TMMi® FOUNDATION

TMMi® Professional – TMMi model training

Version 2.3

#SuccessWithTMMi

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www.tmmi.org

The TMMi Professional syllabus defines the business outcomes and learning objectives required for the TMMi Professional qualification. The syllabus is based on TMMi Version 2.0 and provides comprehensive coverage of the TMMi model, its maturity levels, process areas, goals, and practices. It also incorporates expanded coverage of Agile and DevOps environments, and the role of Artificial Intelligence with TMMi. The TMMi Professional syllabus serves as the foundation for recognized TMMi Professional training courses and examinations delivered worldwide.

The TMMi Professional qualification is intended for professionals involved in test process improvement, software quality assurance, testing, quality engineering, and organizational process improvement. It provides participants with an understanding of the principles, structure, and application of the TMMi model, enabling them to support and contribute to test improvement initiatives within their organizations.

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Revisions

This section summarizes the key revisions between releases this document.

This section is provided for information only.

Release	Revision Notes
V1.0 (08/2012)	Initial version
V1.1 (05/2013)	LO's numbered for traceability to exam questions
V1.2 (06/2013)	LO 4.8 changed to make the wording more accurate
V1.3 (02/2016)	Table of Content updated
V2.0 (01/2019)	Update for the training and exam to include TMMi and Agile.
V2.1 (10/2022)	Updated to align with updates in TMMi model V1.3. Reference to TMMi world-wide user survey added (LO1.3), CMMI V2 introduced (LO2.2) scope extended (LO2.7) to make more explicit the fact that TMMi is intended to be lifecycle independent and the relationship between TMMi and CMMI is now defined with for CMMI V2 (LO4.7).
V2.2 (12/2023)	Reference updated to the TMMi world-wide user survey 2023 (LO 1.3)
V2.3 (06/2026)	Updated for TMMi model V2.0. The syllabus provides full coverage for the TMMi version 2.0 document. DevOps and Artificial Intelligence have been added as specific topics in relation to TMMi.

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1 Introduction

1.1 Purpose of this document

This document defines the "TMMi Professional" certification developed by the TMMi Foundation and forms the basis for the TMMi Professional model training and examination. The training is typically run as a two-day TMMi®[1] model training. The TMMi Foundation provides this document to TMMi training providers world-wide and other stakeholders. The training providers can use it to develop a training course based on the requirements defined in this document. Training providers will determine appropriate teaching methods and produce courseware. The document will help candidates in their preparation for the TMMi Professional examination.

1.2 The TMMi Professional

The TMMi Professional qualification is aimed at anyone involved in using the TMMi model. This includes people in roles such as test process improvers, test consultants, testers, TMMi (lead) assessors, business stakeholders, test managers, and members of a Test Process Group. This TMMi Professional qualification is appropriate for anyone who wants an understanding of the TMMi model. Holders of the TMMi Professional Certificate will be able to demonstrate a level of knowledge required as a prerequisite to become an accredited TMMi (lead) assessor.

1.3 Business Outcomes

The business outcomes provide an overview and statement of what can be expected from a TMMi Professional in terms of the added value and skills he/she will bring to the business.

The TMMi Professional is able to perform each of the following tasks:

BO1 Explain to management the business importance of test process improvement

BO2 Guide and advise an organization, project or team using the TMMi model as a basis for their test process improvement, either in sequential lifecycle environments or in Agile and DevOps contexts.

BO3 Advise on a successful application of Artificial Intelligence with TMMi

BO4 Provide support in the interpretation and understanding of the TMMi model

BO5 Act as a co-assessor for informal TMMi assessments

BO6 Participate in programs for improving the test process within an organization, project or team

1.4 Level of Detail

The level of detail in this document aims at internationally consistent teaching by recognized TMMi Professional training providers. In order to achieve this goal, the document consists of:

- learning objectives for each TMMi Professional knowledge area
- describing the cognitive learning outcome to be achieved
- expected time to be spent per topic

[1] TMMi is a registered trademark of the TMMi Foundation (UK).

- references to sources.

The TMMi Professional syllabus is a compact one since it does not contain the actual content to support the learning objectives. The learning objectives are based on published documents (see section “References”) that in fact define the supporting content. These references should be perceived as being an integral part of this document and are all publicly available on www.tmmi.org.

2 Learning Objectives

2.1 Cognitive Levels of Learning

The expected cognitive levels of learning are defined by means of learning objectives. Learning objectives are indicated for each topic and classified as follows:

- K1: remember
- K2: understand
- K3: apply
- K4: analyze

Each topic in the document will be examined according to the learning objective for it.

Level 1: Remember (K1)

The candidate will recognize, remember and recall a term or concept.

Keywords: Remember, retrieve, recall, recognize, know, list, describe

Level 2: Understand (K2)

The candidate can select the reasons or explanations for statements related to the topic, and can summarize, compare, classify, categorize and give examples for the testing concept.

