVI approved test centre. GSA require all students, who require a student visa, to meet the following requirements to gain entry:</p> <ul style="list-style-type: none"> • IELTS for UKVI Academic with an overall score of 6.5 with a minimum of 6.0 in all components; • An alternative Accepted English Language Test which can be found on the Postgraduate 'How to Apply' page of the GSA website.
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<p>3. Programme Introduction</p> <p>The MSc in Product Design Engineering (PDE) programme explores the intersections of design practice and analytical engineering. The programme is delivered jointly between the Glasgow School of Art (GSA) and the University of Glasgow and is accredited by professional engineering bodies.</p> <p>The programme develops confident and skilled product design engineering graduates who can apply their creative process to complex problems, designing products that meet people's needs and those of the planet. This programme nurtures independent thinkers and helps them collaborate effectively in teams; inspiring students to become leaders and facilitators in the development of responsible, ethical, and innovative products within sustainable and circular product-service ecosystems.</p> <p>The MSc PDE programme employs a range of pedagogical approaches focussing on practice-based research and critical analysis, enabling students to acquire key skill sets and attributes, enhance design thinking, develop innovative strategies, and reflect upon their professional practice. The GSA elements of the programme are based in the School of Design and embrace a creative and critical reflection work ethos within a studio-based learning and teaching environment and the wider GSA community.</p> <p>The engineering elements of the programme are provided by the College of Science and Engineering, through the James Watt School of Engineering. The mix of practical studio-based work at GSA with engineering lectures and labs at the James Watt School of Engineering offers students with an engineering background and students that have a technical design background to develop their design and engineering knowledge and skills through a people-planet centric design process. By recognising the needs of people and the planet, students explore and develop design opportunities for innovation that reflect circular and regenerative design principles relevant to a Circular Economy with reference to the United Nations Sustainability Goals (SDG). The PDE design process enables students to identify and respond to the needs and requirements of people while</p>

understanding the engineering and technology required to enable them to deliver a sustainable product design proposition within an appropriate product-service ecosystem.

The programme fosters independence, curiosity, creativity, critical thinking, experimentation and prototyping, enabling students to address the evolving needs of society with empathy, social awareness, conceptual mindsets, and diverse forms of expression. To facilitate this, the programme is delivered in three Stages that includes subject material from Product Design Engineering, Design Research Methods, Human Factors, and Mechanical, Electrical/Electronic and Software Engineering.

Stage 1 introduces design research methods with human-centred design process and strategies for product design engineering with the opportunity for formal and informal discourses through group projects and sharing. In this stage, students are introduced to the ethical and responsible design principles of circularity, regenerative and sustainability which are embedded throughout the programme. Stage 2 develops and broadens students' knowledge and skills in design and technical subjects through collaborative projects and elective courses from the Glasgow School of Art and University of Glasgow. In Stage 3, students draw upon their learning in Stages 1 and 2 to propose, manage and direct their own self-initiated major project, demonstrating resourcefulness, inventiveness, and challenging product design engineering norms to prepare graduates with the thinking and tools to navigate complexity and design responsibly for people and planet in line with the UN Sustainability Goals.

Running through the core of the programme is the emphasis on *Process* and the ability to evidence, validate and justify research, design decisions and directions that determine the final design outcome; *Presentation* and communication of process with oneself and others through visualisation and design narrative, telling the story of your process; and demonstrating how the *Product* delivers the requirements determined by research and the benefits intended through the design process. Abbreviated as the *3Ps* (Process, Presentation Product), the PDE design process cultivates a student's ability to externalise, visualise and communicate their design process through appropriate visual design narratives, identifying and justifying the need for a product by applying an analytical and reflexive design process that describes not only what a product does and how it does it but more importantly, why.

4. Programme Aims

The aims of the programme are to:

1. develop a comprehensive understanding of product design engineering processes and practices, integrating cultural, environmental, social, ecological, and technological contexts through practical, theory-based design projects
2. critically explore the application of people-planet centred design processes and engineering practices through independent and collaborative studio-based activities, emphasising interdisciplinary interactions and practical outcomes
3. develop a critical understanding of research and experimentation methodologies, applying analytical and evaluative processes to create and communicate informed proposals driven by curiosity, individuality, reflection, and self-expression

4. critically challenge traditional and existing disciplinary boundaries of design and engineering practices by constructively disrupting processes, materials, and technologies to innovate concept-driven design outcomes
5. foster self-direction and ethical responsibility in project work by applying critical thinking and experimental methodologies, including thinking through making, design, build, and test
6. critically reflect on the roles and responsibilities of a product design engineer within broader sociocultural, technological, and environmental contexts through discourse and exchange of ideas across diverse audiences and settings

