Certified Test and Evaluation Professional (CTEP)

Candidate Handbook
INTRODUCTION

Welcome! Thank you for your interest in the Certified Test and Evaluation Professional® (CTEP®) credential offered by the International Test and Evaluation Association (ITEA). ITEA offers two levels of certification, one for early career T&E Professionals and one for more experienced T&E Professionals. ITEA has developed this comprehensive Candidate Handbook to describe all aspects for both levels of the certification process and assist candidates in preparing for the examination. This Handbook contains an overview of eligibility criteria, information on registering for the exam and exam content, guidelines for taking the exam, relevant policies and requirements, a sample application, and some additional forms.

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Attachments found at Link – see email:
1. Examination Application
2. Examination Blueprint
3. Code of Ethics

Direct all inquiries to:

ITEA
11350 Random Hills Rd, Suite 800
Fairfax, VA 22030
Phone: 703-631-6220
Email: info@itea.org
Website: itea.org
I. PURPOSE OF ITEA

1. To provide an organization for individuals who have a common interest in the discipline of test and evaluation and who wish to foster, preserve, and advance the art and science of test and evaluation.
2. To provide for the exchange of ideas and information in the field of test and evaluation.
3. To conduct professional meetings, including symposia, seminars, workshops, and courses on the technology and management involved in the field of test and evaluation.
4. To promote education in the field of test and evaluation by conducting symposia, seminars, workshops and courses in the theory and practice of test and evaluation.
5. To support and promote the development and advancement of the state of the art in test and evaluation in allied branches of science, technology, and management.
6. To encourage similar objectives in related organizations, including government, industry, academia, and professional societies.
7. To recognize advances in, and contributions to, testing and evaluation.
8. To document the history of test and evaluation.
9. To fittingly commemorate the achievements of persons who have made substantial contributions to the field of test and evaluation.
10. To sponsor publications concerning test and evaluation.

II. ABOUT THE CERTIFIED TEST AND EVALUATION PROFESSIONAL (CTEP) CREDENTIALS

The CTEP Foundational and Practitioner credentials are designed to:

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

Please note that 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:

- Is a time-limited recognition requiring periodic submission for re-certification to demonstrate continued currency in the profession, including demonstration of full-time employment in the field and continuing education.
- Is awarded based on the candidate’s passing a competency exam, which could be written and/or observational, and is not be related to the completion of any specific course or curriculum of courses.
- 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 stimulating 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.
III. CTEP APPLICATION AND EXAM PROCESS SUMMARY

The following is a summary of the important steps in the application and examination process. The application and examination process for the foundational and practitioner exam are identical. The scope of and the eligibility requirements for taking each exam are different. Each step in the process is presented in more detail later in this Handbook.

1) Applicants may apply to take a CTEP examination by using the application available in this Candidate Handbook, or by using the link on the ITEA website at www.ITEA.org > Professional Certification. This Candidate Handbook may be downloaded free of charge from the ITEA website.

2) Applicants must meet the appropriate eligibility requirements for either Foundational or Practitioner CTEP certification (see Section IV, Requirements and Exam Information, A. Eligibility Process, below for further details on eligibility for the CTEP exam.

3) Applications must be submitted directly to ITEA—electronically or by mail. Applications and the Certification Process Consent Statement must be completed in full, signed, and accompanied by the application fee.

4) The application fee must be paid at the time the application is filed.

5) Reference Evaluation Forms should be sent directly from your references and may follow submission of the application.

6) If a degree is required to prove eligibility, official transcripts are required. Photocopies will be accepted.

7) There is no deadline for submitting applications—when applications are received, they will be reviewed as expeditiously as possible.

8) Individuals will be notified by ITEA if information is insufficient or incomplete on the application or in any of the supporting documents. The application will be reviewed again when the incomplete or missing documentation is received.

9) Applications will remain active for 12 months. After 12 months, if the application status is incomplete, or if the applicant has not yet taken the certification examination, the application will expire and the candidate will be required to reapply, meet the current eligibility criteria, and pay the associated fees.

10) Once an application has been approved by ITEA, the candidate will receive written notification with instructions on how to register for the exam.

11) When approved, candidates are authorized to sit for the examination.

12) Candidates who require special accommodations must make a specific written request for the type of accommodation needed. The reason for the accommodation must be recognized under the Americans with Disabilities Act (ADA). (See Section IV.E. below.)

13) Candidates who pass the examination do not automatically become certified. You will be required to sign and return the CTEP Code of Ethics as a condition of certification.

14) A certificate with a unique certification number will be issued by ITEA when you have met all certification requirements.

