A new perspective on applied education:

the JCB Academy, UTCs and the future of diplomas

Mark Henshaw – Vice Principal

The JCB Academy

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Sir Anthony Bamford
Chairman, JCB Group

"I am passionate about the importance of manufacturing to Britain and The JCB Academy shows we are prepared to invest in creating the next generation of young engineers"

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Vision

Develop employable young people with:

- Positive attitudes
- Emotional intelligence
- Intellectual horsepower
- Appropriate competencies

Achieve excellence in academic and vocational education

- A catalyst to improve provision across the region for engineering, manufacturing and business skills

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Ethos

We intend to develop:

- "Can do will do" attitudes
- Passion for quality
- Desire to achieve through actions
- Pursuit of technical and academic excellence
- Creative and enterprising behaviour
- Team and leadership capacity

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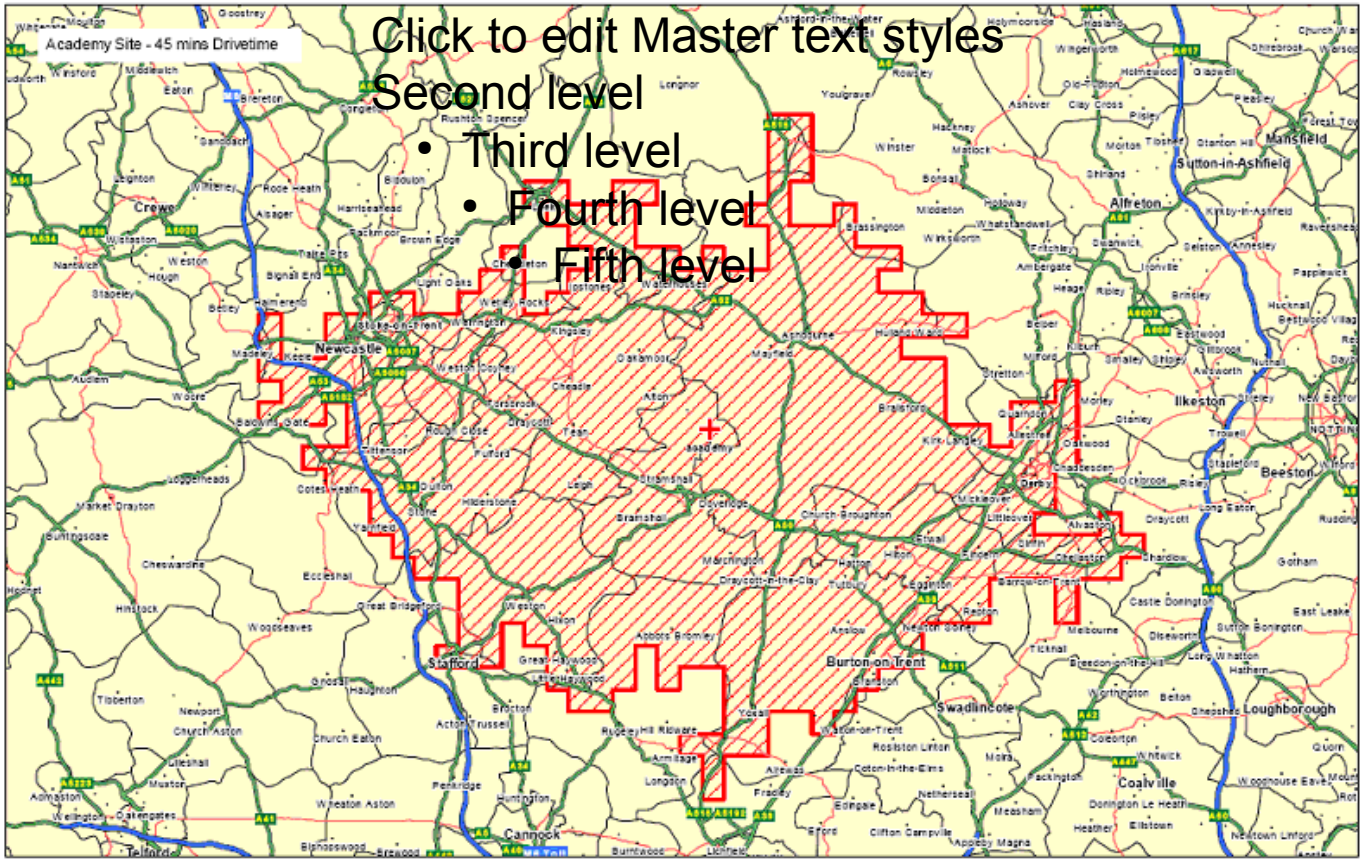
Where and why?



