

# STATE OF MICHIGAN REQUIREMENTS FOR CERTIFICATION

## Under Act 399, P.A. 1976

and

## Administrative Rules

for

## Water Treatment & Distribution System Operators

### **R 325.11910. APPLICATION FOR EXAMINATION; NOTICE TO ACCEPTED APPLICANTS OF EXAMINATION.**

Rule 1910. (1) To be certified for the operation of a public water supply other than a class F-5, class D-5 or class S-5, an individual shall submit, to the department, not less than 45 days before the announced examination date, an application for examination on a form provided by the department. To be certified for the operation of a class F-5, class D-5, or class S-5 an individual shall submit, to the department, not less than 20 days before the examination date, an application for examination on a form provided by the department. The information contained on the application shall be evaluated by the department, shall be subject to review by the advisory board, and shall constitute a part of the examination. The department may require verification of the education and experience of an applicant for an examination.

(2) Not less than 15 days before the examination the department shall notify all applicants of its findings and shall notify those applicants accepted for examination of the date, time, and place of the examination.

### **R 325.11911. APPLICANT FOR CERTIFICATION; GRADING.**

Rule 1911. (1) An applicant for certification shall be graded in 4 major divisions as follows:

- (a) Educational qualifications of the applicant.
- (b) Experience qualifications of the applicant, where applicable.
- (c) The examination.
- (d) The laboratory examination, where applicable.

- (2) An applicant shall satisfy the minimum criteria established by the department as outlined in Table 1 (see page 6 of this document) for educational qualifications before admission to the written examination.
- (3) Criteria used for grading shall be determined by the department subject to the approval of the advisory board and shall be made available by the department.
- (4) An applicant for certification may be required to submit, to the department, on request, names of persons familiar with the experience qualifications of the applicant.

### **R 325.11915. RENEWAL REQUIREMENTS.**

Rule 1915. (1) The department shall renew a certificate on a 3-year cycle. To renew a certificate, a certificate holder shall submit, to the department, an application for renewal on a form provided by the department.

(2) To have a certificate renewed, a holder of a drinking water certificate shall satisfy the minimum criteria for continuing education requirements as required in the following table:

**Table 1. Minimum requirements for continuing education**

Highest certification level held	Minimum number of continuing education training hours required to renew	Minimum number of continuing education training hours categorized as "technical", "managerial," or both *
1 or 2	24	18
3	24	12
4	12	6
5	9	no minimum

\* A certificate holder is not required to meet the requirements of this column to renew a certificate that was issued on or before the effective date of this rule. A certificate holder shall meet the requirements of this column to renew a certificate that was issued after the effective date of this rule.

## **OPERATOR CERTIFICATION PROGRAM CHANGES OPERATOR CERTIFICATION FEES**

On September 20, 2011, Governor Snyder signed House Bills 447 and 448 into law. These became Public Act (P.A.) 147 and P.A. 148 and had an effective date of September 21, 2011. These bills contain specific details with regards to the Operator Training and Certification Unit (OTCU) fee package. The primary change is that a law was put in place to collect fees for the program services offered by the OTCU.

### ***What does this mean?***

P.A. 147 and P.A. 148 allow the OTCU to collect fees for operator certification exams, operator certification renewals, operator training and Continuing Education Credit (CEC) provider course approval applications, and course renewals.

### ***Why are there fees?***

Operator Training and Certification fee legislation was enacted to fund the OTCU. The fee legislation will allow the OTCU to continue offering certification exams, renewals, and Advisory Board approved training for continuing education credit.

