



TCP Laboratory Analyst Certification Update

02/14/2023



GOAL 1

Education and Certification

Be the leader in industry training and certification with a focus on quality, relevance, and accessibility.

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- a. **MAINTAIN** the certification program to reflect the latest advances in technology, regulations, and best practices.
 - b. **IDENTIFY** and implement a variety of approaches to training to increase accessibility.
 - c. **IDENTIFY** training needs and interests, and expand content to meet those needs.
 - d. **EXPAND** and diversify the pool of subject matter experts, speakers, and trainers.
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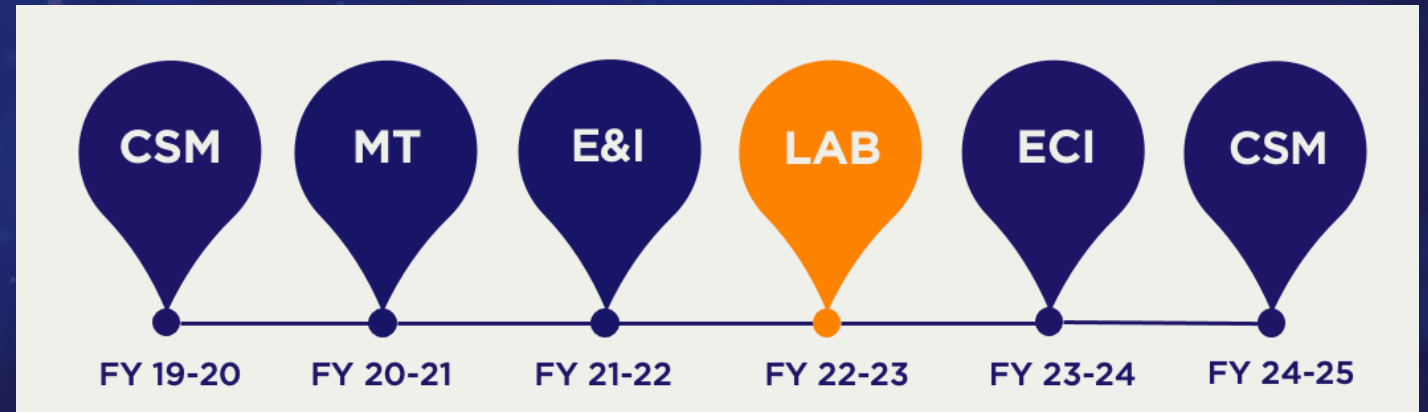
TACTIC 1:

Revalidate exams on a continuous, rotating schedule per best practice for certification programs

PERFORMANCE MEASURE

FY 22-23:

LAB Grades 1-4 are completely revalidated, new exams released July 2023.



TACTIC 2:

Conduct annual monitoring and maintenance of exam performance to establish operational validity.

PERFORMANCE MEASURE

FY 22-23:

Ensure monitoring reports for LAB and CSM are completed and reviewed by TCP Committee/SMEs.



Psy·cho·met·rics

The science of
measuring mental
capacities and
processes.

(aka Knowledge
Measurement)



Amanda Dainis, PHD, MPA
CEO and Lead
Psychometrician



Michael Maurice, MPA
COO and Project Manager

Exam Development Cycle



Lab Revalidation Progress

- **35** volunteers representing **32** different agencies
- Grade 1-4 content outlines and exam blueprints complete
- **26%** overall response rate to validation survey
- **800** NEW items written so far!



ELAP

- An employee of a drinking water or wastewater treatment facility, who holds a valid CWEA Laboratory Analyst certification or CA-NV/AWWA Water Quality Analyst certification, shall be deemed to meet the qualifications of Technical Manager *if the grade of certification has educational and experience requirements appropriate to the scope of analytical testing in the facility's laboratory.*

