GAQM®

Global Association for Quality Management

Certified Software Testing Engineer (CSTE) ®

Course Outline & Module Information

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What Modules are covered?

Module 1 - Foundation

1) Course Objectives

2) What is Systems Engineering

3) What is Software Systems Engineering?

4) Why Should We Use Standards?

5) Basic Principles for Standards

6) ISO Compared to IEEE

7) How Standards are Developed

8) Organization of the SESC Standards

9) Clauses

10) Normative vs. Informative

11) What Is in a Standard?

12) What Is Not in a Standard?

13) Where Standards Can Be Obtained?

14) How to Tailor and Apply Standards

15) Final Thoughts

16) Other Resources

Module 2 - STDB - Applying Standard IEEE/EIA 12207 for Software Lifecycle Processes

1) Introduction to IEEE/EIA 12207

2) Application of the IEEE/EIA 12207

3) Applying the IEEE/EIA 12207 to Organizations and Projects

4) 12207 Life Cycle Processes and Roles

5) IEEE/EIA 12207 Processes and Their Interactions

6) Tailoring the Processes

7) The Structure of Life Cycle Processes

8) The Influence of Total Quality Management

9) The Relationship Between Systems and Software

10) The Relationship Between Organizations and Parties

11) Responding to Technology Evolution

12) Events and Milestones

13) Documenting Outputs

14) The Role of Software Metrics

15) Certification and Compliance

16) Other Related Standards and Their Relationship

Module 3 - Module STDC - IEEE 12207 Project Life Cycles

1) Overview of Project Lifecycle

2) Types of Prototypes

3) Applying Prototyping to Life Cycle Models

4) Risks of Prototyping

5) Commercial Items (COTS) and Reuse

6) Selecting a Software Lifecycle Model

7) Which Development Strategy to Pick?

8) Using Risk Analysis to Determine the Right Development Strategy

9) SLCM Selection Criteria

10) Steps in Creating Life Cycle Processes

11) SLCM Plans

12) SLCM Plan Contents

13) Considerations in Implementing and Maintaining the Software

14) Establishing Life Cycle Processes

15) Monitoring Life Cycle Processes

16) Evaluating the Impact of Changes on Life Cycle Processes

Module 4 - Module STDD - Applying IEEE Standard 12207.1 for Life Cycle Data

1) Overview and Objectives of the Standard

2) What is Life Cycle Data?

3) Purpose of Life Cycle Data

4) Operations on Life Cycle Data

5) What Should Life Cycle Data Be?

6) Types of Life Cycle Data

7) Presentation Form of Life Cycle Data

8) Life Cycle Data Formats

9) Content Guidelines

10) Specific Information Item Content Guidelines

Module 5 - STDE - Applying IEEE/EIA Standard 12207

1) Overview and Objectives of IEEE/EIA Standard 12207.2

2) Using IEEE/EIA 12207.2 as a Guide for Implementing IEEE/EIA 12207.0

3) How to Interpret and Apply the Guidance Comments

4) IEEE/EIA 12207.0 on Software Reuse

5) Joint Management Reviews

6) Candidate Reviews

7) The Role of Software Metrics

8) The Scope of Measurement Categories

9) Software Measurement Categories

10) Tailoring Software Metrics

11) Managing Project Risks with Metrics

12) Data Collection to Support Project Metrics

13) Example Project Dashboard

14) The Goal/Question/Metric Method

15) Development and Build Planning

16) Problem Categories

17) Problem Severity Levels

18) Software Product Evaluations

19) Evaluation Criteria

20) What is Risk Management?

21) Risk Planning

22) Risk Identification

23) Risk Analysis

24) Risk Mitigation

25) Risk Tracking and Control

26) Related Standards to IEEE/EIA 12207

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