### ***How much are the fees for the Drinking Water Certification Program?***

#### Examinations

- Drinking Water Operators
  - Levels 1, 2, 3 or 4 - \$70.00 per exam
  - Level 5 - \$45.00 per exam

Certification Renewals - \$95 for all certifications issued on a single certificate

- 3-year renewal cycle
  - Drinking water certifications
  - Municipal wastewater certifications

CEC Providers - \$75 per course for all new course approvals

- 3-year course renewal cycle
  - Course renewals are \$50 for each course renewed

### ***What if I apply to write two exams?***

Individuals will be charged for all exams applied for. For example, if an individual applies to write the S-3 (\$70) and D-3 (\$70) drinking water certification exam, the fee would be \$140 for a total of two exams. Individuals denied eligibility to write certification exams will be expected to pay the examination fee for each exam applied for. **Be very specific in what you apply for, there are no refunds for denials, cancellations, or no shows.**

**In order to take the exam, the examination fee must be paid. No person will be allowed to take the exam unless the fee has been paid.**

## WATER TREATMENT AND WATER DISTRIBUTION CERTIFICATION EXAMINATION PROCEDURES

There are three examination categories, “F” for Filtration, “D” for Limited Treatment and “S” for Distribution. Each category has various levels, 1-5. The “1” level represents the upper most level and the “4” level is considered the entry level for community water supplies. All drinking water certification exams are offered twice a year, usually the first Wednesday of May and November. The level “5” exams are for noncommunity (Type II) water supplies. For information regarding the level “5” exams, please call 517-282-6102.

1. **Starting Time:** Exams begin at 8:30 a.m. Eastern time. An applicant may not be allowed to write an exam if (s)he arrives at the examination site later than 8:30 a.m. Applicants are encouraged to arrive at the exam site by 8:15 a.m. The exam concludes at 4:00 p.m. No breaks are given.
2. **Exam Classification & Level Approval:** An applicant will only be allowed to write the exam(s) that they were approved to write.
3. **Number of Exams:** An approved applicant may write more than one examination. The applicant should decide which exam (s)he wants to write first, but applicants cannot look over the exams to decide. If an applicant is handed an exam, the exam will be graded even if the applicant does not attempt to answer any of the questions. All exams must be completed within the established exam time frame.
4. **Applicants writing F and/or D examinations will also be required to take a laboratory examination if the applicant has never held certification or allowed certification to lapse in the F or D classifications.** Applicants writing an F exam are expected to take the written lab exam on exam day. Applicants passing both the F exam and the written lab will be contacted later and a practical lab exam scheduled. Applicants writing a D certification exam are expected to take the written lab exam on exam day-there is no D lab practical exam.
5. **Cheating:** Examinees found to be cheating during the examination forfeit the exam and may not be allowed to write the exam again until approved to do so by the Advisory Board.
6. **Make-Up Exam:** Make-up exams will only be given when an extreme circumstance(s) prevents the applicant from writing the regularly scheduled exam and must be approved by the Advisory Board. The claim for make-up exams will be handled by the department and the Advisory Board on a case-by-case basis where applicable. Applicants requesting a make-up exam must notify the department by email or writing, within seven business days from the date of the scheduled exam with a valid reason for requesting a make-up examination. Make-up exams will be conducted where arrangements have been made.
7. **Grading of Exams:** Examinations are based on a final grade of 100 percent for perfect examinations. All examinations are multiple choice exams, 70 percent is considered a passing grade. There is no partial credit or re-grading for multiple-choice exams.

- 8. Release of Scores:** Exam scores will be reported out on the official examination notification letter, approximately 45 days from the date of the examination. Please do not call OTCU for a score during this period. Exam scores are not disclosed over the phone.
- 9. Exam Failures, Cancellations, and No Shows:** There are no refunds for cancellations under any circumstances.
- 10. Individual subtest Reports:** Individuals writing the “1”, “2”, “3” or “4” level exam(s), whether they pass or fail the exam, will receive an Individual Subtest Report. This report shows the level of mastery for each subject included on the exam. Any subjects in which the examinee struggled should be studied prior to retaking the exam or taking a higher-level exam in the same category.
- 11. Exam content:** The subjects typically covered on the various certification examinations are noted on the following page. These subjects may change without notification.

