

**Glasgow School of Art Course Specification**  
**Course Title: Product Design Engineering 1**

*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.*

<b>Course Code:</b>	<b>HECOS Code:</b>	<b>Academic Session:</b>
UoG EXT1019		2025-26

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

<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>
20	Level 7	Ben Craven

<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 1, you will be expected to have achieved the learning outcomes of an introductory programme of Studio and University activity and the confidence gained from application of Product, Process and Presentation.</li> <li>• The PDE team aims to provide a diagnostic experience for students to establish an achievable learning plan and approach for the session.</li> <li>• To develop critical and reflective skills, in addition to a theoretical and practical approach to the field.</li> </ul> <p>Aims - Specific</p> <ul style="list-style-type: none"> <li>• To develop, at a fundamental level, confidence in: drawing; 3D Form; knowledge and understanding; communication, terminology and presentation skills; interactive and group skills, project management; analytical, problem-solving, synthesis, evaluative and application skills; design processes, materials manufacturing methods and tools</li> <li>• To introduce students to technologies associated with Product Design Engineering and relative fields</li> </ul>

<b>11. Intended Learning Outcomes of Course:</b>
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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 PDE1 listed here:

- Demonstrate ability to take a problem or challenge and develop a solution that meets this problem or challenge.
- Demonstrate ability to use freehand drawing, desktop modelling, and workshop skills as part of an effective and creative design process.
- Demonstrate ability to combine images and text on paper as an integral part of your design process and as a way of presenting your work to others.
- Have an elementary awareness of the properties of different materials and components and their appropriate and efficient use.
- Demonstrate ability to manage your time, when working individually and in teams, in order to produce a given result in a specified time
- Demonstrate ability to properly use some assistive techniques for creativity, concept generation, evaluation and selection
- Demonstrate an awareness of the possibilities offered by embedded computing in products, and will have had experience in using the fundamental concepts of computer programming
- Apply the design process to a range of set design problems addressing user needs and technical requirements.

## 12. Indicative Content:

Examples of the Level 1 studio syllabus

- Drawing
  - analytical drawing / 3D form
  - Perspective, 2point and 3 point and Rendering
  - location and context drawing
  - CAD
- 3D Form
  - model-making
  - structures
  - Form and Function: Human support
- Design Methods
  - brainstorming
  - creative tools
  - focus boards
- Design, Build and Test
  - Vehicle Olympics (team project)
  - Toy Story

## 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 1 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 PDE1 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
35	200

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

Industrial and Site Visits

Timetable: Monday 09:00-17:00 this is dedicated studio time. Access to studio and workshops may be offered outwith this time.

**16. Pre-requisites:**

None

<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	

**21. Additional Relevant Information:**

N/A

**22. Indicative Bibliography:**

Lidwell, Holden, Butler Universal Principles of Design  
 Rodgers, Milton, Product Design  
 Powell, Dick Presentation Techniques

Norman, Donald The Design of Everyday Objects

Austin, Ben Techniques in Sketching

Taschen (publisher) A-Z handbook of Design

Spark, Penny The Genius of Design

Branstom, David Basics Product Design Series