



<b>Title:</b>	Manufacturing Systems <b>APPROVED</b>
<b>Long Title:</b>	Manufacturing Systems
<b>Module Code:</b>	MANU8004
<b>Duration:</b>	1 Semester
<b>Credits:</b>	5
<b>NFQ Level:</b>	Advanced
<b>Field of Study:</b>	Manufacturing Engineering
<b>Valid From:</b>	Semester 1 - 2016/17 ( September 2016 )
<b>Module Delivered in</b>	<a href="#">6 programme(s)</a>
<b>Module Coordinator:</b>	GER KELLY
<b>Module Author:</b>	GER KELLY
<b>Module Description:</b>	This module covers the methodologies and methods used to setup and manage production and manufacturing processes
<b>Learning Outcomes</b>	
<i>On successful completion of this module the learner will be able to:</i>	
LO1	Setup an inventory management system
LO2	Develop a Production line layout
LO3	Evaluate approaches taken for Production Control
LO4	Interpret measures used for Production Management
<b>Pre-requisite learning</b>	
<b>Module Recommendations</b>	
<i>This is prior learning (or a practical skill) that is strongly recommended before enrolment in this module. You may enrol in this module if you have not acquired the recommended learning but you will have considerable difficulty in passing (i.e. achieving the learning outcomes of) the module. While the prior learning is expressed as named CIT module(s) it also allows for learning (in another module or modules) which is equivalent to the learning specified in the named module(s).</i>	
<b>Incompatible Modules</b>	
<i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module. You may not earn additional credit for the same learning and therefore you may not enrol in this module if you have successfully completed any modules in the incompatible list.</i>	
No incompatible modules listed	
<b>Co-requisite Modules</b>	
No Co-requisite modules listed	
<b>Requirements</b>	
<i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed. You may not enrol on this module if you have not acquired the learning specified in this section.</i>	
No requirements listed	

**Module Content & Assessment**

**Indicative Content**

**Inventory Management**

Product costings, Supply chain management, dependant & independant demand systems, forecasting, capacity planning, scheduling

**Job Design**

Motivation theories, work measurement, payment systems, line layouts, line balancing, assignment methods, human Resources, conflict resolution

**Production Systems**

Synchronous manufacture, JIT, OPT, Theory of Constraints, Lean Manufacturing, Production measurements, simulation of manufacturing systems

**Assessment Breakdown**

	%
Course Work	30.00%
End of Module Formal Examination	70.00%

**Course Work**

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Practical/Skills Evaluation	Inventory System Evaluation	1,4	15.0	Week 8
Other	Assessment of production metrics	2,3,4	15.0	Week 8

**End of Module Formal Examination**

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Formal Exam	End-of-Semester Final Examination	1,2,3,4	70.0	End-of-Semester

**Reassessment Requirement**

**Repeat examination**

Reassessment of this module will consist of a repeat examination. It is possible that there will also be a requirement to be reassessed in a coursework element.

The institute reserves the right to alter the nature and timings of assessment

**Module Workload**

<b>Workload: Full Time</b>				
<i>Workload Type</i>	<i>Workload Description</i>	<i>Hours</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	No Description	3.0	Every Week	3.00
Lab	No Description	2.0	Every Second Week	1.00
Independent & Directed Learning (Non-contact)	No Description	3.0	Every Week	3.00
Total Hours				8.00
Total Weekly Learner Workload				7.00
Total Weekly Contact Hours				4.00

<b>Workload: Part Time</b>				
<i>Workload Type</i>	<i>Workload Description</i>	<i>Hours</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	Theory	3.0	Every Week	3.00
Lab	Practicals	4.0	Every Month	1.00
Independent & Directed Learning (Non-contact)	Study	3.0	Every Week	3.00
Total Hours				10.00
Total Weekly Learner Workload				7.00
Total Weekly Contact Hours				4.00

## Module Resources

### Recommended Book Resources

- Mikell P. Groover 2013, *The Methods, Measurement & Management of Work*, 1st Ed., Pearson [ISBN: 9781292027050]
- Chase/Jacobs/Aquilano 2005, *Operations Management for Competitive Advantage*, 11th Ed., McGraw-Hill [ISBN: 9780071260480]

### Supplementary Book Resources

- Mikell P. Groover 2015, *Automation, Production Systems, and Computer-Integrated Manufacturing*, 4th Ed., Prentice Hall [ISBN: 0133499618]
- William Stevenson 2006, *Operations Management*, 9th Ed., McGraw-Hill [ISBN: 9780071109161]

*This module does not have any article/paper resources*

### Other Resources

- Website: 2015 *Automation-Production-Systems-and-Computer-Integrated-Manufacturing*, Pearson Higher Ed  
<http://www.pearsonhighered.com/educator/product/Automation-Production-Systems-and-Computer-Integrated-Manufacturing/9780133499612.page#sthash.PI9wsLLx.dpuf>

**Module Delivered in**

<b>Programme Code</b>	<b>Programme</b>	<b>Semester</b>	<b>Delivery</b>
CR_EAMTE_8	<a href="#"><u>Bachelor of Engineering (Honours) in Advanced Manufacturing Technology</u></a>	2	Mandatory
CR_EBIOM_8	<a href="#"><u>Bachelor of Engineering (Honours) in Biomedical Engineering</u></a>	7	Elective
CR_EMECH_8	<a href="#"><u>Bachelor of Engineering (Honours) in Mechanical Engineering</u></a>	7	Elective
CR_EMECH_8	<a href="#"><u>Bachelor of Engineering (Honours) in Mechanical Engineering</u></a>	5	Elective
CR_EPTE_8	<a href="#"><u>Bachelor of Engineering (Honours) in Process Plant Technology</u></a>	1	Elective
CR_EMASD_8	<a href="#"><u>Certificate in Manufacturing Systems Design</u></a>	2	Mandatory