**Drinking Water Exam Locations**

Drinking water certification exams are offered regionally (see below) throughout the state of Michigan. When you apply to write an exam, you will need to indicate the location where you would like to write your exam. Please select your top three locations in the event your first site selection is full. Applicants will be assigned to the location requested on a first come, first serve basis. We will do our best to assign you to your preferred location, however, exam sites have limited seating, and sometimes reassignments may be necessary. You will be notified of your exam location.

<b>Lansing</b>	<b>Flint</b>
<b>Northern Michigan</b>	<b>Ypsilanti</b>
<b>Detroit</b>	<b>Kalamazoo</b>
<b>Marquette</b>	<b>Grand Rapids</b>
<b>Port Huron</b>	

## Level 1 & 2 Examinations

### **F CLASSIFICATIONS**

Alkalinity, Bacteriology, Chemistry, Chlorination, Coagulation-Flocculation, Contingencies & Emergencies, Corrosion, Cross Connections, Customer Relations, Filtration, Fluoridation, Hydraulics, Instrumentation, Laboratory, Management, Membrane Technology, Microbiology, Operation & Maintenance, Other Disinfectants, Pretreatment, Pumps & Motors, Record Keeping, Safety, Sampling, SDWA (Act 399), Sludge, Softening, Source, Storage, Taste & Odor, THM's

### **D CLASSIFICATIONS**

Corrosion, Cross Connections, Disinfection, Emergency/Security, Fluoridation, Hardness/Softening, Hydraulics, Instrumentation, Iron Removal, Laboratory Procedures, Management, Membrane Technology, Microbiology, Operation & Maintenance, Phosphate, Public Relations, Pumps & Motors, Record Keeping, Safety, Sampling, SDWA (Act 399), Taste & Odor, Wells

### **S CLASSIFICATIONS**

Chlorination, Contingencies & Emergencies, Corrosion, Cross Connections, Customer Relations, Hydrants, Hydraulics, Instrumentation, Main Installation, Management, Meters, Operation & Maintenance, Pipes & Joints, Pumps & Motors, Record keeping, Safety, Sampling, SDWA (Act 399), Storage Reservoirs, Valves, Water Quality

## Level 3 & 4 Examinations

### **F CLASSIFICATIONS**

Alkalinity, Chemistry, Coagulation & Flocculation, Contingencies & Emergencies, Corrosion, Cross Connections, Customer Relations, DBP's, Disinfection, Filtration, Fluoridation, Hydraulics, Instrumentation, Laboratory, Management, Membrane Technology, Microbiology, Operation & Maintenance, Other Disinfectants, Pretreatment, Pumps & Motors, Record Keeping, Safety, Sampling, SDWA (Act 399), Sludge, Softening, Source, Storage, Taste & Odor

### **D CLASSIFICATIONS**

Corrosion, Cross Connections, Disinfection, Emergencies & Security, Fluoridation, Harness/Softening, Hydraulics, Instrumentation, Iron Removal, Laboratory, Management, Membrane Technology, Microbiology, Operation & Maintenance, Phosphate, Public Relations, Pumps & Motors, Record Keeping, Safety, Sampling, SDWA (Act 399), Taste & Odor, Wells

### **S CLASSIFICATIONS**

Chlorination, Contingencies & Emergencies/Security, Corrosion Control, Cross Connection Control, Customer Relations, Hydrants, Hydraulics, Instrumentation, Management, Meters, Microbiology, Operation & Maintenance, Pipes & Joints, Pumps & Motors, Record Keeping, Safety, Sampling, SDWA (Act 399), Storage, Valves, Water Quality, Water Main Installation

# POINTS REQUIRED TO WRITE AN EXAMINATION

(Table 1)

EDUCATIONAL QUALIFICATIONS			EXPERIENCE QUALIFICATIONS		
F-1	80	D-1 70 S-1 70	F-1	60	D-1 48 S-1 48
F-2	70	D-2 60 S-2 60	F-2	30	D-2 24 S-2 24
F-3	60	D-3 60 S-3 60	F-3	15	D-3 12 S-3 12
F-4	60	D-4 60 S-4 60	F-4	3	D-4 6 S-4 6
F-5	60	D-5 60 S-5 60	F-5 (NR)		D-5 (NR) S-5 (NR)

NR-Not Required

F-1 Education Requirements--The 80 education points must include a high school education or equivalent and either two years of college credit or the equivalent. Two years of college credit may be a degree or a minimum of 60 semester hours without a degree. The equivalent is comprised of a list of "Required" and "Optional" courses determined by the Advisory Board. (See page 8 of this document.)