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Talking Heads

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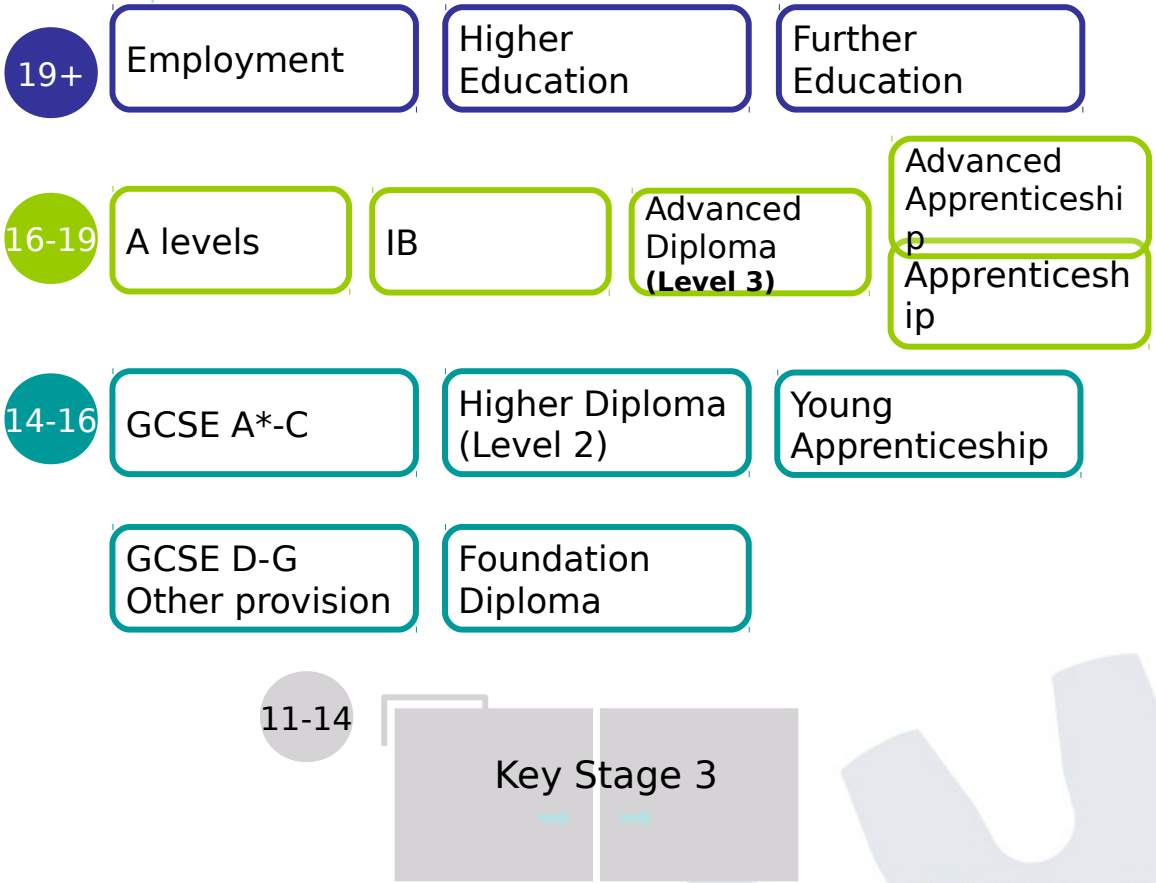
Why the diploma?



