

PURPOSE OF THE CTEP CREDENTIAL

- To recognize individuals who demonstrate:
 - **KNOWLEDGE, SKILLS, AND ABILITIES** to meet the minimum level of competency identified by T&E subject-matter experts (SMEs).
 - **COMMITMENT** to maintain currency in the field.
 - **DEDICATION** to advancing the profession.
- To develop and promote common standards, principles, procedures, processes, and terms for the T&E profession.
- To support professional development and education to enhance the KSAs of T&E professionals

CTEP Professional Skills

BASIC SCIENCE SKILLS

- Biology
- Chemistry
- Environmental
- Physics

BASIC MATH SKILLS

- Addition
- Algebra
- Division
- Geometry
- Multiplication
- Probability
- Statistics
- Subtraction
- Trigonometry

IT SKILLS

- Business software (e.g. word processing, spreadsheet, project management, presentation, graphics)
- Maintaining data integrity and security

ENGINEERING SKILLS

- Engineering processes and procedures
- Basic design principals of both digital and analog circuitry
- Configuration management
- Data analysis
- Functional analysis
- Modeling and simulation
- Measurement techniques and concepts
- Requirements validation and verification

PROJECT MANAGEMENT SKILLS

- Accounting
- Benchmark allocation
- Budgeting
- Contracts and contracting
- Deliverables
- Estimating
- Personnel/team management
- Project documentation
- Resourcing (materials, equipment, personnel)
- Scheduling
- Work break-down structure

Professional Certification Versus "Certificate" Programs

A "professional certification credential" is quite different from the "certificate" programs that are currently available to test professionals. "Certificate" programs award a certificate of completion or achievement to individuals after they successfully complete a course of study or meet some minimum requirements. In contrast, a professional certification credential:

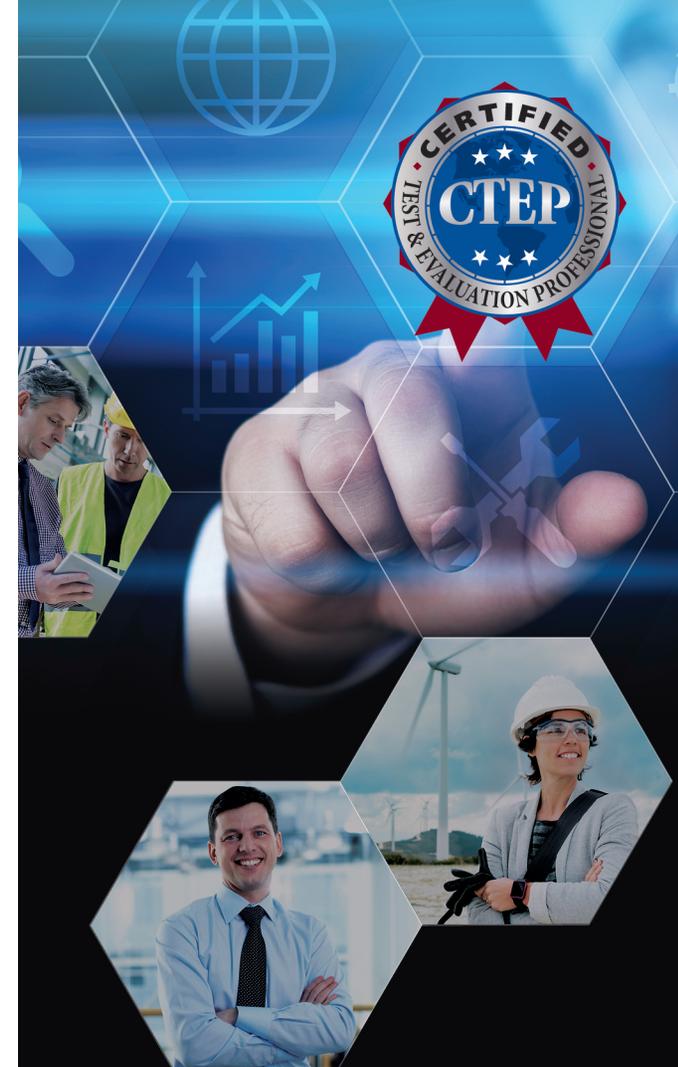
- Requires periodic submission for re-certification to demonstrate continued currency in the profession, full time employment, and continuing education.
- Awarded based on the candidate's passing a competency exam, written and/or observational, and not related to courses completed.
- Bestows upon an individual the right to use the credential's designation in conjunction with their name (e.g., CSE, CPA, or CPM) after an assessment and verification that they have met predetermined and standardized criteria.
- Confers occupational identity and provides a method for maintaining quality standards of knowledge and performance, and stimulates continued self-improvement.
- Provides differentiation among test professionals, using standards developed through a consensus-driven process and based on existing legal and psychometric requirements.
- Requires adherence to a Professional Code of Ethics.

ITEA administers, manages, and awards the Certified Test and Evaluation Professional (CTEP) credential, which provides significant benefits to T&E professionals, organizations, and their customers. More than 500 T&E SMEs have been involved in the development of this credential. These SMEs—T&E executives, managers, supervisors, individual contributors, and technicians come from a diverse cross-section of the T&E profession, representing industry, government, academia, laboratories, ranges, weapon systems, information technology, transportation, electronic communications, consumer electronics, and more.