| CA-NV AWWA | CWEA | Required Training or Experience |
|------------|------|-----------------------------------|
| I | I | Microbiological Methods |
| | | Solids Methods |
| | | Biochemical Oxygen Demand (BOD) |
| | | Methods |
| | | Carbonaceous BOD Methods |
| | | |
| II | II | Titrimetric Methods |
| | | Methods using Specific Ion |
| | | Electrode Technologies |
| | | Colorimetric Methods |
| | | |
| III | III | Methods using Ion Chromatography |
| | | Methods using Flame Atomic |
| | | Absorption |
| | | Methods using Graphite Furnace |
| | | Atomic Absorption |
| | | |
| IV | IV | Methods using Gas or Liquid |
| | | Chromatography Technologies |
| | | Methods using Inductively Coupled |
| | | Plasma Technologies |

| Content Domain | Weighting | # Items |
|---|-----------|---------|
| Domain 1: Systems Construction, Operations, Maintenance | 29% | 29 |
| Domain 2: Collection Systems Tools and Equipment | 10% | 10 |
| Domain 3: Plans, Maps, and As-Builts | 16% | 16 |
| Domain 4: Safety and Regulations | 19% | 19 |
| Domain 5: Administration of Collection Systems | 22% | 22 |
| Domain 6: Math for Collection Systems | 4% | 4 |
| TOTAL | 100% | 100 |

Domain 4: Safety and Regulations

| Sub-Domain | Description | Number of KT Statements | % Weight within Sub-Domain | # of Items |
|------------|--|-------------------------|----------------------------|------------|
| 4.1 | Safety policies and procedures | 5 | ■ | ■ |
| 4.2 | Confined space entry | 5 | ■ | ■ |
| 4.3 | Underground Service Alert | 2 | ■ | ■ |
| 4.4 | Traffic control practices and requirements | 3 | ■ | ■ |
| 4.5 | Safety regulations | 3 | ■ | ■ |
| 4.6 | Environmental protection regulations | 4 | ■ | ■ |

*0-2 items per KT statement.

ELAP & CWEA

ELAP's Role

- ELAP sets the level of certification that is required at specific laboratories, based on the scope of analytical testing performed by the lab.

CWEA's Role

- CWEA sets the standard. Exam content is based upon a statewide Job Task Analysis – a study defines the job role and the level of knowledge, skills and abilities required to perform the job competently.

| Specifications | Grade 1 | Grade 2 | Grade 3 | Grade 4 |
|--|--|---|---|--|
| Brief description of the Grade Level in relation to the job family. | Entry and basic working level. | Skilled or journey level. | Lead/advanced technical level. | Program manager level. |
| Level of knowledge, skill and ability within the job family, in relation to job tasks, including the taxonomic level of knowledge applied on the job. | Basic knowledge and ability, as needed to safely and effectively perform basic tasks. This includes: recall and recognition, comprehension, and application. | Knowledge and ability to safely and effectively accomplish most technical tasks in the job family. This includes: comprehension, application, and analysis. | Knowledge, skill and ability to safely and effectively accomplish and coordinate complex tasks. This includes: application, analysis and synthesis. | Knowledge, skill and ability to administer, coordinate and manage complex programs across vocations. This includes: analysis, synthesis, and evaluation. |
| Level of supervision received. | Receives direct supervision. | Receives limited supervision. | Receives general direction. | May receive broad direction. |
| Level of supervision exercised. | None. | May provide technical direction over other staff. | Will oversee and direct complex tasks performed by others. | Will coordinate program activities within or across vocations. |
| Level of training provided to other personnel. | None. | May train lower-level personnel. | May oversee a training program. | Designs and administers training program within the job family. |
| Use of tools. | Will recognize the basic tools of the job family. | Will be able to apply most of the tools used by those in the job family. | Will select tools for individuals and teams in relation to specific problems. | Manages and evaluates systems and facilities. |
| Problem solving and troubleshooting responsibilities. | Follows directions. | Troubleshoots and solves common problems without supervision. | Troubleshoots and solves complex problems. | Evaluates program effectiveness and takes corrective actions as needed. |
| Actions in relation to safety problems. | Recognizes unsafe conditions. | Recognizes and corrects unsafe conditions. | Anticipates and prevents unsafe conditions. | Designs and administers safety programs. |
| Actions in relation to standard operating procedures (S.O.P.s), laws and regulations. | Has the ability to follow S.O.P.s. | May assist in formulating and revising SOPs. | May oversee and formulates new S.O.P.s and ensure regulatory compliance. | Assures program compliance with laws and regulations. |
| Actions in relation to documentation of work activities. | Accurately completes records of work processes. | Accurately completes records of work processes and performs peer review of records. | Conducts audits of records of work processes for completeness, accuracy, and compliance, and recommends or takes necessary corrective action. | Responsible for quality assurance of program documentation, including management review and internal audits. |

Minimum Qualifications

- Laboratory analyst experience in the wastewater or water treatment industry are both considered acceptable forms of experience.
- Related laboratory experience from Environmental Laboratories or TNI-accredited laboratories may count for up to 100% of experience. Related experience from non-Environmental laboratories may count for up to 50% of experience.