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The Structure

Principal learning	Generic learning	Additional and specialist learning
Skills, knowledge and understanding central to the chosen Diploma **Employer and university designed and endorsed**	**Functional skills: English, mathematics, ICT** **Personal, learning and thinking skills**	**Optional units** **Can broaden and deepen learning programme** **Clear progression pathways**

Work experience (minimum 10 days), project

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Curriculum at KS4

All students presently take the Engineering and Business Diplomas

In addition students undertake GCSEs in Mathematics, Science (at least 2 GCSEs), English Language, German and ICT

They also cover Citizenship, Physical Education, Enterprise, Religious Studies, Careers Education and Guidance and Personal, Social and Health Education

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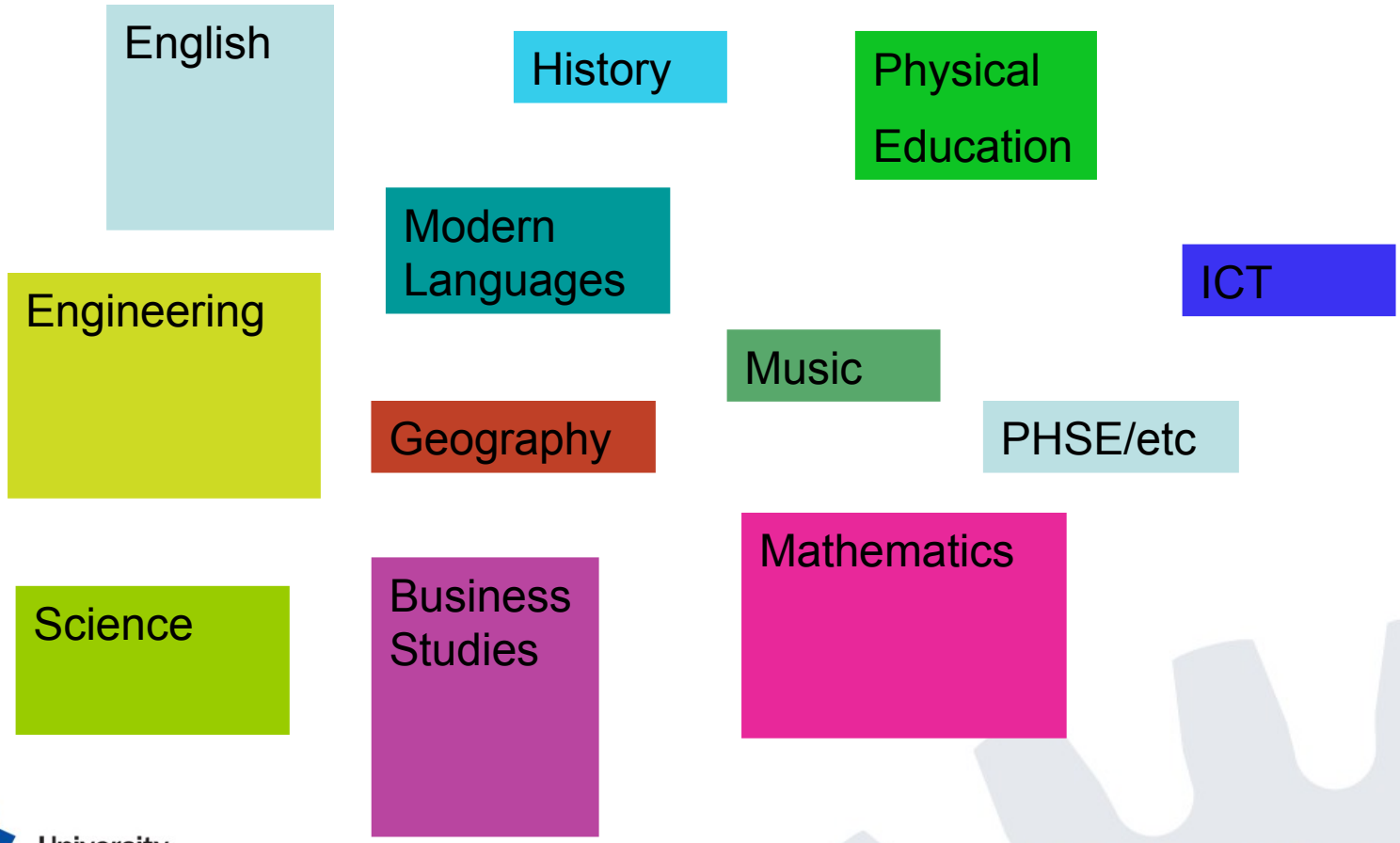
More normal curriculum



