

**Glasgow School of Art Course Specification**  
**Course Title: Product Design Engineering 2**

*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 2024-25 Academic Year.*

<b>Course Code:</b>	<b>HECOS Code:</b>	<b>Academic Session:</b>
UoG EXT2076		2024-25

<b>1. Course Title:</b>
Product Design Engineering 2

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

<b>5. Credits:</b>	<b>6. SCQF Level:</b>	<b>7. Course Leader:</b>
30	Level 8	Craig Whittet

<b>8. Associated Programmes:</b>
BEng/MEng Product Design Engineering

<b>9. When Taught:</b>
Semester 1 & 2

<b>10. Course Aims:</b>
<p>Aim – General</p> <ul style="list-style-type: none"> <li>By the end of Level 2, students will be expected to have developed the knowledge and skill base acquired during the previous level, and to have become conversant in and having achieved the learning outcomes of an intermediate programme of Studio and University activity.</li> </ul> <p>Aims - Specific</p> <ul style="list-style-type: none"> <li>To enhance the knowledge and skill base acquired in Level 1 and to develop an imaginative and speculative approach to achieving product solutions, through applying a formal design process</li> <li>To develop and apply creative practice through visualisation and realisation of ideas</li> <li>To develop ability in applying skills and knowledge gained from taught University subjects, particularly in the practice of developing engineered products for defined user needs and markets.</li> <li>To further develop a critical, evaluative and reflective design process, in addition to a theoretical appreciation of design.</li> <li>To develop skills and apply tools that assist in managing projects at an individual and team level.</li> </ul>

- Professional skills: Leadership, teamwork, motivation, influencing, negotiation and communication

### 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 PDE2 listed here:

- Apply the design engineering process to a range of set design problems addressing user needs and technical requirements.
- Design products that support a user experience within a specified context.
- Apply a range of engineering knowledge and technical skills to resolve a design problem in a real situation.
- Work effectively in a team as well as individually; exercising initiative and taking account of own as well as others' roles and responsibilities.
- Present and communicate your design project clearly and concisely through the appropriate use of text, visualisations and illustrations, models and prototypes.

### 12. Indicative Content:

Example of the Level 2 studio syllabus

- identity1
  - Reverse engineering
  - Human Factors
  - User Expectations
  - Exploded view
  - Materials, components and technology
  - Manufacturing and assembly/subassembly structures
  - Product analysis
  - User expectations and experience, human factors
- identity2
  - brand and visual identity
  - Aesthetics
  - user awareness
  - company philosophy
  - presentation techniques
  - Consumer / market awareness
- identity3
  - visualisation of creative themed conceptual product
  - orthographic drawing
  - design process
  - rendering and drawing, materials and techniques
  - Working to a design brief
  - Creativity and innovation techniques
  - Problem solving and synthesis
  - CAD
  - Presentation and recording of process
- Design, Build and Test, Project: Hydro do that?
  - Complete design process
  - Team working and professional collaboration

- Project/Product management, organisation, project planning, controlling a project,
- communication
- Understand the product life cycle and consider the long environmental impacts
- Technological investigation and applications
- Applying basic engineering principles and mechanisms
- Product Costings

### 13. Description of Summative Assessment Methods:

The main aspects of Summative assessment are: written assignments, practical projects, 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 Product Design Engineering 2 assignments and project outcomes will form the basis for the summative assessment. The final grade will be submitted to the University of Glasgow, James Watt 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 project 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 PDE2 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
50	300

#### 15.1 Description of Teaching and Learning Methods:

Group Critique, Industrial and Site Visits

Timetable: Tuesday 09:00-17:00 is the dedicated studio time. Access to studio and workshops may be offered out with this time.

### 16. Pre-requisites:

PDE1

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

<b>21. Additional Relevant Information:</b>
N/A

<b>22. Indicative Bibliography:</b>
<p>Lefteri, Chris Materials for Inspirational Design series: Plastics, Metals, Wood, Glass, Ceramics</p> <p>Byers, Mel The '50' series – e.g. 50 sportswear</p> <p>Ashley, Mike &amp; Johnson, Kara Materials and Design (BSI 8888) Engineering Drawing Practice for Schools and Colleges</p> <p>Hudson, Jennifer Process</p> <p>Kunkell, Paul Apple Designs</p> <p>Platt, Charles Make series</p> <p>Pugh, Stuart Total Design</p> <p>Thomson, Rob Manufacturing Processes for Design Professionals</p> <p>Spark, Penny The Genius of Design</p> <p>Sudjic, Deyan Cult Objects</p> <p>Walker, Derek Great Engineers</p> <p>Wright, Ian Design Methods in Engineering and Product Design</p>