Keywords: Summarize, generalize, abstract, classify, compare, map, contrast, exemplify, interpret, translate, represent, infer, conclude, categorize, construct models

Level 3: Apply (K3)

The candidate can select the correct application of a concept or technique and apply it to a given context.

Keywords: Implement, execute, use, follow a procedure, apply a procedure

Level 4: Analyze (K4)

The candidate can separate information related to a procedure or technique into its constituent parts for better understanding, and can distinguish between facts and inferences. Typical application is to analyze a document, software or project situation and propose appropriate actions to solve a problem or task.

Keywords: Analyze, organize, find coherence, integrate, outline, parse, structure, attribute, deconstruct, differentiate, discriminate, distinguish, focus, select

Note that in the TMMi Professional model training the learning objectives are limited to K1 and K2. The application of the model, e.g., during a TMMi assessment, which implies higher K-levels (e.g., K3 and K4) is addressed in the TMMi assessor training. The TMMi professional model training is limited to the understanding of the model only.

2.2 Learning Objectives

2.2.1 Introduction to the TMMi model

Total course time: 70 minutes

LO 1.1 [K2] Provide examples of the typical business reasons for test improvement

LO 1.2 [K2] Understand the background to the development of the TMMi model

LO 1.3 [K2] Summarize typical costs and benefits of the TMMi

LO 1.4 [K1] List the sources used during the development of the TMMi model

LO 1.5 [K1] Describe the scope of the TMMi model, including the fact that TMMi is intended to be lifecycle independent

LO 1.6 [K2] Understand the People, Process and Technology (PPT) Framework and how this reflects on test automation and test process improvement

LO 1.7 [K2] Compare TMMi to Quality Engineering

Main source: TMMi model V2.0 (Chapter 1 "Test Maturity Model integration (TMMi)" and Annex B "Quality Engineering Mapping") [TMMiV2.0]

2.2.2 TMMi Maturity Levels

Total course time: 60 minutes

LO 2.1 [K2] Summarize the TMMi maturity levels and process areas

LO 2.2 [K2] Explain the TMMi maturity levels

Main source: TMMi model V2.0 (Chapter 2 "TMMi Maturity Levels" and Annex D "TMMi Level 1 Practices") [TMMiV2.0]

2.2.3 Structure of the TMMi

Total course time: 60 minutes

LO 3.1 [K2] Summarize the components of the TMMi model

LO 3.2 [K2] Explain the difference between a required, expected and informative component

LO 3.3 [K2] Categorize the components of the TMMi model by type (required, expected, informative)

LO 3.4 [K2] Understand how TMMi covers institutionalization

LO 3.5 [K2] Summarize the relationship between TMMi and CMMI

Main sources: TMMi model V2.0 (section 1.4.7 "TMMi and CMMI" and Chapter 3 "TMMi Structure") [TMMiV2.0] and Release Notes TMMi V2.0 (section 1.3 Generic Goals and Generic Practices) [TMMiReleaseV2]

2.2.4 TMMi model

Total course time: 270 minutes

LO 4.1 [K2] Summarize the TMMi level 2 process areas (Test Policy and Strategy, Test Planning, Test Monitoring and Control, Test Design and Execution, Test Environment and Implementation and Habit) and goals

LO 4.2 [K1] Recognize the practices of the TMMi level 2 process areas (Test Policy and Strategy, Test Planning, Test Monitoring and Control, Test Design and Execution, Test Environment and Implementation and Habit)

LO 4.3 [K2] Summarize the TMMi level 3 process areas (Test Organization, Test Training, Test Process and Integration, Non-Functional Testing and Peer Reviews) and goals

LO 4.4 [K1] Recognize the practices of the TMMi level 3 process areas (Test Organization, Test Training, Test Process and Integration, Non-Functional Testing and Peer Reviews)

LO 4.5 [K2] Summarize the TMMi level 4 process areas (Test Measurement and Product Quality Evaluation) and goals

LO 4.6 [K1] Recognize the practices of the TMMi level 4 process areas (Test Measurement and Product Quality Evaluation)

LO 4.7 [K2] Summarize the TMMi level 5 process areas (Quality Control, Defect Prevention and Test Process Optimization) and goals

LO 4.8 [K1] Recognize the practices of the TMMi level 5 process areas (Quality Control, Defect Prevention and Test Process Optimization)

Main source: TMMi model V2.0 (Part 2 “Process Areas”) [TMMiV2.0]

2.2.5 TMMi in Agile and DevOps context

Total course time: 70 minutes

LO 5.1 [K2] Understand how TMMi can be used in an Agile context, and how the two can complement each other

LO 5.2 [K2] Understand the differences between doing test process improvement in an Agile context compared to in a traditional context

LO 5.3 [K2] Explain, with examples, how the TMMi process areas, goals and practices should be interpreted and can be used in an Agile context

LO 5.4 [K2] Understand how TMMi can be used in a DevOps context, and how the two can complement each other

