**Liverpool** John Moores University

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| Title: | CREATIVE EXPERIENCE |
| Status: | Definitive |
| Code: | **4005TECH** (105271) |
| Version Start Date: | 01-08-2016 |
| Owning School/Faculty: | Maritime and Mechanical Engineering |
| Teaching School/Faculty: | Maritime and Mechanical Engineering |

| Team | Leader |
|---|---|
| David Allanson | Y |

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| **Academic Level:** | FHEQ4 | **Credit Value:** | 24 | **Total Delivered Hours:** | 86 |
| **Total Learning Hours:** | 240 | **Private Study:** | 154 | | |

**Delivery Options**
Course typically offered: Semester 1

| Component | Contact Hours |
|---|---|
| Lecture | 12 |
| Practical | 68 |
| Tutorial | 6 |

**Grading Basis:** 40 %

**Assessment Details**

| Category | Short Description | Description | Weighting (%) | Exam Duration |
|---|---|---|---|---|
| Essay | AS1 | Reverse Engineering logbook | 25 | |
| Essay | AS2 | Product design logbook | 25 | |
| Essay | AS3 | Manufacturing logbook | 25 | |
| Essay | AS4 | Product testing report | 25 | |

**Aims**

*To highlight and develop the necessary basic skills to be a product designer. This will be achieved through an integrated, guided product design, build and test experience.*
*It also provides an opportunity for academic guidance and counseling.*

## Learning Outcomes

After completing the module the student should be able to:

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|---|---|
| 1 | Apply the reverse engineering methodology on a typical consumer product |
| 2 | Design an alternative product within a constrained and guided design environment |
| 3 | Safely use a range of mechanical and electrical machines, tools and equipment to build a functional prototype |
| 4 | Apply experimental methods to test and assess the prototypes specification metrics |

## Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

| | |
|---|---|
| CW | 1 |
| CW | 2 |
| CW | 3 |
| CW | 4 |

## Outline Syllabus

*Reverse Engineering and Re-Design:*
*Investigation, prediction and hypothesis, user experience,*
*Product research, function manufacturability, material selection and form. Design process: conceptual, embodiment, detail design phases.*

*Manufacture:*
*Health and safety, use of mechanical and electrical machines, tools and equipment. Printed circuit board manufacture and electro/ mechanical assembly techniques.*

*Experimental methods:*
*Measurement techniques, data collection and analysis,oral,written and graphical communication, data presentation.*

*Key Skills:*
*Research, data gathering, analysis and interpretation of simple data, Information Technology, communication, teamwork, idea generation and problem solving.*

## Learning Activities

This module has been written in terms of general outcomes that examine the overall design process. It should be delivered through an integrated series of lectures,

tutorials, practical sessions, workshop practice and residential learning.

**Notes**

This module provides a means for students to gain an insight and working experience of product design.It allows students to acquire key skills in design and provides an oppurtunity for effective personal tutoring at an early stage of the programme. It also incorporates a three day field trip to the Centre for Alternative Technology.