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Professional*

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Specifications (Examination Blueprint) For The Certified Test and Evaluation Professional (CTEP) Examination

I REQUIREMENTS DEFINITION AND ANALYSIS is the critical baseline for T&E professionals when a system, product, or capability requires testing. It is a process that increases the quality and reliability of the final system/product while minimizing costly rework resulting from requirements errors found in engineering development, and during test and evaluation. Requirements must be formally documented, measurable, testable and with both forward and backwards traceability. When these criteria are met, the tester can validate if the designed system or product meets and/or delivers the solution, services, and action expected.

II DATA COLLECTION AND ANALYSIS - A T&E Professional must be able to select appropriate Test Data Collection and Analysis Methodologies based upon the requirements of the system under test, and to ensure that the chosen methods can be executed within a given program's scope of budget and schedule and within acceptable risk and resource constraint; understand and effectively leverage the advantages, limitations, and current "state of the practice" of available methodologies; and, understand the implications of these emerging methods and effectively implement them in test data analysis plans.

III TEST TOOLS AND METHODOLOGIES - A T&E Professional must be able to select the appropriate Test Tools and Methodology to provide the requisite data within the needed environments, under acceptable risk, and within resource constraints. They should understand the advantages, limitations, and "state of the practice" for a wide range of testing venues including, but not limited to: Simulation environments, laboratory, hardware/software-in-the-loop, proto-type and full-scale testing. The T&E Professional should understand the implications of emerging technologies and safety considerations on Test Tool and Methodology selection.

IV TEST TYPES - The T&E Professional understands that the primary purpose of testing is to mitigate and categorize risks associated with the System Under Test (SUT) and understands the differences between the various risks that may be associated with the SUT. While the same Test Type may be utilized in testing the engine in a ground vehicle or in an aircraft, the instrumentation, length of test, data reduction, post-test examinations of the engine, etc. may differ

greatly. The level of the requirement e.g., a desired or required capability or a performance or Regulatory requirement, may vary from SUT to SUT although the item descriptions may be similar. The T&E Professional understands the various test types, understands the various – levels that may be associated with testing each parameter, and understands the impacts on the overall test.

V PLANNING - The best test planning starts early in the Program Development Planning phase. A T&E Professional with a good understanding of the various types and methodologies of testing is a productive influence on the overall program design. Early involvement in the Program Development and test planning processes enables the T&E Professional to understand the details of the product's operation and effectively accomplish the desired objectives.

VI TEST EXECUTION - Test Execution begins with a readiness review of the test article and of the facilities, instrumentation, data recording devices, test procedures, and personnel to conduct the test. The roles and responsibilities of the test is to conduct the test, strictly adhere to compliance with the test plan or procedure and ensure documentation and repeatable tests. The T&E professional should be able to develop and implement contingency plans detailing pause-test or stop-test points when anomalies occur.

VII REPORTING - The purpose of Test and Evaluation is to provide decision-quality information. The T&E Professional has an ethical responsibility to turn "data" into useable information and present the results in an unbiased manner following reporting guidelines and policies and to offer recommendations.

Therefore, an understanding of the relationship of the test and the types of reports needed to communicate the decisions/results is required along with the knowledge of various presentation media e.g., written, oral, photographic, multi-media and techniques such as graphical, tabular, pictorial, etc. to effectively communicate the test results to the decision makers.

CTEP Application Fee\$50 ITEA Member (\$150 Non-Member)

CTEP Examination Fee\$250 ITEA Member (\$400 Non-Member)

CTEP Examination Preparation

There is no specific exam preparation or professional development courses required to apply for the CTEP examination, and the exam is not based on any single reference. Candidates need to be familiar with the topics listed on the CTEP Table of Specifications (aka Exam "Blueprint") and their application.

The CTEP Examination pertains to a common body of knowledge related to the practice of test and evaluation. A well-rounded period of professional practice is the best preparation for the exam. However, candidates are encouraged to supplement their education and experience by reviewing test and evaluation resources—particularly those focusing on areas in which they may be less skilled or experienced.

CTEP Examination

The CTEP examination was developed by SMEs under the guidance of psychometricians (experts in measurement and test development) and measures the knowledge, skills, and abilities required to perform competently as a test and evaluation professional. ITEA follows best practices in all of its test development activities to ensure those who pass the exam meet requirements to safely and competently perform test and evaluation tasks. The examination consists of 200 questions with a four hour timeframe for completion. Only correct answers are counted. The exam's 200 questions include twenty questions that are potential test questions and included for analysis purposes. This is standard practice in the field of testing and does not have any effect on the outcome of the exam. The passing score for the exam is 70% (126 correct out of 180 scored items). About 66% of the candidates taking the exam pass.

CTEP Recertification Requirements

ITEA requires recertification every three years to ensure that certificants maintain currency in new technology and changes in compliance requirements. Recertification requires that the certificant demonstrate:

- Continued full-time employment in T&E; and,
- Relevant and sufficient continuing professional development/education to maintain currency in T&E.