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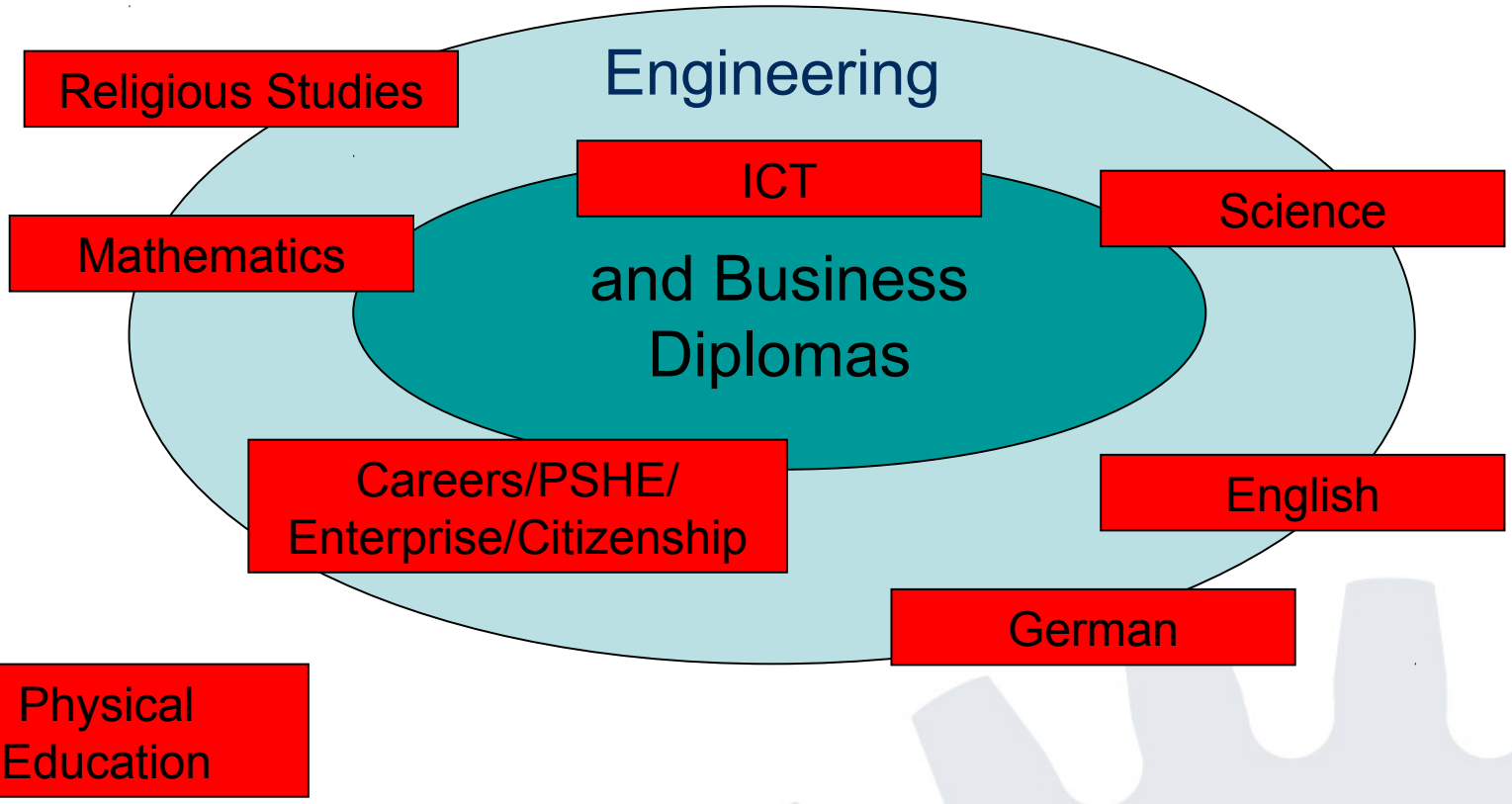
JCBA Curriculum



