

**University of the West of Scotland**  
**Module Descriptor**

**Session: 2024/25**

<b>Title of Module: Engineering Management 1</b>			
<b>Code: ENGG09006</b>	<b>SCQF Level: 9</b> (Scottish Credit and Qualifications Framework)	<b>Credit Points: 20</b>	<b>ECTS: 10</b> (European Credit Transfer Scheme)
<b>School:</b>	School of Computing, Engineering and Physical Sciences		
<b>Module Co-ordinator:</b>	Farhad Anvari		
<b>Summary of Module</b>			
<p>This module reviews processes, layouts, systems for operations management and people behaviors within groups. Topic areas include:- Functional area in the Business organisation and inter-relationships.(such as Marketing, Sales, Finance, HR, Planning, QA and QC, production and Shipping. Site location selection, layout design and analysis. Selection of storage and material handling systems and their justification. Working with people and teams. Modeling of manufacturing / maintenance systems.(non mathematical) Performance indicators and variance analysis. Applications for Continuous Improvement techniques and quality initiatives:-Kaisen, QFD, six sigma and Lean. Operations Management; operating systems; Input - Process - Output model; operating decisions and objectives. The Value/Supply chain; Vertical/Horizontal integration Production systems by volume; by customer; layouts; Group Technology; Cellular manufacture. Capacity management; capacity strategies, chase, level, demand management. New product Development process. MRP/MRP II; JIT; OPT. Operations strategies - content, process, order winners; order qualifiers; trade offs. During the course of this module students will develop their UWS Graduate Attributes. Universal: Academic attributes - critical thinking and analytical &amp; inquiring mind; Work-Ready: Academic attributes - knowledge of Operations Management, TQM and Lean Operations and relevant tools and methodologies; Successful : autonomous, driven and resilient. The teaching will involve lectures, student presentations and mini formative assignments The summative assessments will involve interaction with one large case study (CEE Ltd) and a 2 hour examination.</p> <ul style="list-style-type: none"> <li>This module has been reviewed and updated, taking cognisance of the University's Curriculum Framework principles. Examples of this are found within the module such as active and engaging tutorial activity with contemporary industry examples of modular content, module assessment which reflects industry activities, learning synergies across modules and levels of study and recorded lecture content supporting students to organise their own study time. Due to some of the unique content, this module is of particular importance in relation to PSRB AHEP-4 learning outcomes.</li> </ul>			

Module Delivery Method		
Face-To-Face	Blended	Fully Online
✓	✓	
<p><b>Face-To-Face</b> Term used to describe the traditional classroom environment where the students and the lecturer meet synchronously in the same room for the whole provision.</p> <p><b>Fully Online</b> Instruction that is solely delivered by web-based or internet-based technologies. This term is used to describe the previously used terms distance learning and e learning.</p> <p><b>Blended</b> A mode of delivery of a module or a programme that involves online and face-to-face delivery of learning, teaching and assessment activities, student support and feedback. A programme may be considered "blended" if it includes a combination of face-to-face, online and blended modules. If an online programme has any compulsory face-to-face and campus elements it must be described as blended with clearly articulated delivery information to manage student expectations</p>		

Campus(es) for Module Delivery						
The module will <b>normally</b> be offered on the following campuses / or by Distance/Online Learning: (Provided viable student numbers permit)						
Paisley:	Ayr:	Dumfries:	Lanarkshire:	London:	Distance/Online Learning:	Other:
			✓			

Term(s) for Module Delivery					
(Provided viable student numbers permit).					
Term 1	✓	Term 2		Term 3	

Learning Outcomes: (maximum of 5 statements)	
<p>On successful completion of this module the student will be able to:</p> <p>L1. Demonstrate an ability to layout and analyse an appropriate engineering facility.</p> <p>L2. Demonstrate an ability to select appropriate resources and systems based on KPI evaluation.</p> <p>L3. Demonstrate an ability to evaluate effectiveness and apply quality tools for continuous improvement</p> <p>L4. Advise on the application of Lean or Six sigma for a range of engineering applications</p>	
Employability Skills and Personal Development Planning (PDP) Skills	
SCQF Headings	During completion of this module, there will be an opportunity to achieve core skills in:

Knowledge and Understanding (K and U)	SCQF Level 9. Knowledge of a range of quality tools.  Knowledge of factors involved in site location and layout.	
Practice: Applied Knowledge and Understanding	SCQF Level 9. Select manufacturing resources and systems for a given criteria.	
Generic Cognitive skills	SCQF Level 9. Problem solving for systems selection and improvement	
Communication, ICT and Numeracy Skills	SCQF Level 9. Group working :- reporting on quality tools and applications.	
Autonomy, Accountability and Working with others	SCQF Level 9. Reporting on continuous improvement methodology.	
<b>Pre-requisites:</b>	Before undertaking this module the student should have undertaken the following:	
	<b>Module Code:</b>	<b>Module Title:</b>
	<b>Other:</b>	
<b>Co-requisites</b>	<b>Module Code:</b>	<b>Module Title:</b>

\* Indicates that module descriptor is not published.

