

**CERTLABZ****CERTIFICATION BOARD****CPPP-001**

Certified C++ Programmer (CPPP)

Exam Objectives CPPP-001

About the exam

Item	Detail
Level	Intermediate
Number of questions	80. A performance-based exam: each form can carry up to 5 to 12 performance-based questions alongside the multiple-choice questions.
Delivery model	Computer adaptive in 3 stages of 28, 26, 26 questions. Your score on each stage selects the difficulty of the next, so no two candidates sit the same paper.
Time limit	120 minutes
Scoring	You need a score of 700 out of 900 to pass. Results are reported on a scale of 100 to 900, and 700 corresponds to answering 72% of the exam correctly. Harder questions carry more weight, so a score means the same thing on any route. Multiple-response items and PBQs are scored all or nothing.
Delivery	Online, fully proctored (webcam, microphone and screen).
Prerequisites	No formal prerequisite. Candidates do best with some hands-on C++ or programming experience and 30 to 50 hours of study.
Retakes	No waiting period after a failed first attempt. Candidates pay the exam price each time they attempt the exam. See the CertLabz Certification Retake Policy at certlabz.com/certification-retake-policy.html
Validity	3 years. Renew with 50 CEUs per cycle and the \$35 annual continuing-education fee, or by passing the current exam.
Language	English
Exam voucher	\$149 for one sitting, valid 12 months. Bundles add the study guide ebook and the All Access plan.

Domain weights

Domain	Questions
D1 C++ Fundamentals and Syntax (16%)	13
D2 Data Types and References (16%)	13
D3 Control Flow and Functions (17%)	14

D4 Classes, Objects and Templates (17%)

	14
D5 Memory Management and the STL (17%)	13
D6 Error Handling, Testing and Best Practices (17%)	13
Total (100%)	80

Objectives by domain

Each objective may appear as knowledge, a scenario to judge, a circuit to trace or assemble, or a number to compute. Each form can carry up to 5 to 12 performance-based questions: drag-and-drop matching, sequencing and table completion, drawn fresh each attempt. The exam does not test any vendor's SDK syntax.

D1 C++ Fundamentals and Syntax

16% 13 questions

- D1.1 Compilation
- D1.2 Variables and types
- D1.3 Operators
- D1.4 Namespaces
- D1.5 Headers
- D1.6 Key terms

D2 Data Types and References

16% 13 questions

- D2.1 Fundamental types
- D2.2 References
- D2.3 const correctness
- D2.4 The auto keyword
- D2.5 Enums
- D2.6 Type casts

D3 Control Flow and Functions

17% 14 questions

- D3.1 Conditionals
- D3.2 Loops
- D3.3 Functions
- D3.4 Overloading
- D3.5 Default arguments
- D3.6 Lambdas

D4 Classes, Objects and Templates

17% 14 questions

- D4.1 Classes
- D4.2 Constructors
- D4.3 Inheritance
- D4.4 Polymorphism
- D4.5 Templates
- D4.6 Operator overloading

D5 Memory Management and the STL

17% 13 questions

- D5.1 new and delete
- D5.2 Smart pointers
- D5.3 RAII
- D5.4 Containers
- D5.5 Iterators
- D5.6 Algorithms

D6 Error Handling, Testing and Best Practices

17% 13 questions

- D6.1 Exceptions
- D6.2 Error codes
- D6.3 Unit testing
- D6.4 Move semantics
- D6.5 const and constexpr
- D6.6 Code style

Continuing education

Renewal	Requirement
Validity	3 years from the date of issue
CEUs required per cycle	50
Annual CE fee	\$35
Alternative to CEUs	Pass the current version of the exam before the expiry date

Qualifying activities

Activity	CEUs
CertLabz labs, PBQs, courses and SkillTracker assessments	1 CEU per hour, up to 25 per cycle
Other industry certifications earned or renewed	10 to 25 each, depending on level
Conferences, webinars and training	1 CEU per hour, up to 20 per cycle
Software development or programming work experience	3 per year, up to 9 per cycle
Teaching, mentoring, publishing or community contributions	Up to 15 per cycle
College courses in computing or software	10 per completed course

CertLabz Certification Retake Policy

- **No waiting period after a failed first attempt:** If you fail your first attempt at any CertLabz certification examination, CertLabz does not require any waiting period between the first and second attempt.
- **Once you pass, you cannot resit the same exam code:** A candidate who has passed an exam and achieved a certification cannot take that exam again under the same exam code without prior consent from CertLabz. You will need to wait until a new series of the exam is published before attempting to recertify by examination.
- **Beta examinations, one attempt only:** A CertLabz beta examination may be taken one time by each candidate.
- **Violations invalidate the attempt:** A test found to be in violation of this policy will be invalidated, and the candidate may be subject to a suspension period. Repeat violators will be permanently banned from the CertLabz Certification Program.
- **Every attempt is paid for:** Candidates must pay the exam price each time they attempt the exam. CertLabz does not offer free retests or discounts on retakes.

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