Course Outline

OM508E - LEAN MANAGEMENT

Dept of Management, Kochi, Amrita Vishwa Vidyapeetham

Batch: 2016-18 (Trimester – V)

Semester: Oct – Dec 2017

Course Staff

Convenor & lecturer:

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Course Purpose: The purpose of this course is to prepare the students to understand the tools and techniques involved in Lean Management. Moreover, enable them to execute a Lean project to achieve specific goals that will benefit the organizations and society.

Required Text and Materials

Jeffrey Liker, The Toyota Way, Tata McGraw-Hill, 2004

COURSE SYLLABUS

OBJECTIVES:

- To outline the need for Lean Management
- To highlight different techniques of Lean implementation

UNIT I INTRODUCTION TO LEAN MANAGEMENT AND LEAN ELEMENTS

Introduction to seven waste and their narration; Evolution of lean; Global competition, Lean Manufacturing, Value flow and Muda, Muri and Mura, Need for LM, Meeting the stake holders requirement, Elements of LM.

UNIT II LEAN TOOLS AND TECHNQIUES

Various tool of LM, Fundamental blocks of Lean, Impact of Seiri Seiton Seiso Seiketsu and Shitsuke, Need for TPM, Pillars of TPM, Implementation of TPM, Overall Equipment Effectiveness (OEE) and its computation.

UNIT III LEAN SYSTEM

Lean systems: Features manufacturing and services, Work flow, Small lot sizes, Pull Method, Kanban, A3 problem solving, Just In Time.

UNIT IV PROJECT SELECTION FOR LEAN

Resource and project selection, Selecting projects, Process mapping, Current and future value stream mapping, project suitable for lean initiatives.

UNIT V LEAN MANAGEMENT AND IMPLEMENTATION

Standardized work, Continuous improvement. Lean projects: Training, selecting the members, preparing project plan, implementation, review. Productivity Improvement: Process, machinery Operator and equipment.

OUTCOMES

- Understand the need for Lean management System.
- Apply appropriate approaches to project using Lean tools and techniques.
- Understand the working concept of lean principles and implementation.

Course objectives and Outcomes

LG / CO	Critical and integrative Thinking	Effective written and oral communication	Societal and Environmental Awareness	Ethical Reasoning	Leadership
CO1: Knowledge	3	1	2	2	1
CO2: Skill sets-lean tools & techniques	3	1	2	2	1
CO3: Lean principles Implementation	3	1	2	2	1

Course contributes mostly to: Employability/ Entrepreneurship/ Skill Development

ACCOMPLISHMENT OF COURSE OBJECTIVES

In order to achieve the above objectives, you will engage in a variety of activities:

- Attend all lectures. Be an active listener/participant.
- Read the text and other instructional materials.
- Be ahead of class lectures by pre-reading the Chapters and come to class fully ready to discuss the issues/topics
- Regular review of articles on Lean Management periodicals published in books and in Journals. Also plan to read extra books based on your area of interest (Refer Bibliography).
- In your study group, discuss the Lean Management related case studies.
- Practice solving the problems assigned in Lean Management.

TEACHING STRATEGIES

The course is replete with practical examples from use in numerous fields and has one practical textbooks and two necessary software analysis packages. Students are taught using waterfall approach as the class progresses, TBL components is introduced followed by SCRUM approach to mimic the real life project management scenario for the students. Finally, students have to complete a live project with quantifiable results without scope creep.

LATE SUBMISSION OF ASSESSMENT

The penalty for late submission will be 10% per calendar day, or part thereof, unless prior special consideration has been granted. Assessment items submitted more than three calendar days late will not be assessed and will receive a grade of zero.

SUPPLEMENTARY ASSESSMENT

Supplementary assessment in the event of failure of the course is generally not available, and should not be expected.

Session Plan

UNIT	TOPICS
1	Introduction to Lean and Nine waste in Lean
1	Evolution of lean
1	Global study: Lean thinking
1	Value flow and Muda, Muri and Mura
1	Meeting the stake holders requirement
1	Elements of LM
	Case Discussion – Hank Kolb Harvard Business case (HBS)
2	Various tool of LM
2	Fundamental blocks of Lean
2	5S - Seiri Seiton Seiso Seiketsu and Shitsuke
2	Need for TPM, Pillars of TPM,
2	Implementation of TPM, Overall Equipment Effectiveness and its computation.
	Midterm - I
3	Lean systems in manufacturing and services industries.

3	Work flow, Small lot sizes
	TBL Activity – Automek and Ford Debacle
3	Pull Method, Kanban,
3	A3 problem solving, Just In Time
	Midterm - II
4	Resource and project selection,
4	Selecting projects, Process mapping,
4	Current and future value stream mapping, project suitable for lean initiatives
	Midterm - III
5	Standardized work, Continuous improvement.
5	Lean projects: Training, selecting the members
5	Preparing project plan, implementation, review
5	Productivity Improvement: Process, machinery Operator and equipment
	End Term Examination

Note: The Session Plan schedule is tentative and is subject to change as the course progresses.

Software

- MS Visio 2016 and MS Projects 2016 will be covered as part of the course syllabus. Students will be trained in VSM Cases.

Cases

Case studies help the student to understand the challenges and difficult in practical scenario. The cases consist of:

- International Projects
- Indian Projects
- Black Swan Events
- Multi-Billion Dollar Projects
- Rare Events
- Scope for LM in India

The course enables the student to prepare for Lean Six Sigma certification being offered by ASQ.

Evaluation

- Team Presentations 10%
- TBL Activity 10%
- MS Visio 10%
- Case Analysis 30%
- End Term Exam 40%

Note: The Instructor reserves the right to change the evaluation pattern if necessary based on the performance of the class and other factors. Any change made (if needed) will be announced to the class.

Bibliography: (Lean Management References)

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- N. Goplakrishnan, Simplifed Lean Manufacture, PHI, 2010
- Ohno, T. (2012). Taiichi Ohnos Workplace Management: Special 100th Birthday Edition. McGraw Hill Professional.
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