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Module Code: 1AAD0017

Title of Module

Full Title: Introduction to Manufacturing Technology

Short Title: Intro to Man Tech

MODULE

1AAD0017 (A 05/6)

Introduction to Manu...

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Version: 1

Credit Points: 15

Level / ECTS Level: 1

First Offered: 1/9/2004 00-00-00

6. Home Department:

AAD

7. Departments(s) contributing to teaching:

9. Module Aims:

- * acquire basic workshop practice skills
- * manufacture a number of artifacts using a range of production processes
- * be aware of the influence of production processes on product design and manufacture

10a. Learning Outcomes: Knowledge and Understanding:

- * appreciate the capabilities of a range of production techniques
- * understand the factors that influence process selection in relation to product design sales requirements

10b. Learning Outcomes: Skills and Attributes:

- * interpret engineering drawings for component and assembly manufacture
- * apply a range of production processes to the manufacture of given component and assembly drawings
- * identify production processes for the manufacture of a selection of products or sub-assemblies taking into account quantities required

11. Module Content

11a Module Content:

This module introduces the student to a range of production processes and practice used commonly in the manufacture of products. Students develop a hands-on appreciation of production techniques including turning, milling, fabrication and assembly using manual and computer controlled plant and machinery. Transferable skills are developed in the application of the processes used to the manufacture of a range of products and sub-

assemblies taking into account design and supply requirements.

11b. Further details on how the learning outcomes of the module will be achieved:

The intended learning outcomes are facilitated through a combination of approaches to learning and teaching, typically this will include lectures and workshop activities. These activities will be supported by the module team and by encouraging the students to access a variety of resources, eg Studynet, academic texts.

The module is taught through a series of workshop based practical sessions supported by lectures on the interpretation of engineering drawings for manufacture and lectures on a number of manufacturing processes and their application.

The hands-on practical sessions are intended to develop the student's appreciation of the techniques, capabilities and limitations of a range of commonly available production processes that support product manufacture. Students will be assessed by their ability to manufacture a range of artifacts from engineering drawings and by the submission of a logbook recording the work undertaken. Students will be made aware of aspects of Health & Safety legislation prior to commencing workshop practice.

The lectures cover an introduction to;

Casting Process; typically covering sand, shell moulding, gravity, high-pressure, centrifugal and investment casting processes.

Forming Processes; typically covering forging, rolling cold heading and forming, drawing and extrusion processes.

Machining Processes; typically covering turning, milling, planning/shaping, drilling/remaining, broaching and grinding processes.

Plastic & composite processes; typically covering injection, compression, transfer, blow, rotational moulding, vacuum forming and continuous extrusion.

Joining processes; typically covering manual metal arc, metal inert gas, tungsten inert gas, resistance, friction and gas welding techniques.

Lectures for many processes are supplemented by the use of videos.

12. Language of Delivery:

English

13. Language of Assessment:

English

14. Assessment Details (Academic):

Coursework: 50

Exam: 50

Other: Typically, assessment will consist of-

A logbook of practical work undertaken

An unseen examination

Overall pass required, subject to a maximum grade of E2 if not both coursework and examination are passed. A reasonable attempt at both elements of the assessment is required for the attainment of an overall pass.

Each assessment satisfies a selection of the learning outcomes.

Assessment Notes:

15. Locations(s):

UH HATFIELD

16. Pre and Co-Requisite:

Pre-Requisite

Co-Req

Prohibited

17. Subject Board of Examiner/s:

BUS/MGMT/QUAL COURSES (AADE)

18. Comments

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