15) Candidates who fail the exam may retake the exam one time. A six month waiting period is required between retakes. After a second failure, the applicant will be required to reapply, pay the associated fees, and meet the current eligibility criteria for each retake. (See Section IV.P. below.)

16) Candidates may schedule an exam at the time best suited for them. Keeping in mind it is timed and will have no more than 4 hours to complete.

17) Candidates will be notified in writing of their pass/fail status within three weeks of taking the exam. Results are not provided over the phone.

18) Name and contact changes must be submitted to the ITEA Executive Office. Failure to update your contact information may result in delays in receiving eligibility notices or examination results. Name changes must be accompanied by documentation such as court records.
IV. REQUIREMENTS AND EXAM INFORMATION

A. Eligibility Requirements

Eligibility for the Foundational CTEP certification requires the following:
- Baccalaureate degree from a college or university and one year of relevant T & E work experience
  OR an Associate degree and minimum of three (3) years of relevant work experience, OR a
  minimum of eight (5) years of relevant work experience.

Eligibility for the Practitioner CTEP requires the following:
- Baccalaureate degree and three years of relevant T&E experience or
- Associate degree and (5) years of relevant T&E experience or
- Ten years of relevant T&E experience.

If your application is approved for eligibility, you will receive an eligibility approval email. This message will
include instructions for scheduling your exam.

If eligibility is denied, you will be notified in writing of the decision. The reasons for the denial and corrective
actions you may take will be indicated.

B. Statement of Non-Discrimination

ITEA does not discriminate among applicants, candidates Qualified CTEPs based on age, sex, orientation, race,
religion, national origin, or marital status.

C. The CTEP Certification Examination

The CTEP Exam is divided into four T&E Domains. A T&E Domain is a high-level knowledge area essential to the
practice of test and evaluation. The CTEP Exam is weighted across the four T&E Domains as depicted in Table 1
below. CTEP candidates must demonstrate knowledge and or mastery of T&E Program Execution and Technical
Management skills in four T&E Domains as depicted in Table 2 on the next page.

<table>
<thead>
<tr>
<th>Domain</th>
<th>Name</th>
<th>Exam Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domain I</td>
<td>Test and Evaluation Planning</td>
<td>30%</td>
</tr>
<tr>
<td>Domain II</td>
<td>Test and Evaluation Design</td>
<td>30%</td>
</tr>
<tr>
<td>Domain III</td>
<td>Test and Evaluation Execution</td>
<td>20%</td>
</tr>
<tr>
<td>Domain IV</td>
<td>Test Data Analysis, Evaluation and Reporting</td>
<td>20%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>
The CTEP examination was developed by subject-matter experts under the guidance of psychometricians (experts in measurement and test development) and is designed to measure the knowledge, skills, and abilities required to perform competently as a test and evaluation professional. The passing point—the score you need to achieve to pass—was also determined utilizing valid psychometric procedures. ITEA follows best practices in all its test development activities and has a high degree of confidence that it is testing at a level required to safely and competently perform test and evaluation tasks, and that only those who meet the competency requirements will pass the examination. The Executive Summary of the most recent exam development study (called a Job Task Analysis Study) can be found on the website at [www.ITEA.org](http://www.ITEA.org).

The CTEP Exam includes questions that evaluate a candidate’s:

- **Knowledge** – evaluate a candidate’s ability to remember and understand concepts relating to a particular T&E domain, task or skill. These questions evaluate the candidate’s ability to bring an awareness of the concept to the learners’ minds. They check the candidate’s ability to interpret or recall information in a particular way.

- **Mastery** - evaluate a candidate’s ability to apply and analyze concepts relating to a particular domain, task or skill. These questions evaluate the candidate’s ability to apply learned material in new and concrete situations and evaluate based on an understanding of the underlying structure of knowledge to be able to distinguish between fact and opinion.

