# PROGRAMME SPECIFICATION DOCUMENT

| 1. Qualification | 2. Programme Title | 3. UCAS Code | 4. Programme Type |
|---|---|---|---|
| **MSc** | **Computer Aided Product Development** | | **Full and Part-time** |

## 5. Main Purposes and Distinctive Features of the Programme

- Understanding of design processes applicable to both low and high volume consumer/industrial products
- Understanding and application of design and/or development processes from concept to final phase of manufacture.
- Ability to conceive original and innovative products using computer aided tools.
- Understand the benefits and limitations of a variety of key design tools within the product development process.
- Ability to use 3D Modelling and Analysis techniques to optimise the product development process.
- Appreciation of cultural, technological, environmental and economic factors that may influence the outcomes of each stage of the design process applied.

Special Features:

MSc Computer Aided Product Development is a practically orientated course which emphasises specialisation in the use of design techniques and tools in the development of new products for a variety of sectors.

## 6. What a graduate should know and be able to do on completion of the programme

To gain the qualification the learner will have demonstrated:-

1) Subject knowledge and understanding

2) discipline related practical, cognitive and professional skills

3) other general skills and capabilities (eg. Key/transferable skills/common)

4) critical awareness of key issues within their subject area and

5) a self-critical approach

as specified in the learning objectives/outcomes for approved modules in the programme.

Knowledge and understanding in the context of the subject(s)

1. Formal understanding of design processes
2. Understanding of the essential facts, concepts and principles of related technology.
3. Understanding of business constraints and financial requirements of products and processes.
4. Adequate breadth of skill and knowledge to ensure flexibility.
5. Research skills and the ability to cite sources using established conventions.

Cognitive skills in the context of the subject(s)

1. Critically evaluate designs in both conceptual and completed forms.
2. Analyse and specify processes and systems for use in design and manufacture.
3. Deploy effectively the methods and tools used in the construction and development of a product or process.
4. Be creative and seek novel solutions.
5. Be self critical.

Subject-specific practical/professional skills

1. Use appropriate theory, practice and tools, for design specification.
2. Use core analytical or computer techniques and design tools.
3. Work as part of a team.
4. Write design specifications.
5. Ability to communicate in three dimensional space.
6. Ability to design and synthesise design outcomes.

Other skills (e.g. key/transferable) developed in subject or other contexts

1. Make effective use of general IT facilities.
2. Communicate effectively, orally, electronically, in writing and using drawings and other visual media.
3. Manage and organise.
4. Solve numerical problems and analyse information.
5. Solve practical technological problems.
6. Recognise hazards and risks to personal health and safety and the wider environment.
7. Exercise time management skills.

| 7. Qualities, Skills & Capabilities Profile | | | |
|---|---|---|---|
| A<br>Cognitive | B<br>Practical | C<br>Personal & Social | D<br>Other |
| Creativeness | Report writing | Self motivation | Environmental awareness |
| Analytical and Iterative methods | Presentation techniques | Team working | Economic factors |
| Application of software | IT Skills | Project management | Awareness of advances/trends in Technology |
| Critical analysis of both existing and self-generated designs | Research skills | Communication skills | Cross discipline cultures |
| Design of products/components | Application of modelling workshop processes | Time management | |
| Synthesis and application of design knowledge | Application of analytical modelling processes | Self learning/study skills | |

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**8. Duration and Structure of Programme/Modes of Study/Credit Volume of Study Units**

(1 Year full-time; 2-3 years part-time).
Masters Degree = 180 credits;
Intermediate Awards of Post Graduate Diploma and Post Graduate Certificate of Higher Education available at 60 and 120 credits respectively.

| Module Name | Module Number | Core/ Option | Pre Requisites | CATS Credit | Level M or H |
|---|---|---|---|---|---|
| Computer Aided Modelling & Analysis A | PDDM1 | C | | 30 | H/M |
| Product Management | PDDM2 | C | | 30 | M |
| Computer Aided Design & Creativity | PDDM3 | C | | 30 | M |
| *Design Issues* | *PDDM4* | *O* | *PDDM2* | *30* | *M* |
| *Computer Aided Modelling & Analysis B* | *PDDM5* | *O* | *PDDM1* | *30* | *M* |
| Dissertation | PDDM6 | C | | 60 | M |

| 9. Learning, Teaching and Assessment Strategy | 10. Other Information *(including compliance with relevant Institute policies)* |
|---|---|
| <u>Learning and Teaching Methods</u><br>Practical skills are acquired by workshop sessions, demonstrations and activity-based assignments. Active learning is promoted via lectures, directed study, laboratory sessions, modelling sessions and a strong project theme.<br><br><u>Assessment Methods</u><br>Assessment tasks are linked to the objectives of each module and are normally completed by the end of each module.<br>Types of assessment include: written examinations, assignments, projects, case study, viva/interviews and presentations.<br><br><u>Assessment Classification System</u><br>Pass mark for individual modules =40%.To obtain a MSc with distinction, an overall average of 70% *including 70% in the dissertation element* is required. All modules must be passed in order to achieve the degree. | <u>Date programme first offered</u><br>September 1998<br><br><u>Admissions Criteria</u><br>*Standard Requirements*<br>• Honours degree in an appropriate discipline<br>• Overseas equivalent, Eg. Dip Ing<br>• Equivalent Professional Body Qualification<br><br>*Non Standard Entry*<br>Experience and Interview. Other cases dealt with by admissions tutor on an individual basis<br><br><u>Indicators of Quality and Standards</u><br>• Validation by panel with external subject specialist<br>• External Examiner moderates assignments and examinations and a selection of Dissertations.<br><br><u>Implementation of PDP Policy</u><br>Personal Development Planning is dealt with in the Dissertation module. |