<b>Learning and Teaching</b>	
<p>The summative assessment which will involve interaction with one large case study based on a Virtual company called Bellemco and details of system evaluation and improvements. This will be 40% of the final mark A formal exam at the end of the module which contribute the other 60% The examination will cover the applications of quality tools and Operations management.</p>	
<p><b>Learning Activities</b> During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:</p>	<p><b>Student Learning Hours</b> (Normally totalling 200 hours): (Note: Learning hours include both contact hours and hours spent on other learning activities)</p>
Lecture/Core Content Delivery	36
Independent Study	140
	176 Hours Total
<b>**Indicative Resources: (eg. Core text, journals, internet access)</b>	
<p>The following materials form essential underpinning for the module content and ultimately for the learning outcomes:</p>	

This module requires drop in access to a computer lab for topic investigation and a teaching room with presentation facilities.

Slack, N. et al, Operations Management , London, Prentice Hall.  
 Slack Lewis, Operations Strategy, Prentice Hall.  
 Brown, Lamming, Bessant, Jones (2004), Strategic Operations Management (2nd Ed) , Butterworth-Heinemann.  
 Deming, W E, (2007), Out of the Crisis,(2nd Ed), Massachusetts Institute of Technology Cambridge University Press  
 Feigenbaum, A V (2008), Total Quality Control (4th Ed),New York, McGraw-Hill  
 Zairi, M (2003), The 4 Ps of Organizational Excellence, Bradford, TQM Publishing House  
 Crosby, P.B.(2004).Quality is still free. New York: McGraw-Hill  
 Brue, Greg. (2005), Six Sigma for small Business ,Wisconsin, Entrepreneur Press.  
 Campbell D, et al (2005), Organisations and the business environment, Elsevier Butterworth-Heinemann

European foundation for quality management: [www.iso.org/](http://www.iso.org/)

(\*\*N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk\*) to wait until the start of session for confirmation of the most up-to-date material)

### Attendance Requirements

In line with the Academic Engagement and Attendance Procedure, Students are defined as academically engaged if they are regularly engaged with timetabled teaching sessions, course-related learning resources including those in the Library and on Moodle, and complete assessments and submit these on time. Please refer to the Academic Engagement and Attendance Procedure at the following link: [Academic engagement and attendance procedure](#)

### Supplemental Information

<b>Programme Board</b>	Engineering
<b>Assessment Results (Pass/Fail)</b>	No
<b>Subject Panel</b>	Engineering
<b>Moderator</b>	James Findlay
<b>External Examiner</b>	F Inam
<b>Accreditation Details</b>	
<b>Changes/Version Number</b>	2.09 Blended module delivery added. Delivery at the Paisley campus added.

**Assessment: (also refer to Assessment Outcomes Grids below)**

Comprehensive on quality tools, CI methodology based on a single caee study

Exam based on all 4 LOs

(N.B. (i) **Assessment Outcomes Grids** for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed.  
(ii) An **indicative schedule** listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Handbook.)

### Assessment Outcome Grids (Footnote A.)

Component 1						
Assessment Type (Footnote B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Learning Outcome (4)	Weighting (%) of Assessment Element	Timetabled Contact Hours
Case study	✓	✓	✓	✓	40	46
Component 2						
Assessment Type (Footnote B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Learning Outcome (4)	Weighting (%) of Assessment Element	Timetabled Contact Hours
Unseen open book	✓	✓	✓	✓	60	2
<b>Combined Total For All Components</b>					100%	48 hours

#### Footnotes

- A. Referred to within Assessment Section above  
B. Identified in the Learning Outcome Section above

Note(s):

1. More than one assessment method can be used to assess individual learning outcomes.
2. Schools are responsible for determining student contact hours. Please refer to University Policy on contact hours (extract contained within section 10 of the Module Descriptor guidance note).  
This will normally be variable across Schools, dependent on Programmes &/or Professional requirements.

#### Equality and Diversity

The programme leaders have considered how the programme meets the requirements of potential students from minority groups, including students from ethnic minorities, disabled students, students of different ages and students from under-represented groups. Students with special needs (including additional learning needs) would be assessed /accommodated and any identified barriers to particular groups of students discussed with the Enabling

Support Unit and reasonable adjustments would be made for classes and site visits.  
[UWS Equality and Diversity Policy](#)

(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)