<table>
<thead>
<tr>
<th>Program Execution</th>
<th>Technical Management</th>
</tr>
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<tbody>
<tr>
<td>Test Readiness</td>
<td>Requirements Definition and Analysis</td>
</tr>
<tr>
<td>Test Control Management</td>
<td>Conventional T&amp;E Planning</td>
</tr>
<tr>
<td>Data Management</td>
<td>T&amp;E in Support of Agile</td>
</tr>
<tr>
<td>Data Verification and Validation</td>
<td>Coordination of T&amp;E Activities and Events and Test Infrastructure</td>
</tr>
<tr>
<td>Determination of Test Adequacy</td>
<td>T&amp;E Risk Identification and Management</td>
</tr>
<tr>
<td>Validation of Test Results</td>
<td>Scientific Test and Analysis Techniques</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Software Development and Testing</td>
</tr>
<tr>
<td>Reporting, Capabilities, Limitations and Conclusions</td>
<td>T&amp;E Process Improvement</td>
</tr>
<tr>
<td>Participation in Technical Reviews</td>
<td>Reliability and Failure Definition and Scoring Criteria</td>
</tr>
<tr>
<td>Key T&amp;E Documentation T&amp;E Master Plan (TEMP)</td>
<td>Cyber Resilience and Cybersecurity</td>
</tr>
<tr>
<td>T&amp;E Cost Management</td>
<td>T&amp;E Cost Estimating</td>
</tr>
<tr>
<td>Test Safety/Certification</td>
<td>Modeling and Simulation/Verification, Validation and Accreditation</td>
</tr>
<tr>
<td>Systems/Digital Engineering and Test &amp; Evaluation Interrelationships and Interdependencies</td>
<td>Big Data and Predictive Analytics</td>
</tr>
<tr>
<td></td>
<td>Machine Learning, Artificial Intelligence and Autonomy</td>
</tr>
</tbody>
</table>
The CTEP Foundational Exam evaluates a candidate’s knowledge of a selected set of T&E skills. The CTEP Practitioner Exam evaluates a candidate’s knowledge and mastery of a broader set of T&E Skills. The CTEP Examination Blueprint provides a detailed breakout of the skills and tasks to be evaluated by T&E Domain and CTEP Certification Level.

The examination consists of 120 questions and you have four (4) hours to take the exam. Only correct answers are counted. The exam’s questions include twenty (20) 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% (70 correct out of 120 scored items). About 66% of the candidates taking the exam pass on the first attempt.

To become familiar with the content areas on the CTEP examination, candidates should refer to the examination blueprint which is included in this Handbook as Attachment 3 and will be on the website at www.ITEA.org. Candidates are encouraged to review the examination blueprint to assess their level of knowledge in each of the content areas, and to identify the areas in which they believe they need additional preparation.

D. Special Accommodations

ITEA complies with the Americans with Disabilities Act (ADA), and is interested in ensuring that no eligible individual is deprived of the opportunity to take the exam solely by reason of a disability as defined under the ADA (or equivalent), as long as the disability is not one which would render the individual incapable of performing the duties of a certified position. Applicants needing special accommodations must make a request in writing at the time of application.

Requests must include documentation of a formally diagnosed ADA-recognized disability from a qualified professional who has provided evaluation or treatment to the applicant.

E. Fees

Each application must be accompanied by a non-refundable application fee. The examination fee is due at the time you register for the exam.

Occasionally applicants or their employers pre-pay the examination fee. In that case, when you are found eligible, you should contact the ITEA Examinations Coordinator to register for your examination. If you are found ineligible to sit for the examination, any examination fees that may have been pre-paid will be refunded. Fees must be paid in U.S. dollars.

<table>
<thead>
<tr>
<th>Certification Process:</th>
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<tbody>
<tr>
<td>CTEP Application Fee</td>
<td>$50 ITEA Member ($150 Non-Member)</td>
</tr>
<tr>
<td>CTEP Examination Fee</td>
<td>$250 ITEA Member ($400 Non-Member)</td>
</tr>
</tbody>
</table>

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<tr>
<th>Post Certification:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Recertification Fee with documentation</td>
<td>$150 ITEA Member ($250 Non-Member)</td>
</tr>
<tr>
<td>Recertification Fee by retaking CTEP exam</td>
<td>$250 ITEA Member ($400 Non-Member)</td>
</tr>
</tbody>
</table>

Note: Fees are subject to change. Please check ITEA website for updates

F. On the Day of the Exam

Read all directions thoroughly. Questions concerning the content of the exam will not be answered during the exam. The CTEP examination is closed book and is on the honor system.
G. Exam Security

ITEA firmly believes that each candidate deserves a fair and equal opportunity to demonstrate his or her knowledge in the examination process. Therefore, the examination security measures are intended to prevent unfair advantage of one candidate over another. All exam materials are the property of ITEA. Copyrights for the ITEA exam are owned by ITEA.

H. Challenging the Exam

ITEA shall provide candidates with an opportunity to provide feedback on its examination content and procedures regarding:

- the technical accuracy of the examination
- fairness in the administration of the examination

A candidate who has a concern about administrative procedures or who has observed a breach of security or other improper conduct during a test should submit a report in writing to the ITEA Executive Office within 5 calendar days after taking the examination. Candidates may also report such concerns by completing the electronic comment form which is available at the end of the examination.

