THE GLASGOW SCHOOL OF ART	Course Specification

Course Code:
PDE 3

1. Course Title:
Product Design Engineering 3 (EXT3013)

2. Academic Session:
2011-12

3. Level:
3

4. Credits:
40

5. Lead School/Board of Studies:
School of Design

6. Course Contact:
Stuart Bailey

7. Course Aims:

Aim – General

- 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.

Aims - Specific

- 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
- To develop and apply creative practice through visualisation and realisation of ideas
- 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.

- To further develop a critical, evaluative and reflective design process, in addition to a theoretical appreciation of design.
- To develop skills and apply tools that assist in managing projects at an individual and team level.
- Professional skills: Leadership, teamwork, motivation, influencing, negotiation and communication

8. Intended Learning Outcomes of Course:

in addition to the 3P's, 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 PDE3 listed here.

- Apply the design process to a range of design problems addressing user needs and technical requirements.
- Design products that support a user experience within a social 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 the design project clearly and concisely through the appropriate use of text, visualisations and illustrations, models, prototypes and engineering drawings.

9. Indicative Content:

Example of the Level 3 studio syllabus

- Project themes
  - *Kinetic Sculpture*
  - *Walk on Water*
  - *NCR* 'Self-service Designer of the Year'
  - *Sustainability and Responsibility*
- Problem discovery
  - *exploration & definition, involving group & individual research*
  - *statement of requirements*
  - *Design for Market*
- Concept generation
  - *ideation techniques*
  - *divergent thinking*
- Concept evaluation & optimization
  - *convergent thinking*
  - *evaluation techniques*
- Concept development
  - *sketching*
  - *scale layout drawing*
  - *investigative physical modelling (group work where extensive), with intentions &*

outcomes appropriately recorded
    - *CAD*
    - *Sketch modelling and Prototyping*
- Design detailing
    - *major assemblies: scale layout*
    - *focus area and general arrangement*
    - *CAD and rapid prototyping*
- Design methods & professional practice
    - *DMI*
    - *IDEO 5-step process*
    - *professional design activity mind-maps, materials & manufacturing methods charts*
    - *relevant text books available in studio*
- Record keeping
    - *design journal*
    - *logbook*
- Group working – general
    - *group support throughout of individual outcomes & process*

10. Description of Summative Assessment:
The main aspects of Summative assessment are: written assignments, practical projects, presentations
10.1 Please describe the Summative Assessment arrangements:
The completed Product Design Engineering 3 assignments and 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.

11. Formative Assessment:
Student and peer feedback is offered throughout project with detailed feedback provided after interim presentation. The main areas of student engagement are: seminars, critiques, workshops, tutorials
11.1 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 PDE3 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.

12. Collaborative:	
Yes ☐	No ☒
12.1 Teaching Institutions:	
Glasgow School of Art	

13. Requirements of Entry:
PDE2

14. Co-requisites:
None

15. Associated Programmes:
Product Design Engineering

16. When Taught:
Semester 1&2

17. Timetable:
Thursday 13:00-17:00 and Friday 09:00 – 17:00 are the dedicated studio time. Access to studio and workshops may be offered out with this time.

18. Available to Visiting Students:	
Yes ☒	No ☐

19. Distance Learning:	
Yes ☐	No ☒

20. Placement:	
Yes ☐	No ☒

21. Learning and Teaching Methods:		
Method	Formal Contact Hours	Notional Learning Hours (Including formal contact hours)
Lecture	30	30
Studio	20	220
Seminar/Presentation	30	30
Tutorial	20	20
Workshop		50
Laboratory work		
Project work		
Professional Practice		

E-Learning / Distance Learning		
Placement		
Examination		
Essay		
Private Study	Not Applicable	35
Other (please specify below)		15
TOTAL	100	400

22. Description of "Other" Teaching and Learning Methods:
Industrial and Site Visits

23. Additional Relevant Information:
N/A

24. Indicative Bibliography:	
Gordon, J E	The New Science of Strong Materials
Gordon, J E	Structures, or why things don't fall down
Gordon, J E	Science and Structures of Materials
Moggridge, Bill	Designing Interactions
Ulrich and Eppinger	Product Design and Development
Flurscheim, Charles H	Industrial Design in Engineering
Manzini, Ezio	The Solid Side
Sterling, Bruce	Shaping Things

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