

Assignment Guidance and Front Sheet

This front sheet for assignments is designed to contain the brief, the submission instructions, and the actual student submission for any WMG assignment. As a result the sheet is completed by several people over time, and is therefore split up into sections explaining who completes what information and when. Yellow highlighted text indicates examples or further explanation of what is requested, and the highlight and instructions should be removed as you populate 'your' section.

This sheet is only to be used for components of assessment worth more than 3 CATS (e.g. for a 15 credit module, weighted more than 20%; or for a 10 credit module, weighted more than 30%).

To be completed by the student(s) prior to final submission:

Your actual submission should be written at the end of this cover sheet file, or attached with the cover sheet at the front if drafted in a separate file, program or application.

Student ID or IDs for group work	5569029
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To be completed (highlighted parts only) by the programme administration after approval and prior to issuing of the assessment; to be consulted by the student(s) so that you know how and when to submit:

Date set	6 January 2025
Submission date (excluding extensions)	3 rd February 2025 by 12 pm UK time
Submission guidance	Tabula link
Marks return date (excluding extensions)	3 rd March 2025
Late submission policy	If work is submitted late, penalties will be applied at the rate of 5 marks per University working day after the due date, up to a maximum of 10 working days late. After this period the mark for the work will be reduced to 0 (which is the maximum penalty). "Late" means after the submission deadline time as well as the date – work submitted after the given time even on the same day is counted as 1 day late. For Postgraduate students only, who started their current course before 1 August 2019 , the daily penalty is 3 marks rather than 5.
Resubmission policy	If you fail this assignment or module, please be aware that the University allows students to remedy such failure (within certain limits). Decisions to authorise such resubmissions are made by Exam Boards. Normally these will be issued at specific times of the year,

	<p>depending on your programme of study. More information can be found from your programme office if you are concerned.</p> <p>If this is already a resubmission attempt, this means you will not be eligible for an additional attempt. The University allows as standard a maximum of two attempts on any assessment (i.e. only one resubmission). Students can only have a third attempt under exceptional circumstances via a Mitigating Circumstances Panel decision.</p>
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To be completed by the module owner/tutor prior to approval and issuing of the assessment; to be consulted by the student(s) so that you understand the assignment brief, its context within the module, and any specific criteria and advice from the tutor:

Module title & code	WM9F8-15 Quality, Reliability and Maintenance
Module owner	Jane Marshall
Module tutor	Jane Marshall
Assessment type	Reflective diary
Weighting of mark	10%

Assessment brief	
<p><u>Module Reflective writing (10 marks)</u></p> <p>This should not be a module review but a reflection on your learning over the course of the module. For example, consider what your perceptions of QRM were before the module and reflect on how they have changed throughout the module. Consider if there are specific aspects that you found enlightening and consider areas where you think various aspects may be useful in your future or past experiences. You could use a reflective learning model such as Gibbs, Kolb or others. You should develop a reflective learning journal throughout the module which will aid you in producing this piece of work.</p>	

Word count	400
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Module learning outcomes (numbered)	1. Develop a critical understanding of Quality Management theories		
	2. Analyse lifetime data to measure reliability performance		
	3. Develop a conceptual understanding of maintenance philosophies.		
	4. Investigate the role of equipment asset management in an engineering business		
	5. Evaluate how quality, reliability and maintenance tools are applied. to aid customer satisfaction		
	6. Reflect on how the module enhances the product quality, reliability and maintenance of an engineering business		
Learning outcomes assessed in this assessment (numbered)	6		
Marking guidelines			
Academic guidance resources	Module moodle, book list (on moodle), University Library databases		

Reflective Essay

Before starting the QRM (Quality, Reliability and Maintenance) Module, I had very different perception about it. I thought it mainly focuses on the quality of the product through various inspections and variety of tools. But, from the very first session I realized it was much more than that. Learning about its history and real-world applications made me understand why companies prioritize these aspects. During my internship at Carraro as a Procurement Intern, I got some basic exposure to quality standards and their importance for a company but still I didn't get much of reliability and maintenance. My green belt certification in six sigma had already introduced me with the DMAIC framework. But I was missing its practical implementation and comparison with other quality tools. Thankfully, the group activities, specifically the Group Presentation on Six Sigma and Deming's Philosophy which happened in the second week of the module helped lot to complete my understanding for the topics. We as group performed a quick, short but effective activity to demonstrate the differences between those two approaches.

There were few concepts and tools which were challenging to grasp especially, FMEA and FTA as I had never worked with them before. However, group activities and classroom discussion made it easier to understand their implementation and practical application. Talking about my emotional experiences (Gibbs 1988), I was bit nervous and scared at the same time for our group presentation. I had a fear of struggling with presenting my part of the presentation but I managed to deliver my thoughts and understandings properly. I felt my confidence grew. The lifetime data analysis exercise initially felt bit complex which made me scared of the exercise. However, as I engaged with the exercise I started feeling much more competent as the exercise proceeded.

Looking back at the module, I found that working with tools like, FMEA and FTA was the most valuable part of learnings. I got to learn how FMEA helps to identify failure modes and their consequences through a practical exercise. For FTA, we performed a group activity in which we were given a problem of water leaking through ceiling. That helped me a lot about how to narrow down the search of a problem. I also learnt how FTA can visually show the ways of failure and their root causes. Along with that, I performed a pool maintenance activity in which I had to design a maintenance plan using RCM principle. That helped me understand the requirements and need of proper maintenance plan which will be beneficial for me as I wish to work in Industrial Operations in future. Afterwards, on the last day of the module group activities on Asset Management were held which further helped me understand the importance of asset management for any Organisation.

I am willing to work in Supply Chain and Operations of manufacturing firm and I believe QRM has had a lot of positive impact on my aim. I believe ensuring product quality and reliability of the product at every stage of supply chain and operation is crucial for both customer satisfaction and industrial success. I will focus on improving my skills and practical knowledge about the tools I've learnt throughout the module which includes FMEA, FTA and RCM. Additionally, I aim to improve

my knowledge of Supply Chain Analytics by working with software like SAP QM. I believe, my perception towards QRM has been completely changed, that initial fear, nervousness has gone now. Now I believe why reliability is defined as long term quality. I see it as really an interesting subject which indeed beneficial for my future endeavors.

Reference

Gibbs, G. (1988). "Learning by doing: A guide to teaching and learning methods." Further Education Unit.