

## Liverpool John Moores University

Title: Lean Six Sigma  
Status: Definitive  
Code: **6557SLIBM** (125109)  
Version Start Date: 01-08-2021

Owning School/Faculty: Business and Management  
Teaching School/Faculty: Sri Lanka Institute of Information Technology

Team	Leader
Jacqueline Douglas	Y

**Academic Level:** FHEQ6      **Credit Value:** 20      **Total Delivered Hours:** 45  
**Total Learning Hours:** 200      **Private Study:** 155

### Delivery Options

Course typically offered: Non Standard Year Long

Component	Contact Hours
Lecture	11
Seminar	11
Workshop	22

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	GB	Multiple choice exam	50	1
Report	YB	2500 word report Case Study DMAIC application	50	

### Aims

*This module aims to equip students with the skills necessary to embark on a Lean Six Sigma project. Successful learners will receive certificates in Yellow and Green Belt level.*

## Learning Outcomes

After completing the module the student should be able to:

- 1 Apply Lean principles to a selected project;
- 2 Apply the DMAIC methodology and its associated Six Sigma tools to a selected project;
- 3 Identify, analyse and evaluate business process problems independently, make reasonable judgments, draw valid conclusions and make practical recommendations as to process improvement.

## Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Green Belt Open Book MC	1	2	3
Case Study DMAIC application	1	2	3

## Outline Syllabus

1. *The business case for Lean and Six Sigma;*
2. *Understanding processes and their role in business performance;*
3. *What is Six Sigma and Six Sigma performance;*
4. *Introduction to the DMAIC methodology;*
5. *Introduction to Lean Thinking;*
6. *Lean versus Six Sigma - Differences and Similarities;*
7. *An introduction to Lean Metrics – Takt Time, Cycle Time and OEE (Overall Equipment Effectiveness);*
8. *Tools and Techniques for continuous improvement and their use within the Six Sigma DMAIC;*
9. *An introduction to Six Sigma metrics – costs of quality, defects per million opportunities (DPMO), Sigma Quality Level (SQL) and Yield;*
10. *Six Sigma project selection;*
11. *The DMAIC methodology in detail;*
12. *Variation and Statistical Process Control (SPC);*
13. *Critical Success Factors for Lean Six Sigma.*

## Learning Activities

Lectures, seminars and workshops.

## Notes

Lean and Six Sigma methodologies both individually and combined are proven methodologies to identify and eliminate defects, waste, rework and other failures that results in financial savings and improved customer satisfaction for manufacturing

and service industries including Healthcare and Financial Services. Qualified / Certificated Six Sigma practitioners are highly employable and command high salaries in the organizations for which they work. This module is designed to give you the necessary understanding and tools and techniques equivalent to Lean Six Sigma Yellow Belt certification. All students who achieve more than 60% in the examination element of the assignment will receive a Lean Six Sigma Yellow / Green Belt Certificate of performance.