LO 5.5 [K2] Explain with examples how the TMMi process areas, goals and practices should be interpreted and can be used in a DevOps context

Main sources: TMMi in the Agile world [TMMiAgile] and TMMi in the DevOps world [TMMiDevOps]

2.2.6 Artificial Intelligence

Total course time: 60 minutes

LO 6.1 [K2] Understand the difference between “testing AI-based systems” and “using AI for testing”

LO 6.2 [K2] Understand how TMMi can be used when testing AI-based systems

LO 6.3 [K2] Explain, with examples, how the TMMi process areas, goals and practices should be interpreted and can be used when testing AI-based systems

LO 6.4 [K2] Understand the People, Process and Technology (PPT) Framework and how this reflects on Artificial Intelligence and test process improvement

LO 6.5 [K2] Explain, with examples, how Artificial Intelligence and Gen-AI can support the TMMi process areas and goals

Main sources: Testing AI-based systems and TMMi [TMMiAI] and TMMi model V2.0 (section 1.4.4 “Artificial Intelligence” and Annex A “Artificial Intelligence and TMMi”) [TMMiV2.0]

2.2.7 TMMi Assessments

Total course time: 60 minutes

LO 7.1 [K2] Explain the role of assessments within the overall improvement process

LO 7.2 [K2] Compare informal TMMi assessments with formal TMMi assessments

LO 7.3 [K2] Summarize the TMMi assessment process, including component rating

LO 7.4 [K1] List the criteria to become an accredited TMMi (Lead) Assessor

Main sources: TMMi Assessment Method Application Requirements [TAMAR] and TMMi Assessor Accreditation Criteria [TMMiCriteria]

2.2.8 Implementing TMMi

Total course time: 70 minutes

LO 8.1 [K2] Summarize the activities of the initiating phase of the improvement framework

LO 8.2 [K2] Summarize the activities of the diagnosing phase of the improvement framework

LO 8.3 [K2] Summarize the activities of the establishing phase of the improvement framework

LO 8.4 [K2] Summarize the activities of the acting phase of the improvement framework

LO 8.5 [K2] Summarize the activities of the learning phase of the improvement framework

LO 8.6 [K2] Understand that TMMi should not just be used as a checklist

Main source: TMMi model V2.0 (section 1.6.2 “TMMi is not a Checklist” and Annex C “The Improvement Process”) [TMMiV2.0]

3 The Examination

3.1 Exam Structure

The TMMi Professional examination will be based on this document. The format of the examination is multiple-choice. Exams may be taken as part of a training course or independently (e.g., an on-line exam at an examination center or in a public exam). Completion of a training course is not a pre-requisite for the exam.

The examination shall comprise 40 multiple-choice questions. The number of points available in an examination is 40. Each correctly answered question is worth one point. The time allowed for the examination is 60 minutes, if given in the candidate's native language. If the candidate's native language is not the examination language, the time allowed is 75 minutes. A score of at least 65% (26 or more points) is required to pass.

3.2 Question Distribution

The exam questions will be distributed over the topics (see section Learning Objectives) according to the following table:

Exam topic	Number of Questions
1. Introduction to the TMMi model	4
2. TMMi Maturity Levels	4
3. Structure of the TMMi	4
4. TMMi Model	12
5. TMMi in Agile and DevOps context	4
6. Artificial Intelligence	4
7. TMMi Assessments	4
8. Implementing TMMi	4
Total:	40

Note, with the 12 questions for the exam topic 4. TMMi model, 2/3 (8 questions) will be regarding TMMi levels 2 and 3 (LO 4.1 to LO 4.4), and 1/3 (4 questions) will be regarding TMMi levels 4 and 5 (LO 4.5 to LO 4.8).

4 Training Providers

The TMMi Professional recognized training providers have committed themselves to provide training complying with this document. This training is also suited to prepare the participants for the TMMi Professional examination. There is no formal accreditation process for training providers. At recognition, the training providers commit themselves to offering training in line with the TMMi Professional document. The training provider will agree to devote at least the times defined in this document to the various topics of the TMMi Professional training. For recognized TMMi Professional training courses, the syllabus requires a minimum of 720 minutes (12 hours) of instruction, distributed across the eight topics specified in chapter 2. The training provider will carry out the training in such a way that, after the training course, a participant is able to pass the TMMi Professional examination.

The mutual obligations between the TMMi Foundation and a training provider will be stipulated by contract. The contract is valid three years at a time. Per contract, the TMMi Foundation may conduct on-site audits on the TMMi Professional model training being performed. Depending on the number of training courses conducted per year, a fee for the recognition is to be paid to the TMMi Foundation. Recognized training providers will be listed on the TMMi Foundation website and can request on-site examinations.

References

[Survey23] TMMi Foundation (2023), *TMMi world-wide user survey 2023 V1.2,* TMMi Foundation

[TMMiAgile] E. van Veenendaal (ed.) (2020), *TMMi in the Agile world V1.4,* TMMi Foundation

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