## SCHEDULE OF POINTS GIVEN FOR FORMAL EDUCATION

8 <sup>th</sup> Grade	40	*Approved Two Year	
10 <sup>th</sup> Grade	50	Water-Wastewater Tech.	80
H.S. Diploma or GED	60	* * B. S. in Engineering,	
2 yr. Associate Degree	70	Chemistry, Microbiology,	
		Biology, Limnology, or	
		Biochemistry	80
Bachelor's Degree	70	* * Advanced Degree in	
Advanced Degree	70	Engineering, Chemistry,	
		Microbiology, Limnology,	
		Biology, or Biochemistry	90

\* Curriculum approved by Advisory Board

\*\* Degree must be in Engineering, Chemistry, Microbiology, Limnology, Biology, or Biochemistry

## EDUCATION POINTS ALLOWED AS SUBSTITUTION FOR EXPERIENCE

	F-1	F-2	F-3	F-4	D-1	D-2	D-3	D-4	S-1	S-2	S-3	S-4
**Science B.S.	12	9	6	0	12	9	6	3	12	9	6	3
**Advanced Degree	18	12	6	0	18	12	6	3	18	12	6	3
Bachelor's Degree	4	4	0	0	2	2	0	0	2	2	0	0
Advanced Degree	4	4	0	0	2	2	0	0	2	2	0	0
* W/WW Tech	0	0	0	3	0	0	0	6	0	0	0	6

### SUBSTITUTION OF EXCESS EXPERIENCE TOWARD EDUCATION

Excess experience can be substituted for education. This excess is based on exceeding the minimum points for the highest class in a category; for example, the F-1 requires 60 experience points. Therefore, if a person was applying for an F-3, (s)he would need 15 experience points to satisfy experience credit but (s)he would not begin calculating excess experience until after accumulating 60 experience points. Each excess experience point is worth 1/2 point of education with a maximum of 10 education points.

### SUBSTITUTION OF EXCESS EXPERIENCE TOWARD EDUCATION CALCULATION

Experience points  
 (Minus)-  Enter 60 for "F" exam, 48 for "S" or "D" exam  


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 X 0.5 =  Education points (maximum 10 points)

## EXPERIENCE IN ALLIED FIELDS

Applicants holding multiple drinking water certificates may apply and qualify for the following exams

	F	D	S
Water Treatment Certificate F-1	---	D-4	S-4
Water Treatment Certificate F-2	---	D-4	S-4
Limited Treatment Certificate D-1	F-4	---	S-4
Limited Treatment Certificate D-2	---	---	S-4
Water Distribution Certificate S-1	F-4	D-4	---
Water Distribution Certificate S-2	---	D-4	---
Wastewater Treatment Certificate A	F-4	D-4	---
Registered Professional Engineer in a Responsible Drinking Water System Design or Construction Position, and Approved Two Year Water-Waste Water Tech	F-4	D-4	S-4

