Certified Six Sigma Yellow Belt (CSSYB)
Body of Knowledge Map 2015 - 2022

The Certified Six Sigma Yellow Belt (CSSYB) Body of Knowledge (BoK) has been updated to ensure that the most current state of six sigma yellow belt practice is being tested in the examination. If you would like more information on how a BoK is updated, see a description of the process on https://asq.org/cert/exam-development.

Part of the updating process is to conduct a content validation survey to determine whether the topics in the 2015 BoK are still relevant to the role of six sigma yellow belts and to identify any new topics that have emerged since that BoK was developed. The results of the CSSYB content validation survey showed that most of the topics that were in the 2015 BoK are still relevant to six sigma yellow belts in 2022. Four new areas were added to the 2022 BoK and parts of subtext were added or removed for clarification as indicated in Table 2.

The 2022 Certified Six Sigma Yellow Belt Body of Knowledge (CSSYB BoK) will be introduced at the **September 2022** administration. Both BoKs will be available online until November 1, 2022, at which time the 2015 BoK will be removed.

General comments about ASQ Body of Knowledge updates

When the Body of Knowledge (BoK) is updated for an ASQ exam, most of the material covered in the BoK remains the same. There are very few programs that change significantly over a 5-7 year period. One of the points that we make to all the exam development committees is that ASQ Certification Exams need to reflect “the state of practice” not “the state of the art.” This helps to keep the programs grounded in what people currently do, rather than being driven by the latest hot-topic improvement idea or trend. Typically, the biggest change in any updated BoK is in how the content is organized. When a new BoK is announced and posted on the ASQ website, we also include a “BoK Map” that highlights the changes between the two Bodies of Knowledge: old and new. The BoK map also clearly identifies any new content that has been added to the exam, as well as any content that has been removed from the exam.

With regard to exam preparation materials, you should be able to use any of the reference books that are currently listed on the bibliography for the exam program. These are the source materials that the exam development committees use to write questions and verify answers.

Specific comments about the 2022 CSSYB Body of Knowledge updates

The CSSYB Body of Knowledge mostly stayed the same with the 2022 update. One new topic was added to Section II: Supply chain management (II.A.5). Two new topics were added to Section IV: Corrective action (IV.C) and Preventive action (IV.D). One new topic was added to Section V: Work instructions and standard operating procedures (SOPs) (V.B.4). There were no major changes to content in Section I and Section III. In addition to a total of four new topics and minor removal/edits of content, there were three topics that increased in level of cognitive: I.D.3, I.D.4, and IV.A.2. Additionally, to align with the new 2022 BoK, the SSYB exam increased from 75 multiple-choice questions to 80 multiple-choice questions.

Table 1 below portrays the change in items allocated to each section of the Body of Knowledge. The section names have all remained the same. Table 2, on page 3, presents the 2022 SSYB BoK and maps the topics to the 2015 BoK. Table 3, starting on page 12, presents the 2015 SSYB BoK and maps the topics to the 2022 BoK. Details on changes between the two can be found below.

Table 1. CSSYB BoK Section Item Allocation

BoK Section	2015 BoK	2022 BoK	Difference
I. Six Sigma Fundamentals	21	20	**-1**
II. Define Phase	12	14	**+2**
III. Measure Phase	15	15	**--**
IV. Analyze Phase	15	17	**+2**
V. Improve and Control Phases	12	14	**+2**