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JCB Academy Partners

Rolls-Royce

TOYOTA

Network Rail

OCR
RECOGNISING ACHIEVEMENT

JCB

BOMBARDIER

TWI

UNIVERSITY OF CAMBRIDGE

MICHELIN
A better way forward

nationalgrid

Harper Adams
UNIVERSITY COLLEGE

Loughborough University

Rexroth
Bosch Group

ZYTEK
AUTOMOTIVE TECHNOLOGY
MOTORSPORT

STAFFORDSHIRE UNIVERSITY

BFPA
The British Fluid Power Association

THE UNIVERSITY OF WARWICK

Parker

Institution of MECHANICAL ENGINEERS

IET
Collective inspiration

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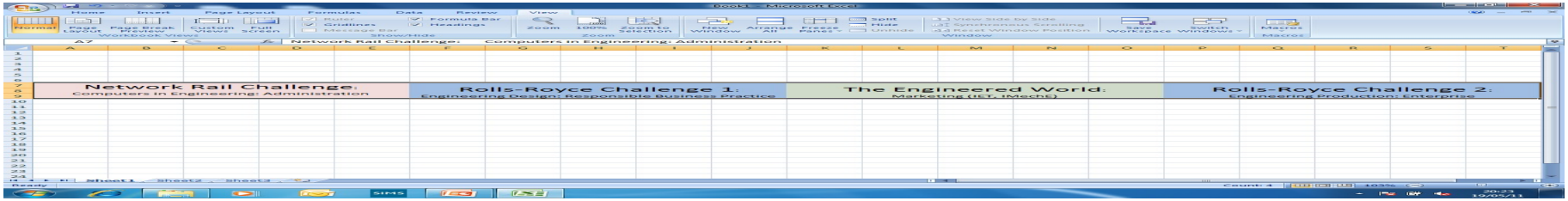
Network Rail Challenge:
Computers in Engineering: Administration
Rolls-Royce Challenge 1:
Engineering Design: Responsible Business Practice
The Engineered World:
Marketing (IET, IMechE)
Rolls-Royce Challenge 2:
Engineering Production: Enterprise