5. Programme Intended Learning Outcomes

After full participation in and successful completion of the programme, students will be able to:

1. critically engage with design research methods and product design engineering processes, understanding their historical and contextual evolution and relevance to current and future socio-ecological-technological systems
2. integrate and synthesise creative and technological research using analytical and reflective methods to evaluate and inform product design conceptualisation, development, and production through independent and collaborative studio-based activities
3. challenge existing practices within product design engineering by exploring disciplinary boundaries and disrupting processes, materials, and technologies to generate responsible and ethical design propositions
4. plan and execute projects that demonstrate exploration and experimentation, validated by critical and reflective evaluation to resolve specialised disciplinary ideas and proposals
5. effectively communicate complex ideas to specialist and non-specialist audiences, addressing social, ecological, and technological responses to real-world challenges and complex problems

6. Description of Learning and Teaching Approaches

MSc PDE students on this programme are engaged in teaching and learning activities across the Glasgow School of Art and the James Watt School of Engineering at the University of Glasgow.

A variety of teaching and learning approaches, including in person, blended and online learning and delivery, are employed to support student engagement with the curriculum and the achievement of the intended learning outcomes. These include:

- lectures
- labs
- studio activities
- projects
- briefings
- inductions and demonstrations

- technical and design workshops
- individual and group tutorials and crits
- talks, seminars, and study visits
- group critiques and reviews, peer review, peer learning, and presentations
- in-person and recorded presentations
- report and essay writing
- reflection and self-evaluation

Skills including digital, material and technical resources are introduced through inductions, demonstrations and workshops.

Independent learning skills will be developed and supported through guided activities and digital online learning resources available on Canvas.

Through studio-based projects, students are encouraged to identify project topics and take the lead on project management and delivery of outcomes.

7. Description of Assessment Methods

Formative assessment offers students the opportunity to obtain ongoing tutor and peer feedback through the development of their summative submissions over the length of each course. Students are supported in their learning through a range of formative activities with staff and peers, such as workshops, reviews and tutorials offering ongoing formative feedback as they progress through each course within this programme.

Summative Assessment is designed to support students to review, collate and communicate work produced in response to project briefs and learning and teaching activities associated with the programme and its courses. For courses at the University of Glasgow, summative assessment takes the form of laboratory and project reports, and formal written examinations.

Submissions will be assessed and moderated in line with the Code of Assessment.

8. Programme Structure

Stage 1

Course	Credits	SCQF Level	Semester	Course Code
PDE Research Methods and Design Strategies	30	11	1	TBD
Advanced Manufacture	20	11	1	PPDE103 (ENG5096)
Microelectronics in Consumer Products 4	10	10	1	PPDE104 (ENG4098)
Total Stage Credits	60			

Stage 2				
Course	Credits	SCQF Level	Semester	Course Code
PDE MSc Human Factors	10	11	2	PPDE206 (EXT5157)
Integrated Engineering Design	20	11	2	PPDE207 (ENG5043)
Postgraduate Elective	20	11	2	
In addition, students select one UoG Engineering Elective course from the following courses				
Instrumentation and Data Systems 3	10	9	2	(ENG3034)
Fault Detection, Isolation and Recovery	10	11	2	(ENG5031)
Advanced Programming and Software Engineering 3	10	9	2	(ENG3091)
Total Stage Credits	60			

Stage 3				
Course	Credits	SCQF Level	Semester	Course Code
PDE MSc Final Project	60	11	3	PPDE301 (EXT5156P)
Total Stage Credits	60			

9. Outgoing Exchange and Visiting Student Arrangements

Not applicable

10. Relevant QAA Subject Benchmark Statements and Other External Reference Points

Subject Benchmark Statements describe the nature of study and the academic standards expected of graduates in specific subject areas. For further information relevant to this programme see:

https://www.qaa.ac.uk/docs/qaa/sbs/sbs-engineering-23.pdf?sfvrsn=7c71a881_4

<https://www.qaa.ac.uk/the-quality-code/subject-benchmark-statements/subject-benchmark-statement--art-and-design>

11. Programme Regulations and Requirements for Progression

All GSA Degree programmes are validated by the University of Glasgow and the GSA's Programme Regulations are published in the [University of Glasgow University Regulations](#).

These regulations include the requirements in relation to:

- (a) Award of the degree
- (b) Progression requirements
- (c) Early exit awards

In referring to regulations for degree programmes, students should consult the University Regulations which were in force in the academic session in which they first registered for the degree programme in question.