Table 2. 2022 CSSYB BoK mapped to 2015 CSSYB BoK

2015 BoK	2022 BoK Details	Notes
Section	**I. Six Sigma Fundamentals [20 Questions]**	Number of questions changed from 21 to 20
I.A	**A. Six sigma foundations and principles** Describe the purpose of six sigma (reducing variation), its methodology (DMAIC) and its evolution from quality. Describe the value of six sigma to the organization as a whole. (Understand)	
I.B	**B. Lean foundations and principles** Describe the purpose of lean (waste elimination) and its methodologies (just-in-time, poka-yoke, kanban, value-stream mapping). Describe the value of lean to the organization as a whole. (Understand)	
I.C	**C. Six sigma roles and responsibilities** Define and describe the roles and responsibilities of six sigma team members (i.e., individual team members, yellow belt, green belt, black belt, master black belt, process owner, champion, sponsor). (Understand)	
	D. Team basics	
I.D.1	**1. Types of teams** Identify the various types of teams that operate within an organization (i.e., continuous improvement, self-managed and cross-functional) and their value. (Understand)	
I.D.2	**2. Stages of development** Describe the various stages of team evolution: forming, storming, norming, performing, and adjourning. (Understand)	
I.D.3	**3. Decision-making tools** Define and apply decision-making tools such as brainstorming, multivoting, and nominal group technique (NGT). (Apply)	Removed “and describe how these tools are used by teams” and added “and apply decision-making tools such as” to align with the cognitive level Increased cognitive level to Apply
I.D.4	**4. Communication methods** Explain how teams use agendas, meeting minutes, and project status reports, and how they support project success. (Apply)	Increased cognitive level to Apply

2015 BoK	2022 BoK Details	Notes
	E. Quality tools and six sigma metrics	
I.E.1	**1. Quality tools** Select and use these tools throughout the DMAIC process: Pareto charts, cause and effect diagrams, flowcharts, run charts, check sheets, scatter diagram, and histograms. (Apply)	
I.E.2	**2. Six sigma metrics** Select and use these metrics throughout the DMAIC process: defects per unit (DPU), defects per million opportunities (DPMO), rolled throughput yield (RTY), cycle time, and cost of poor quality (COPQ). (Apply)	
	II. Define Phase [14 Questions]	Number of questions changed from 12 to 14
	A. Project identification	
II.A.1	**1. Voice of the customer** Define the voice of the customer and describe how customer needs are translated into quantifiable, critical-to-quality (CTQ) characteristics. (Understand)	
II.A.2	**2. Project selection** Describe how projects are identified and selected as suitable for a six sigma project using the DMAIC methodology. (Understand)	
II.A.3	**3. Stakeholder analysis** Identify end users, subject matter experts, process owners and other people or factors that will be affected by a project, and describe how each of them can influence the project. (Understand)	
II.A.4	**4. Process inputs and outputs** Use SIPOC (suppliers, inputs, process, outputs, customers) to identify and define important elements of a process. (Apply)	
NEW	**5. Supply chain management** Understand supply chain management and how it relates to project management. (Understand)	
	B. Project management (PM) basics	
II.B.1	**1. Project charter** Describe the purpose of a charter and its components: problem statement, project scope, baseline data, and project goal. (Understand)	
II.B.2	**2. Communication plan** Explain the purpose and benefits of a communication plan and how it can impact the success of the project. (Understand)	
II.B.3	**3. Project planning** Define work breakdown structure (WBS) and Gantt charts and describe how they are used to plan and monitor projects. (Understand)	

