The Flow System – Lean Tools & Metrics (LT-M2)

Syllabus

Description of Course

The Lean Tools & Metrics (LT-M2) master's course is a continuation of the content learned in the Lean Thinking Advanced Course (LT-A1). This course provides an in-depth look at the principles, laws, and metrics used in lean thinking.

This course also looks at the measures and calculations that can be applied in operational excellence initiatives and how to ensure you are measuring the right things in the right way.

This course examines value, and how to determine what value is and how to measure it effectively. We also examine how to effectively measure workflow, utilization, capacity, and capability.

We look at the metrics that are used in Agile and Scrum disciplines and how they should be applied when using tools such as Kanban. We examine prioritization techniques such as Shorted Job First and Weighted Shorted Job First (WSJF), also known as Cost of Delay.

This is an intensive focus on the metrics of Lean and Agile. It is not an advanced mathematics class, but participants should be able to work with basic formulas. The class uses many examples to illustrate how to measure and calculate the metrics that will enable you to achieve the performance outcomes you desire.

Duration of Training

The Lean Tools and Metrics (LT-M2) master's course requires 16 hours of training and can be taken as a two-day in-person training session, an online live virtual class, or as an asynchronous self-paced online training using The Flow System's learning management system (LMS). This course can be taught publicly or privately to any organization.

Participants must complete the training before receiving a code allowing them to take the Lean Tools and Metrics (LT-M2) assessment for accreditation. The fee for the assessment is included in the course fee for training attendees.

At the master's level, participants will demonstrate an ability to apply the new knowledge and complete an online assessment. The master's level courses' application portion will be reviewed by peers and industry experts in their chosen field.

Participants who attend the training will have two attempts at the Lean Tools and Metrics (LT-M2) assessment. Participants who wish to forgo the training and jump straight to the assessment may do so but must first buy a code and will only have one attempt as opposed to two for people taking the training. You can buy a code below by clicking 'Take Assessment.'

Objectives of Course

This course is a master's course that continues to build on the material learned from both the Foundations (FS-1) and the Lean Thinking Advanced (LT-A1) courses. As a mastery level course, participants will be required to envision applying the material covered in the course to their place of work. After successfully completing this course participants should be able to:

- Define leading and lagging measures.
- Define and measure value.
- Explain queuing theory.
- Exhibit the ability to apply Little's Law.
- Exhibit the ability to apply the Kingman Equation.
- Exhibit the ability to apply different prioritization metrics:
  - Shortest Job First (SJF)
  - High Delay Cost First (HDCF)
  - Weighted Shortest Job First (WSJF)
  - Respect
- Define and exhibit the ability to apply the following metrics:
  - Cycle Time
  - Processing Time
  - Takt Time
  - Product Lead Time
  - Customer Lead Time
  - Line Cycle Time
  - Single Station/Team Cycle Time
- Measure batching to maintain flow.

- Exhibit the ability to apply Lean metrics at scale.
- Exhibit the ability to apply Lean metrics in Agile and Scrum product development settings.

Outline of Course

- Introductions
- Overview (The need to measure work)
- Value
- Effort
- Capacity
- Output vs Outcome
- Utilization
- Kanban Metrics
- Software and Product Development Metrics
- Measuring Efficiency