A candidate who has a question or a concern about the reliability, validity, and/or fairness of the test may submit the question or concern in writing to the ITEA Executive Office no later than 5 calendar days after taking the examination. Candidates may also report such concerns by entering comments in the space provided after each item on the test, or by completing the electronic comment form which is available at the end of the examination.

ITEA will not consider reports about improper test administration procedures or test content which are not submitted within the 5-day deadline.

I. Scoring Process

The CTEP examination is criterion-referenced. This means that candidates are scored against a fixed standard (the passing score). The final passing score for the CTEP examination has been established by a panel of subject-matter experts who determine the minimally acceptable level of competence for awarding the CTEP certification utilizing acceptable psychometric procedures.

The passing score is applied consistently to all test takers. Candidates are not competing against one another, and grades are not curved. You must achieve the passing score to pass the examination. There are no exceptions.

J. Score Reports

Candidates are notified of their examination results (pass/fail) in writing within 3 weeks of taking the exam. Successful candidates are notified that they have passed and are provided with instructions for completing the certification process. Candidates who fail will receive a diagnostic report of their overall performance on each content area of the exam. This information is provided so that candidates can see their areas of strength and weakness, and better prepare to retake the exam.

K. Cancellation of Scores

ITEA reserves the right to cancel any examination score if, in ITEA’s professional judgment, there is any reason to question the score’s validity. Conduct which warrants score cancellation may include, but is not limited to: consulting study aids of any type during a testing session; copying from notes or from another examinee’s answers during a testing session; unauthorized communication with others during a testing session; copying, photographing, transcribing, or otherwise reproducing or transmitting exam materials; removing exam materials from the testing site; aiding other examinees or receiving aid from anyone else; or having improper
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access to ITEA examination content prior to the examination administration. Engaging in such misconduct may disqualify the individual from future ITEA tests and possibly from ever being certified by ITEA. Significant score increases upon retesting may also be investigated to ensure the authenticity of results.

L. Appealing Exam Results

Candidates who fail the exam may appeal their results in writing within 30 days of receipt of the score report. ITEA will review the response record and the determination will be communicated to the candidate within 30 days. The determination of ITEA shall be final.

M. Training and Exam Prep Materials

ITEA offers and endorses training programs and preparatory courses. ITEA will engage with and provide opportunities for Subject Matter Experts to provide CTEP training. As a courtesy to individuals interested in taking a certification examination, ITEA may publish on its website a list of courses for examination preparation of which it is aware. ITEA may endorse specific persons, products, resources, and services as a means of preparing for or achieving certification. ITEA will collaborate with Industry, Academia and Government Organizations to allow them to identify their offerings as consistent with the CTEP Body of Knowledge and use the ITEA CTEP Logo. Candidates are encouraged to plan their own course of study by reviewing the examination blueprint, identifying their areas of weakness, and securing the necessary resources to adequately prepare for the examination. ITEA may publish or offer for sale books on test and evaluation. Candidates are not required to purchase or use any specific book in order to qualify for or take the certification examination.

N. Confidentiality and Release of Information

ITEA will not release any information regarding any individual’s application or examination performance to any employer, regulatory agency or any other person or entity that may inquire about such information unless it has obtained written permission from the candidate or certificated in question.

ITEA shall maintain and publish an electronic directory of all Qualified CTEPs, and is obligated to release, upon request, the names and certification status of individuals who have successfully completed the certification process.

O. Recertification

The CTEP certification is awarded for a period of three (3) years, and the expiration date is entered on each numbered certificate. Qualified CTEPs are required to recertify prior to the expiration of their certificates. Qualified CTEPs must comply with the current recertification requirements. ITEA will send reminder notices during the final year of certification.

Qualified CTEPs are encouraged to become familiar with the recertification requirements, which are a combination of work experience and professional development activities which contribute to continued competence. For further information on recertification, please visit the ITEA website at www.ITEA.org, at which you may view and/or download the CTEP Recertification Handbook.

P. Trademarks and Copyrights

“Certified Test and Evaluation Professional” and “CTEP” are registered trademarks of ITEA. Individuals who earn the CTEP credential may use these designations as long as the certification has not expired, been suspended, revoked or voluntarily relinquished, or converted to “CTEP (Ret.)” or “Inactive” status. Examination materials and publications are copyrighted and protected under U.S. law. Industry, Academia and Government Organization may use the term CTEP with the approval of ITEA.
Q. Duplicate Certificates

In order to receive a duplicate or replacement certificate, the individual must be current in all obligations and must pay a processing fee. Should you lose or destroy your certificate, please contact the ITEA Executive Office.