Grade 1

- No experience required (1 year of experience in the vocation is recommended)

Grade 2

- 2 years of experience in the vocation

Grade 3

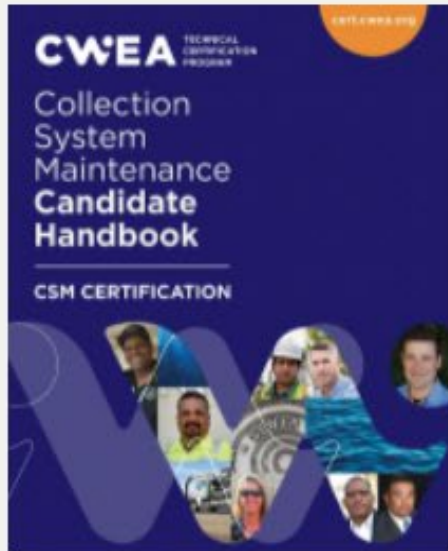
- LAB Grade 2 certification in good standing
- 4 years of experience in the vocation OR 3 years with any of the following:
 - bachelor's degree in a related field
 - associate degree in a related field

Grade 4

- LAB Grade 3 certification in good standing
- 6 years of experience in the vocation OR 5 years with any of the following:
 - bachelor's degree in a related field
 - associate degree in a related field
- 1 year of experience supervising others in a related field

CWEA Technical Certification Program

CANDIDATE HANDBOOKS



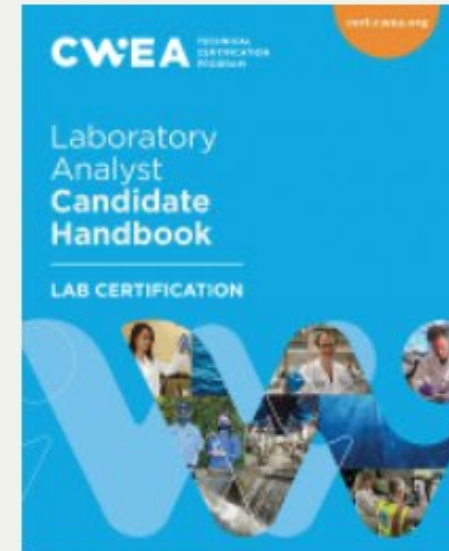
CSM Candidate Handbook



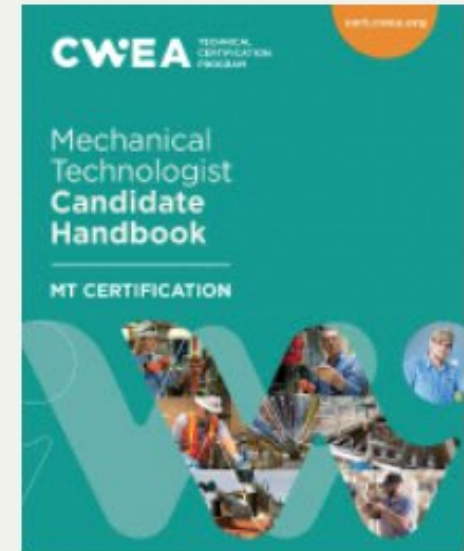
ECI Candidate Handbook



EIT Candidate Handbook



LAB Candidate Handbook



NEW! MT Candidate Handbook

Norah Duffy, CAE, ICE-CCP

Director of Certification

nduffy@cwea.org

510.382.7800 ext. 106



7677 Oakport Street Suite 1030 Oakland CA 94621
510.382.7800 | www.cwea.org