The Flow System Advanced Accreditation

Participants completing the Foundations (FS-1) training (in-person) or the Foundations (FS-1) course (online), or those who wish to only take the Foundations accreditation exam without participating in training or an online course, can take the exam at any time. Participants who complete training (face-to-face or online) will have two attempts at the exam. Participants who wish to forgo any training may do so and pay to take the exam. Participants who skip any training will have one chance to pass the exam. Upon passing the Foundations Exam, participants will receive a Certification of Completion for The Flow System Foundations Course. Once a Certification of Completion for The Flow System Foundations Course has been obtained, participants can continue to any of the Advanced Courses (see Figure 1). The Flow System Training Map can be found in Figure 1 provided below.
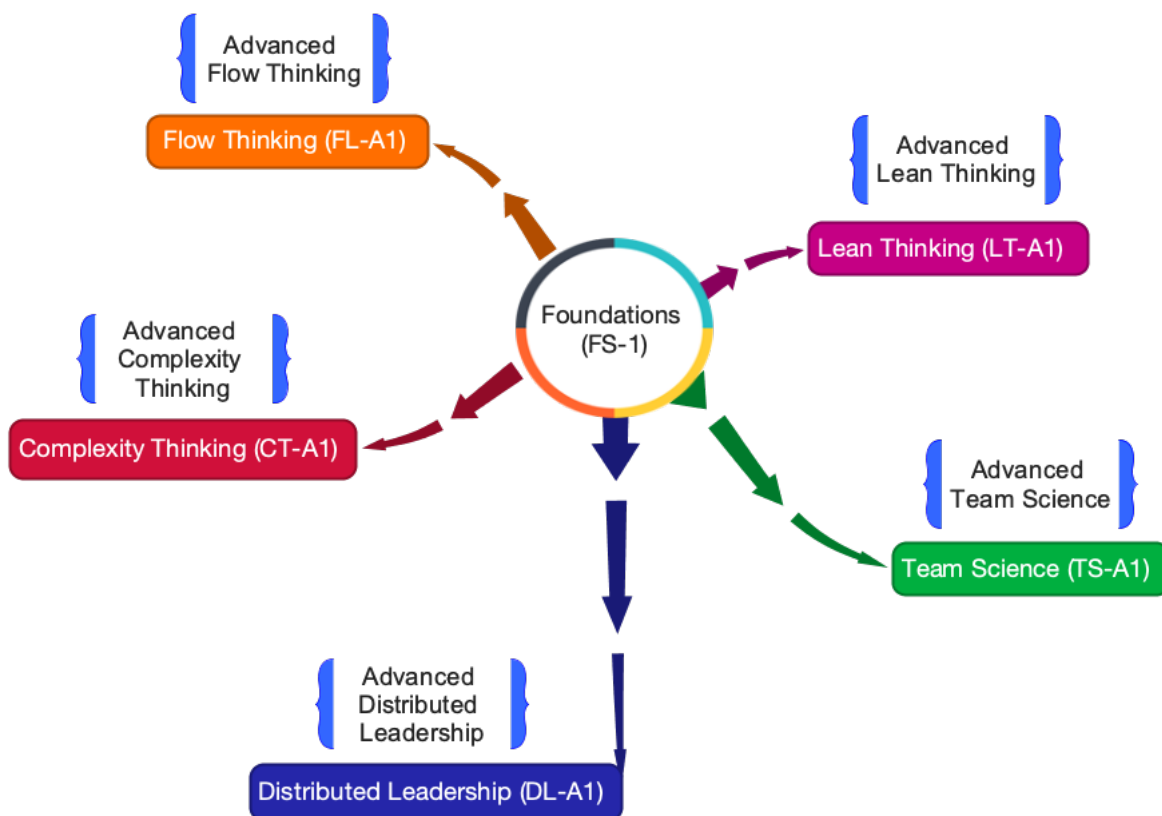

Figure 1: The Flow System Foundations and Advanced Courses

The Flow System Masters Accreditation

There are a total of five master level accreditations to choose from, one to accompany each advanced course. Once the foundations course (FS-1) and the selected advanced course has been successfully completed and the accreditation exam passed, participants can continue to take courses at the master level within the chosen advance track. Participants can only continue to the master level courses after achieving the appropriate advanced accreditation. For example, before taking any of the lean thinking master level courses (LT-M1 through LT-M5), the foundations (FS-1) and lean thinking advanced (LT-A1) courses must first be successfully completed.

The master level courses for the Lean Thinking track include the following courses:

- Toyota Production System (LT-M1)
- Lean Tools & Metrics (LT-M2)
- Ji Kotei Kanketsu (LT-M3)
- A3 Problem Solving (LT-M4)
- On The Job Development (LT-M5)

A master level accreditation in Lean Thinking will include the following path:

1. Mastery Complexity Thinking Accreditation
   a. Accredited in the Foundations (FS-1) course
   b. Accredited in the Lean Thinking (LT-A1) Advanced course
   c. Successful completion of all 5 Mastery Lean Thinking courses
       i. Toyota Production System (LT-M1)
       ii. Lean Tools & Metrics (LT-M2)
       iii. Ji Kotei Kanketsu (LT-M3)
       iv. A3 Problem Solving (LT-M4)
       v. On The Job Development (LT-M5)
   d. Pass Mastery Lean Thinking Accreditation Exam

Courses	Course Completion & Exam	Accreditation
Foundations Course	⭐	Foundations Accreditation
Advanced Course Lean Thinking	⭐	Advanced Lean Thinking Accreditation
Mastery Lean Courses LT-M1 + LT-M2 + LT-M3 + LT-M4 + LT-M5	⭐ + ⭐ + ⭐ + ⭐ + ⭐	Mastery Lean Thinking Accreditation

Trainers

The Flow System Foundations Course (in-person) will be administered by the co-creators of The Flow System and/or by certified TFS trainers. The online courses will only be administrated and monitored by the co-creators of The Flow System. All trainers are considered experts in their field of practice/study and have a command of the materials that are presented in The Flow System Foundations Course.

Recommended Readings

The Flow System Reading Materials include 1) *The Flow System: The Evolution of Agile and Lean Thinking in an Age of Complexity*; 2) *The Flow System Guide*; and 3) *The Flow System: Key Principles and Attributes*.

1) *The Flow System: The Evolution of Agile and Lean Thinking in an Age of Complexity*
   Available from Amazon.

   Hardback:
   https://amzn.com/1680400584/

   Kindle:
   https://amzn.com/B08NXPGMSC/

2) *The Flow System Guide*
   Available online (free)
   https://flowguides.org/index.php

   Amazon book (print-to-order)
   https://amzn.com/B085KN39FP

   Amazon Kindle Format
   https://amzn.com/B085PQFXFN/

3) *The Flow System: Key Principles and Attributes*

   Amazon book (print-to-order)
   https://amzn.com/B085DQB92N/

   Amazon Kindle Format
   https://amzn.com/B085DHFNMT/