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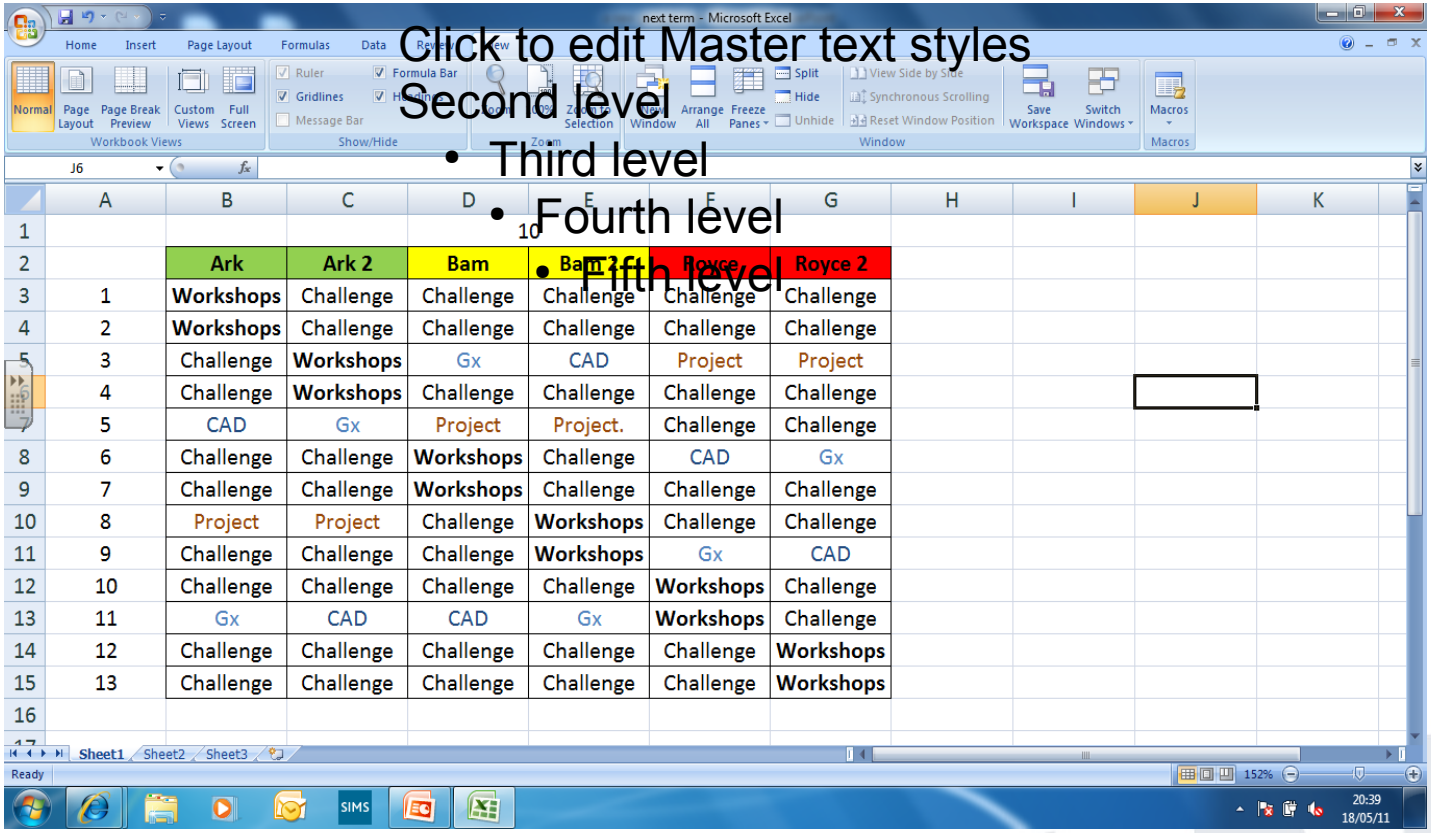
- Second level
  - Third level
    - Fourth level
      - Fifth level



Week 1 Intro - Windows Internet Explorer

http://www.jcbacademy.com/index.phtml?d=87666

Week 1 Intro

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£$£$$€AT WHAT $COST ?£€£$

MODULE 2

- INTRODUCTION
- WEEK 1 - Understanding the challenge
- WEEK 2 - Investigations and Specifications.
- WEEK 3 - Standards, legislation and workshop skills.
- WEEK 4 - Design
- WEEK 5 - Reporting back
- WEEK 6 - "You're going to use - What?"
- WEEK 7 - Testing time!
- WEEK 8 - Completion

WEEK 1 - Understanding the challenge

You will attend the JCB Visitor Centre this week for an introduction to Rolls-Royce and how they meet the challenges of Responsible Business Practice. You will begin to understand what choices and constraints are faced by industries trying to work in an ethical and environmentally friendly way, whilst still being profitable.

You will also be introduced to the jet engine and set a design challenge.

To prepare for this week you should reflect on some of your own experiences as a consumer. What do you understand by the terms, fair-trade, sustainable, bio-fuel and carbon footprint? What kind of a world do you want to live in?

Engineering

- Dismantle a range of pumps and determine how they work.
- Carry out a range of investigations into materials, manufacture and methods of operation.

Controlled Assessments

Task 1: Product Investigation (ENG)

- Disassemble the existing Rolls-Royce pump
- Give a detailed description of its function, considering the needs of the user, how the product is manufactured and identify key criteria used in its design
- Investigate atleast four other pumps. Establish the strengths and weaknesses of these products including considerations of the user and manufacturer.