V. PREPARING FOR THE EXAMINATION

A. CTEP Examination Blueprint

As you prepare for the CTEP examination, you are strongly encouraged to review the examination specifications (blueprint) – attached and the recommended list of references. The blueprint contains the major content areas on the exam, and the percentage of the exam each content area represents. Use the blueprint to guide you in identifying any content areas you need extra time and resources to prepare for and ask yourself these questions.

• Which content areas represent the greatest number of test questions?
• How much time do I need to focus on these areas to prepare for the exam, versus other areas?
• How do my current knowledge and skills compare to the content areas of the exam? Am I strong in some, but weak on others?
• How much training or work have I done in the areas on the exam?

Your analysis of the content outline and your answers to the questions above will help you determine where you need to spend your study time.

B. Testing Tips

On the day of the exam:

• Get a good night’s rest the night before.
• Eat a well-balanced meal prior to taking the exam and avoid excessive stimulants such as caffeine.
• Read and follow the instructions carefully.
• Pace yourself by periodically checking your progress. This will allow you to make any adjustments in time. Remember, only the questions you answer correctly are scored. There are no penalties for answering a question incorrectly, so answer as many questions as you can. If you are unsure of a response, eliminate as many options as possible, and choose an option from those that remain.
• You may flag items you wish to return to, and you may go back to review any items at any time.

VI. CONSOLIDATED LIST OF CTEP EXAM REFERENCES

1. MIL-STD-3022 Documentation of Verification, Validation, And Accreditation (VV&A) For Models and Simulations
3. Basic Statistics: Tool for Continuous Improvement, Kiemele, Schmidt, Berdine
4. Understanding Industrial Designed Experiments, Schmidt, Launsby
7. Design and Analysis of Experiments, Montgomery, 9th Ed.
11. Lean Six Sigma Green Belt, www.airacad.com
17. P-value: https://corporatefinanceinstitute.com/resources/knowledge/other/p-value/
20. Defense Acquisition University (DAU) TST102 Fundamentals of Test and Evaluation Design and Analysis of Experiments. Dean, Voss, Draguljic
21. Statistical Methods & Data Analysis, Ott, Longnecker
23. Tolerance Intervals De-mystified, Using Statistical Intervals, STAT COE-Report-09-2020
26. A First Course in Probability, Shelton, Ross
29. Guide to Developing an Effective STAT Test Strategy
30. STAT COE Test Planning Guide V8.0
31. The Empirical Rule, Stat.psu.edu/stat200/lesson/2/2.2/2.2.7
33. DOD Guide For Achieving Reliability, Availability, And Maintainability (RAM GUIDE) (3 AUG 2005)
34. Statistical Methods for Reliability Data, Meeker, Escobar
35. Basic Statistics: Tools for Continuous Improvement textbook by Myers and Milton
37. Introduction to Probability Models, Ross
38. Understanding Requirements for Effective Test Planning, STAT COE Best Practice, 2018
39. Statistical Intervals, Hahn & Meeker
40. An Introduction to Statistical Learning by Gareth James, et al.
41. The Elements of Statistical Learning, Hastie, et al.
42. Agile Testing: A Practical Guide for Testers and Agile Teams, Addison-Wesley Signature Series (Cohn)) 1st Edition
43. More Agile Testing: Learning Journeys for the Whole Team (Addison-Wesley Signature Series (Cohn)) 1st Edition
44. Introduction to Software Testing, Ammann, Paul and Jeff Offutt
46. Systematic Software Testing, Craig, Jaskiel
47. Guide to Advanced Software Testing, 2nd Ed, Hass
49. Foundations of Software Testing, 2nd Ed. Mathur
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50. Project Management Body of Knowledge, Project Management Institute
51. Systems Engineering Guide, MITRE Corporation
52. Department of Defense Instruction 5000.89, “Test and Evaluation” Nov 19, 2020
53. Test and Evaluation of Complex Systems” (1996), Reynolds
54. Defense Acquisition Guidebook, Defense Acquisition University
56. Occupational Health and Safety Administration (OSHA.gov)
60. DAU Acquipedia, ACQuipedia (dau.edu)
61. Joint Interoperability Certification, What the Program Manager Should Know, Chris Watson, Feb 2010
63. Cybersecurity Test and Evaluation Guidebook 2.0, Change 1
64. NIST Special Publication 800-53 Revision 5 Security and Privacy Controls for Information Systems and Organizations