2015 BoK	2022 BoK Details	Notes
II.B.4	**4. Project management tools** Select and use various PM tools: activity network diagrams, affinity diagrams, matrix charts, relations charts, and tree diagrams. (Understand)	
II.B.5	**5. Phase reviews** Explain how tollgate or phase reviews are used throughout the DMAIC lifecycle. (Understand)	
	III. Measure Phase [15 Questions]	
III.A	**A. Basic statistics** Define, calculate, and interpret measures of central tendency (mean, median, mode) and understand measures of dispersion (standard deviation, range, variance). (Apply)	Added "understand" to subtext for clarification
	B. Data collection	
III.B.1	**1. Data collection plans** Describe the critical elements of a data collection plan, including an operational definition, data sources, the method to be used for gathering data, and how frequently it will be gathered. Describe why data collection plans are important. (Understand)	
III.B.2	**2. Qualitative and quantitative data** Define and distinguish between these types of data. (Understand)	
III.B.3	**3. Data collection techniques** Use various data collection techniques, including surveys, interviews, check sheets, and checklists to gather data that contributes to the process being improved. (Apply)	
	C. Measurement system analysis (MSA)	
III.C.1	**1. MSA terms** Define precision, accuracy, bias, linearity, and stability, and describe how these terms are applied in the measurement phase. (Understand)	
III.C.2	**2. Gauge repeatability & reproducibility (GR&R)** Describe and distinguish between repeatability and reproducibility and describe how and why GR&R is used in the measurement phase. (Understand)	Added "and distinguish between repeatability and reproducibility and describe" for clarification
	IV. Analyze Phase [17 Questions]	Number of questions changed from 15 to 17
	A. Process analysis tools	
IV.A.1	**1. Lean tools** Define how 5S and value analysis can be used to identify and eliminate waste. (Understand)	
IV.A.2	**2. Failure mode and effect analysis (FMEA)**	Replaced "Define" and "Describe" with "Relate"

2015 BoK	2022 BoK Details	Notes
	Relate the elements of severity, opportunity, and detection, and determine how they are used to calculate the risk priority number. Demonstrate how FMEA can be used to identify potential failures in a process. (Apply)	and "Demonstrate" to align with cognitive level Increased cognitive level to Apply
IV.B	**B. Root cause analysis** Describe how the 5 Whys, process mapping, 8D, force-field analysis and matrix charts can be used to identify the root causes of a problem. (Understand)	Added "8D"
NEW	**C. Corrective action** Explain and apply elements of the corrective action process: identify the problem, contain the problem (interim action), determine the causes of the problem and propose solutions to eliminate it or prevent its recurrence (permanent action), verify that the solutions are implemented, and confirm their effectiveness (validation). (Apply)	
NEW	**D. Preventive action** Explain and apply elements of a preventive action process: understand various process analysis techniques to identify potential failures, defects, or process deficiencies; improve the process (e.g., understand error- or mistake-proofing devices or methods, initiate procedural changes), and verify the effectiveness of the preventive action. (Apply)	
	E. Data analysis	
IV.C.1	**1. Basic distribution types** Define and distinguish between normal and binomial distributions and describe how their shapes (skewed and bimodal) can affect data interpretation. (Understand)	
IV.C.2	**2. Common and special cause variation** Describe and distinguish between these types of variation. (Understand)	
	F. Correlation and regression	
IV.D.1	**1. Correlation** Describe how correlation is used to identify relationships between variables. (Understand)	
IV.D.2	**2. Regression** Describe how regression analysis is used to predict outcomes. (Understand)	
IV.E	**G. Hypothesis testing** Define and distinguish between hypothesis terms (i.e., null and alternative, type I and type II error, p-value and power). (Understand)	
	V. Improve and Control Phases [14 Questions]	Number of questions changed from 12 to 14
	A. Improvement techniques	

2015 BoK	2022 BoK Details	Notes
V.A.1	**1. Kaizen and kaizen blitz** Define and distinguish between these two methods and describe how they can be used to make improvements to any process in an organization. (Understand)	
V.A.2	**2. Plan-do-check-act (PDCA) cycle** Define and distinguish between the steps in this process improvement tool. (Understand)	
V.A.3	**3. Cost-benefit analysis** Explain the importance of this analysis and how it is used in the improve phase. (Understand)	
	B. Control tools and documentation	
V.B.1	**1. Control plan** Describe the importance of a control plan for maintaining improvements. (Understand)	
V.B.2	**2. Control charts** Describe how $\overline{X} - R$ charts are used for monitoring and sustaining improved processes. (Understand)	
V.B.3	**3. Document control** Describe the importance of documenting changes to a process and communicating those changes to stakeholders. (Understand)	
NEW	**4. Work instructions and standard operating procedures (SOPs)** Understand the purpose and use of work instructions and SOPs. (Understand)	