Task 2: Developing, communicating and testing a new product design (ENG)

- Research and identify possible improvements to the existing Rolls-Royce

Done

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Introduction - Windows Internet Explorer

http://www.jcbacademy.com/index.phtml?d=89799

Introduction

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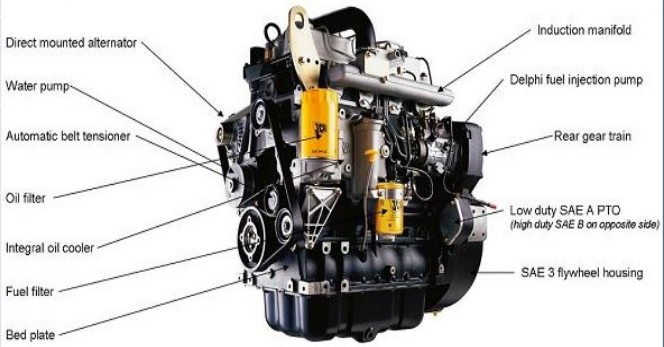
MAINTENANCE OF THE JCB DIESELMAX ENGINE

MODULE 3

- INTRODUCTION
- WEEK 1 - Introduction to the product, company and challenge
- WEEK 2 - The tools to provide customers with an excellent service
- WEEK 3 - The tools to provide customers with an excellent service
- WEEK 4 - Manuals and rights
- WEEK 5 - Reasons for, and consequences of, failure
- WEEK 6 - Measurements
- WEEK 7 - Carrying out maintenance
- WEEK 8 - Reflect and review



Introduction

This challenge is based around the JCB diesel engine. You will complete 3 of your Diploma units, F553 Maintenance (Eng), F269 Developing you Business Communication Skills (BAF) and F275 Developing Effective Customer Handling Skills for Business (BAF).
You will learn how to maintain some parts of the engine and will be involved in several role-plays where you will learn how to communicate in a business situation and how to behave towards customers so that they will be happy with the service that you receive.
Engineers from JCB will work with you on this unit, helping you to learn how to follow a maintenance manual and how to use the appropriate tools for maintaining the engine.
Your maths work on this unit will mostly be statistics, looking at averages and probabilities. In English you will be writing for different audiences and you will be assessed during one of your role-play activities. The science work will be related to different types of material such as oil.
There will be ample opportunities to practise and complete assessments for your ICT portfolio through presentations, spreadsheet work and data-bases.

Controlled Assessment
You will carry out maintenance on a diesel engine using the JCB manual and using appropriate tools and equipment safely and effectively.

You will write three reports as follows:

Report 1 will include: (BAF)
- an assessment of the importance of customers and customer satisfaction to JCB;
- an explanation of who JCB's internal and external customers are and how they interact;
- an explanation of the importance of customer service policies and procedures to JCB;
- a description of the statutory and contractual rights and obligations of employers, employees and customers at JCB.

Report 2 will include: (ENG)
- evidence of the maintenance of the

Done

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Module 2 Assignment - JCB

Issued September 2010

OCR Level 2 Principal Learning in Engineering & Business and Finance

Units: F554 Maintenance

F269 Developing your business communication skills

F275 Developing effective customer handling skills for business

The scheme codes for this qualification are:
OCR Level 2 Principal Learning in Business, Administration and Finance H801
OCR Level 2 Principal Learning in Engineering H810
The QCA Accreditation Number for this qualification is:
OCR Level 2 Principal Learning in Business, Administration and Finance 500/4173/3
OCR Level 2 Principal Learning in Engineering 500/2399/8
The QCA Accreditation Numbers for these units are:
Unit F269: Developing your business communication skills F/501/8811
Unit F275: Developing effective customer-handling skills for business D/501/8816
Unit F554: Maintenance L/501/18932

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14 to 19
Sponsored by a university
One or two technical specialisms
Curriculum driven by employers

Hand and mind under one roof

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UTC Curriculum

General education

Bridging core subjects

Technical and practical

Integrated but explicit with qualifications driven by employers

UTC Curriculum

Baker Dearing Trust are custodians.

50 applications for current 12 required.

They have 400-600 pupils.

Focus on regional employer needs.

Integrated but explicit with qualifications driven by employers

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The future of *the* Diploma.

Funding

Functional Skills and PLTS

The English Bacc.

The Tech. Bacc.

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Contact

m.henshaw@jcbacademy.com

01889 506100

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