

Moderators' Report/  
Principal Moderator Feedback

January 2012

Principal Learning

Manufacturing and Product Design  
Level 2 Controlled Assessments

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## **Unit MP202\_01**

### **The Impact of the Global Business World on Manufacturing**

Only two centres submitted work for this unit and one of those centres submitted their work to the moderator after the official deadline. Centres are reminded that they should submit candidate work by the deadline. The portfolios were arranged in numerical order and were clearly annotated both on the Candidate Record Sheets and throughout the submitted pieces of work. This made the moderation process easy and straight forward. However, it should be noted that a printout of the marks sheet should be forwarded with the portfolios.

In general the portfolios were marked slightly generously. Centres are advised to refer carefully to the points in each mark band in the appropriate learning objectives as published in the specification when they are undertaking the assessment of this unit.

#### **Learning Outcome 1**

The specification for this learning outcome clearly asks the candidate to look at the social, economic and environmental issues that ensure sustainability in the specific manufacturing business under study. These issues were not covered well enough to allow the majority of candidates into the higher mark bands. The moderator would expect to see a thorough explanation of how a business balances the relevant issues, with clear links to sustainability. Very few candidates provided such an explanation. One of the centres used industrial visits to aid in the undertaking of this element of the unit. Such visits are commendable, but as a consequence of all candidates studying a single manufacturer much of the information presented was very similar in each piece of work.

#### **Learning Outcome 2**

Very few candidates reached the top mark band and this was mainly due to the fact that the comments were either statements or outlines and not descriptions of the effect the world market economy and global trading has on manufacturing. It was felt that marks could have been improved if the candidates had made an effort to more fully expand and justify points that had been made.

#### **Learning Outcome 3**

In the work that was moderated, candidates from each centre appeared to produce almost identical flow charts with little expansion or explanation. Marks were in many instances deflated because of the lack of description of the processes that were mentioned in the flow charts. It would have been better if the candidates had given a full justified account of the factors that are involved when a manufacturer considers how and who supplies them, and how that product will be moved out of the factory onto the customer.

### **Learning Outcome 4.1**

In this element, the majority of candidate work lacked an in-depth analysis of marketing approaches with little indication of customer needs identified as required in the marking grid. Most candidates were content with just making very basic statements without in-depth comments or justification. The moderator would have expected to have seen some indication that they had an appreciation of the supply chain as well as customer needs and requirements.

### **Learning Outcome 4.2**

The candidates have the opportunity to use their designing skills to produce some high quality marketing materials for this learning outcome. Most did produce solutions to the design problem of producing designs for advertising material, however, the majority of these solutions were unsatisfactory. There was little evidence of ideas being developed, with hardly any evidence that the market had been considered. Comments that were included tended to be very bland with little real justification or discussion. The moderator would have expected to have seen some kind of developmental process with some in-depth comments on what ideas were acceptable or unacceptable, with reference to the specific market.

### **Conclusion**

Centres are recommended to refer closely to the Assessment Focus and the Mark Band Descriptors as published in the Specification to ensure that candidates are able to access as many marks as possible.



## **Unit MP203\_1A**

### **Working in Manufacturing**

In general, the assessment of the portfolios was fairly consistent. It was relatively easy for the moderator to locate the evidence for each learning outcome. Work from each learning outcome was clearly labelled and this made the moderation process very straight forward. However, centres are reminded that a completed assessment sheet or an Edexcel mark printout should have been included with the sample. The Candidate Record Sheets did have information included, such as the pages where evidence could be located and this made the centres assessment processes fairly easy to follow.

#### **Learning Outcome 1 (Marking Grid A)**

Finding the evidence in this learning outcome was in some instances quite difficult. In most cases the candidate work dealing with legal, social and ethical issues was reasonably attempted as was the section on equality and diversity. Much of this material was gathered during visits to companies where information was, it seems, given to candidates in the form of handouts and leaflets. As a consequence much of the work submitted was very similar. Some candidates merely photocopied material with little personal input. When it came to the role played by the trade unions the comments made by the candidates were a list of what the trade unions did. Again, much was copied or downloaded from the internet. There was little attempt to take the information forward into a thorough explanation.

#### **Learning Outcome 2 (Marking Grid A)**

In a few instances candidates commented on some of the various roles employees had at the company which was visited, however, it was felt that candidates did not provide sufficient description. To have gained marks in the highest mark band, the moderator would have expected to see thorough descriptions of the work undertaken by various employees. These were primarily lacking in the work seen. Added to this, candidates would be expected to describe in detail the various career options. There were some statements about qualifications but little about actual career progression and on the job training etc. As in Learning Outcome 1, much of the information appeared to be copied or downloaded from the internet with no additional comments made by the candidates.