Table 3. 2015 CSSYB BoK mapped to the 2022 CSSYB BoK

2015 BoK		2022 BoK		Notes
Code	**Label**	**Code**	**Label**	
I.A	Six sigma foundations and principles	**I.A**	Six sigma foundations and principles	
I.B	Lean foundations and principles	**I.B**	Lean foundations and principles	
I.C	Six sigma roles and responsibilities	**I.C**	Six sigma roles and responsibilities	
I.D.1	Types of teams	**I.D.1**	Types of teams	
I.D.2	Stages of development	**I.D.2**	Stages of development	
I.D.3	Decision-making tools	**I.D.3**	Decision-making tools	Removed "and describe how these tools are used by teams" and added "and apply decision-making tools such as" to align with the cognitive level Increased cognitive level to Apply
I.D.4	Communication methods	**I.D.4**	Communication methods	Increased cognitive level to Apply
I.E.1	Team purpose	**I.E.1**	Team purpose	
I.E.2	Types of teams	**I.E.2**	Types of teams	
II.A.1	Voice of the customer	**II.A.1**	Voice of the customer	
II.A.2	Project selection	**II.A.2**	Project selection	
II.A.3	Stakeholder analysis	**II.A.3**	Stakeholder analysis	
II.A.4	Process inputs and outputs	**II.A.4**	Process inputs and outputs	
		II.A.5	Supply chain management	New
II.B.1	Project charter	**II.B.1**	Project charter	
II.B.2	Communication plan	**II.B.2**	Communication plan	
II.B.3	Project planning	**II.B.3**	Project planning	
II.B.4	Project management tools	**II.B.4**	Project management tools	

2015 BoK		2022 BoK		Notes
Code	**Label**	**Code**	**Label**	
II.B.5	Phase reviews	**II.B.5**	Phase reviews	
III.A	Basic statistics	**III.A**	Basic statistics	Added “understand” to subtext for clarification
III.B.1	Data collection plans	**III.B.1**	Data collection plans	
III.B.2	Qualitative and quantitative data	**III.B.2**	Qualitative and quantitative data	
III.B.3	Data collection techniques	**III.B.3**	Data collection techniques	
III.C.1	MSA terms	**III.C.1**	MSA terms	
III.C.2	Gauge repeatability & reproducibility (GR&R)	**III.C.2**	Gauge repeatability & reproducibility (GR&R)	Added “and distinguish between repeatability and reproducibility and describe” for clarification
IV.A.1	Lean tools	**IV.A.1**	Lean tools	
IV.A.2	Failure mode and effect analysis (FMEA)	**IV.A.2**	Failure mode and effect analysis (FMEA)	Replaced “Define” and “Describe” with “Relate” and “Demonstrate” to align with cognitive level Increased cognitive level to Apply
IV.B	Root cause analysis	**IV.B**	Root cause analysis	Added “8D”
		IV.C	Corrective action	New
		IV.D	Preventive action	New
IV.C.1	Basic distribution types	**IV.E.1**	Basic distribution types	
IV.C.2	Common and special cause variation	**IV.E.2**	Common and special cause variation	
IV.D.1	Correlation	**IV.F.1**	Correlation	
IV.D.2	Regression	**IV.F.2**	Regression	
IV.E	Hypothesis testing	**IV.G**	Hypothesis testing	
V.A.1	Kaizen and kaizen blitz	**V.A.1**	Kaizen and kaizen blitz	

2015 BoK		2022 BoK		Notes
Code	**Label**	**Code**	**Label**	
V.A.2	Plan-do-check-act (PDCA) cycle	**V.A.2**	Plan-do-check-act (PDCA) cycle	
V.A.3	Cost-benefit analysis	**V.A.3**	Cost-benefit analysis	
V.B.1	Control plan	**V.B.1**	Control plan	
V.B.2	Control charts	**V.B.2**	Control charts	
V.B.3	Document control	**V.B.3**	Document control	
		V.B.4	Work instructions and standard operating procedures (SOPs)	New