Glasgow School of Art Course Specification
Course Title: Product Design Engineering 4M

Please note that this course specification is correct on the date of publication but may be subject to amendment prior to the start of the 2025-26 Academic Year.

Course Code:	HECOS Code:	Academic Session:
UoG EXT4091		2025-26

1. Course Title:
Product Design Engineering 4M

2. Date of Approval:	3. Lead School:	4. Other Schools:
PACAAG April 2020	School of Design	N/A

5. Credits:	6. SCQF Level:	7. Course Leader:
50	10	Hugh Pizey

8. Associated Programmes:
BEng/MEng Product Design Engineering

9. When Taught:
Semester 1 & 2

10. Course Aims:

Aim – General

By the end of Level 4M, students will be expected to have developed the knowledge and skill base acquired at the previous level, sufficient to have undertaken and negotiated two studio-based projects - a group project with a 'live' brief and a more speculative project.

Aims – Specific

- To develop the ability to undertake and manage a studio-based, user-centred design project, including the design, engineering, development, testing, evaluation and prototyping of an appropriate product, to a proficient and professional level.
- To develop an appreciation of client-design engineer relationships
- To develop group-working skills and the ability to work as an effective and confident member of a project team.
- To develop the ability to work in an effective, confident and autonomous manner.
- To develop confidence and proficiency in all aspects of the practical and reflective design engineering process to a level where these skills can be transferred to a commercial/ professional working situation.

11. Intended Learning Outcomes of Course:

In addition to the 3P's (Product, Process and Presentation) listed in the Programme Specification, students will be reviewed or assessed on the work, as presented in their project documentation, that evidences level of engagement with and the quality of achievement of the intended learning outcomes for PDE4M listed here:

By the end of this course students will be able to:

- Ability to develop questionnaires; interview and reporting skills and understand how engineers operate in industry.
- Identify ways by which organisations encourage innovation.
- Recognise technical and environmental influences on the ability to innovate.
- To work collectively in a group and develop: present a project brief based on interviewing a client. The brief will include: product design specification, project plan, marketing strategy and product/project costing.
- Submit an individual account of their own contribution to the group project and their reflection on the experience.

Evaluate the influence that:

- External environment, corporate cultures, management, structures, business processes and procedures have on the implementation of new ideas and product development

Demonstrate understanding of:

- The processes of successful implementation of innovative projects
- The management of risk.

How evidence of skills and capability in:

- Critically engaging with and evaluating texts and journal articles.
- The benefits of group and team-working and evaluating project planning techniques.
- Independent analysis of the management problems.
- Communicating conclusions effectively.
- Identifying and addressing relevant aspects of responsibility and environmental impact.

12. Indicative Content:

The staff-directed course content would primarily be delivered in studio with a series of project workshops, seminars and lectures. These would provide students with awareness and expertise that would be of benefit to final year projects.

Students would be introduced to: Working with clients, Co-operative Design, Brief Writing, Time and Team Management, Influencing and Negotiation skills, Project Accounting, Costing, Return on Investment, Pricing Variations and effects, Product Positioning and recognising Market Opportunities.

Project Scenarios

- Preference for Live project and potentially working with SME's. Project duration would be approx. 10 weeks. Using the existing project arrangements, one project would team and the other individual.

Semester 1:

- Group project with a 'live' brief and potentially involving an external client.
- Design for Market
- Input on engaging users to obtain research data.

- Input on visualising user research for analysis and evaluation – use of storyboards, scenarios, user profiles and user journeys.
- Input on graphic communication and presentation techniques.
- Application of engineering science and appropriate technology for a defined project area.

Semester 2:

- The semester 2 project will tackle a more speculative project brief. This project will encourage engagement with emerging technologies and socio-cultural issues.
- Workshop on video prototyping techniques as a tool to communicate speculative product concepts and user-product interactions.
- Development and refinement of a Product Design Specification.

13. Description of Summative Assessment Methods:

The main aspects of Summative assessment are: written assignments, practical projects outcomes/prototypes and presentations

Assessment Method	Description of Assessment Method	Weight %	Submission week (assignments)
Studio Practice/Projects	Portfolio submission	100%	End of Semester 2 - teaching

13.1 Please describe the Summative Assessment arrangements:

The completed PDE4M project outcomes will form the basis for the summative assessment. The final grade will be submitted to the University of Glasgow, School of Engineering Exam Board.

14. Description of Formative Assessment Methods:

Engagement with formative assessment is a mandatory requirement.
Student and peer feedback are offered throughout projects with detailed feedback provided after interim presentation. The main areas of student engagement are: seminars, critiques, workshops, tutorials

14.1 Please describe the Formative Assessment arrangements:

After most assessment events, studio staff provide feedback. The purpose of this is to help students understand areas of strength and weakness and provide advice for future direction or further learning.

Feedback for PDE4M will consist of verbal comments made during studio critique or presentation, or one-to-one in the studio. Main assessment events will be followed-up by written feedback, accompanied by a tutorial discussion with studio staff.

15. Learning and Teaching Methods:

Formal Contact Hours	Notional Learning Hours
90	500

15.1 Description of Teaching and Learning Methods:

Industrial Visits/Group Critique

Timetable: Thursday 09:00-17:00 and Friday 09:00-17:00

16. Pre-requisites:

PDE3

17. Can this course be taken by Exchange/Study Abroad students?	Yes
18. Are all the students on the course taught wholly by distance learning?	No
19. Does this course represent a work placement or a year of study abroad?	No
20. Is this course collaborative with any other institutions?	No
20.1 If yes, then please enter the names of the other teaching institutions:	
N/A	

21. Additional Relevant Information:
N/A

22. Indicative Bibliography:
Manzini, Ezio The Material of Invention Flusser,Vilem The Shape of Things, A Philosophy of Design Papanek,V, Design for the Real World Perrin, R, Wiley, Real-World Project Management (Beyond Conventional Wisdom, Best Practices and Project Methodologies Thackara, John Design After Modernism Thackara, John In the Bubble: Designing in a Complex World