#### **Learning Outcome 3 (Marking Grid A)**

It was clear that for this learning outcome all the candidates worked as part of a team, manufacturing some kind of a product. The key issue with this part of the unit is that there should be an evaluation by the candidates of how they felt their part of working in the team actually went. There should have been detailed comments about how well they thought that they actually contributed to the team and how they influenced the success or otherwise of that team. The moderator would expect to see pros and cons and honest comments. In most

instances these elements were missing from the candidates' work. Candidates should be reminded that they should be totally honest in this section and talk through the not so successful elements as well as those parts that went really well. It should not just be bland statements saying that one member of the team did one thing and another member did something else.

### **Marking Grid B**

It was clear from the evidence produced in Learning Outcome 3 that all candidates had participated in working in a team and produced various products. Both centres had assessed this material and completed the Candidate Record Sheets accordingly. The majority of candidates scored in the mid mark band range.

### **Conclusion**

Centres are recommended to refer closely to the Assessment Focus and the Mark Band Descriptors as published in the Specification to ensure that candidates are able to access as many marks as possible.

## **Unit MP204\_01**

### **Designing and Developing Products for Manufacture**

Candidate Record Sheets were generally completed in full, including typed descriptions of the evidence provided. Centres are reminded OPTEM forms must be supplied with the candidate work.

Generally, the centre assessors have annotated the work of most candidates, appropriately indicating which learning outcome is being awarded or attempted.

#### **Learning Outcome 1**

Candidates were required to state why research and design/development (R&D) are important, to outline the basic stages of research and development and how they add value to the manufacturing process. All candidates produced similar evidence, which was cross referenced from other sections of the design portfolio. The candidates produced some comprehensive PowerPoint slides to satisfy this learning outcome. Candidates generally gained marks for identifying factors such as popularity, competitors, materials, size, ergonomics, money, time and safety. However, some candidates failed to mention of the basic stages of R&D.

#### **Learning Outcome 2**

The centres asked candidates to explain the factors that affect the design and manufacture of a product, indicating social, economic and sustainability factors. Most candidates addressed this learning outcome with brainstorms, continuing with further depth and in most cases, some good information i.e. visual appeal, global issues and disposal of materials.

#### **Learning Outcome 3.1**

Candidates were required to interpret client requirements. Generally most candidates interpreted the client needs, including key features and carried out research, with a witness testimony on the Candidate Record Sheet. Comprehensive breakdowns of the client briefs were completed by the majority of the candidates, including main features of the brief and customer requirements. Candidates provided in-depth information regarding research, covering the research criteria of this Learning Outcome. Centres are reminded that it is important to supply relevant witness testimonies.

#### **Learning Outcome 3.2**

Candidates were asked to produce a Product Design Specification (PDS), develop a prototype and explain how their features match the client requirements. Candidates produced information relating to a PDS, but not an industrial PDS. Candidates were asked to draw up a PDS and develop ideas for prototype development, and to demonstrate that their designs met the client's needs. The majority of the candidates produced some excellent work, covering all aspects of the learning outcome.



## **Unit MP205\_1A**

### **Application of Materials Science in Manufacturing**

Candidate Record Sheets (CRS) were provided for all candidates, but generally not fully completed with candidate details. Centres are reminded that Candidate Record Sheets need to be completed fully with candidate details and information regarding the location of evidence for each learning outcome.

All candidate work contained some assessor annotation, identifying learning outcomes. Centres are advised that annotation should identify which marking band is being attempted within which learning outcome.

#### **Learning Outcome 1**

The candidates were required to describe the materials, processes and principles used to manufacture a product. Most candidates did not describe the requirements of the learning outcome in its entirety, ie failing to describe the processes used in manufacturing.

#### **Learning Outcome 2**

For this learning outcome candidates were required to identify scientific and technical developments. Candidates described very few scientific developments only gaining marks for brief descriptions of Computer Numerical Control (CNC) machines. Some candidates appear to have omitted the second part of the learning outcome - the assessment relating to the differences between laboratory and commercial testing.

#### **Learning Outcome 3**

Candidates were required to provide evidence of the properties and characteristics that affect the manufacture of a product. Most candidates identified some materials with a very basic outline of their properties. Candidates completed a table covering the very basic fundamental aspects of all learning outcomes, achieving minimum marks across the learning outcome.

#### **Learning Outcome 4**

All candidates produced similar evidence for this learning outcome i.e. a tensile test and good photographs were produced by candidates.

#### **Conclusion**

Centres are commended for their presentation and organisation of candidate work. However, centres are reminded that candidates are required to provide evidence for the full learning outcome in order to achieve higher marks. Centres should also include evidence of internal moderation and more detailed annotation as this is helpful to the moderation process.



## **Unit MP206\_1A**

### **Applications of Processing Systems in Manufacturing**

The number of submitted portfolios was very low, this series, and the work moderated showed a good spread of abilities in the candidates. No particular misinterpretation of the specification was noted.

The key to the success of this unit, and of reaching the higher mark bands, is that all evidence provided should match the required key descriptor in each learning outcome, ie describe, evaluate or justify. By justifying and describing points the candidate is able to demonstrate that they have a full understanding of the various elements of the course.

Centres are including Candidate Record Sheets (CRS) with candidate scores to indicate where scores were derived from with each portfolio. A copy of the assessment grids, showing how and where the centre assessor awarded marks, should also be included as these are useful to a remote moderator.

Candidate Record Sheets should also show some indication of where the learning outcomes were evidenced, by page number, followed through with effective annotation throughout the portfolios. Annotation from the centre assessor helps the internal centre moderation and remote moderator to find the exact location of the evidence.

Centres must show they have gone through a process of internal moderation even when the portfolios are marked by one assessor.

#### **Learning Outcome 1 (Marking Grid A)**

Candidate evidence showed centres are continuing to make good use of industrial partnerships by arranging visits to factories and production environments, where much evidence for this learning outcome was obtained.

Primary photo evidence can be used to illustrate stages of the manufacturing processes and supplement the candidate's understanding of what is happening at each stage.

It is useful to supplement evidence gathered during a visit with a general discussion on scales of production. Candidates must address how the scale of production affects processes and systems.

Variable amounts and quality of evidence were submitted for how safety is maintained when maximising efficiency. In many cases candidates used their factory visit to show how employee safety was integral to maximising the quality of output on the production line and so maximising efficiency.

The stating of the Health and Safety at Work Act is not sufficient evidence to show an understanding of how safety is maintained in this learning outcome.

Use of imported text or images is acceptable for candidates to refer to, although they cannot be awarded any marks for someone else's work. Where candidates rewrite text or re-draw an image to help explain any learning outcome, credit can be awarded.

For the second part of this learning outcome candidates made some very general comments regarding health and safety legislation and what would happen if health and safety legislation was not followed, this included the impact on the products being produced. However, few candidates submitted evidence on what would happen to the reputation and finances of the company.

To gain marks in the higher mark band for this learning outcome candidates should also mention training of employees as first aiders and safety checks to machines on start-up.

Candidates are also expected to include details of the safety checks and procedures that are used at each stage of manufacture. This could have been included as a part of their recorded observations during the factory visit.

### **Learning Outcome 2 (Marking Grid A)**

Centres should note that a Mark Band 1 level of evidence requires candidates to examine – this requires the candidate to show they have considered why quality assurance is important.

No candidates submitted evidence of referring to the actual costs of measuring quality. This learning outcome requires that candidates understand the relative costs of different approaches to quality.

### **Learning Outcome 3 (Marking Grid A)**

Much of the evidence for this learning outcome was supplied through simple flow charts where several quality checks were indicated.

The evidence provided in the portfolios indicated that candidates were aware of the importance of quality check points in their own practical activities.

However not all candidates indicated critical control points. This is a requirement of this learning outcome even at Mark Band 1.

### **Learning Outcome 3 (Marking Grid B)**

Witness Statements were provided for this learning outcome. This is the preferred method for providing evidence for this learning outcome.

Currently, it is not expected that the scores awarded for Marking Grid B will be adjusted following moderation, but it is expected that evidence is provided in each portfolio to demonstrate how the assessor score is justified. This also allows a moderator to provide feedback to indicate how things could be improved.

## **Conclusion**

The key to the success of this unit and of reaching the higher mark bands is that the evidence provided should match all the assessment criteria within each mark band and match the required key descriptor in each learning outcome, ie describe, evaluate or justify. By justifying and describing points the candidate is able to demonstrate that they have a full understanding of the various elements of the course.

A well-designed exercise, or an in-depth factory visit, can be used to cover all aspects of the learning outcomes in this unit.

## **Grade Boundaries**

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