NUMBER OF FULL CATEGORIES WORKING IN	POINTS/MONTH	ALLOWABLE EXAM LEVEL	EXPERIENCE QUALIFICATIONS MUST INCLUDE
4	1	S-1	48 Points plus: work in 4 or more full categories for at least 1 year AND at least 2 years of operating experience of which 1 year is in an S-2 system or higher.
3	1	S-2	24 Points plus: work in 3 or more full categories for at least 1 year AND at least 1 year of operating experience in an S-3 system or higher.
2	1/2	S-3	12 Points plus: work in 2 or more full categories for 1 year.
1	1/2	S-4	6 Points
1/2	1/4	S-4	6 Points
NUMBER OF FULL CATEGORIES WORKING IN	POINTS/MONTH	ALLOWABLE EXAM LEVEL	EXPERIENCE QUALIFICATIONS MUST INCLUDE
4	1	F-1	60 Points plus: work in 4 or more full categories for at least 1 year AND at least 3 years of operating experience of which 1 year is in an F-2 system or higher.
3	1	F-2	30 Points plus: work in 3 or more full categories for at least 1 year AND at least 15 months of operating experience in an F-3 system or higher.
2	1/2	F-3	15 Points plus: work in 2 or more full categories for 1 year
1	1/2	F-4	3 Points
NUMBER OF FULL CATEGORIES WORKING IN	POINTS/MONTH	ALLOWABLE EXAM LEVEL	EXPERIENCE QUALIFICATIONS MUST INCLUDE
3	1	D-1	48 Points plus: work in 3 or more full categories for at least 1 year AND at least 2 years of operating experience of which 1 year is in a D-2 system or higher.
2	1	D-2	24 Points plus: work in 2 or more full categories for at least 1 year AND at least 2 years of operating experience in a D-3 system or higher.
1	1/2	D-3	12 Points plus: work in 1 or more full categories 1 year.
1	1/2	D-4	6 Points
1/2	1/2	D-4	6 Points

Experience points awarded from "allied fields" or "education allowed as experience" MAY be counted as one full category



## EDUCATION - F-1 APPLICANTS

F-1 Education Requirements--The 80 education points must include a high school education or equivalent and either two years of college credit or the equivalent. Two years of college credit may be a degree or a minimum of 60 semester hours without a degree. The equivalent is comprised of a list of "Required" and "Optional" courses determined by the Advisory Board. Each application will be thoroughly evaluated so that the individual will be given all the substitution credits (s)he is entitled to under the guidelines. If an individual is considering taking a course that is not specifically listed, they should contact the Operator Training and Certification program for approval. Please reach out to OTCU before applying for F-1 certification exam if you don't meet the above criteria. It is up to the discretion of OTCU to allow substitutions for course equivalency. Courses completed by the operator that are not these specific courses will be evaluated by OTCU for credits.

### REQUIRED COURSES

### MAX. POINTS GIVEN

1.	Basic Chemistry or Equivalent Entry Level Chem Class	3.0
2.	Applied Math or Equivalent	3.0
3.	Applied Hydraulics	3.0
4.	Water Bacteriology	2.2
5.	Water Chemistry	2.2
6.	Water Treatment Plant Operation, Volume I	4.0
7.	Water Treatment Plant Operation, Volume II	4.0
8.	Effective Communication or Equivalent	3.0
9.	Management/Supervision or Equivalent	4.0

### OPTIONAL COURSES

Must have satisfactorily acquired a total of 8 CEC's of optional courses in addition to the required courses.

10.	Principles of Basic Chemistry Part 1A	0.2
11.	Principles of Basic Chemistry Part 1B	0.2
12.	Principles of Basic Chemistry Part 2A	0.2
13.	Principles of Basic Chemistry Part 2B	0.2
14.	Math For Water Operators- Math and Conversions	0.2
15.	Math For Water Operators-Areas, Volumes, Flow Rates	0.2
16.	Math For Water Operators-Hydraulics	0.2
17.	Math For Water Operators-Chlorination	0.2
18.	Water Distribution System Operation & Maintenance	2.4
19.	University of Michigan Borchardt Conference	0.5/day
20.	Plankton and Algae Course	1.9
21.	Pump/Motor Maintenance Course	1.1
22.	Basic Electricity	1.2
23.	College Electrical Courses	Varies
24.	Water Treatment Short Course I	1.8
25.	Water Treatment Short Course II	1.8
26.	Maintenance Management (M.S.U.)	3.0
27.	Corrosion Control Theory and Treatment	0.2
28.	Membrane Processes	0.2
29.	Revised Total Coliform Rule	0.4
30.	Backflow 1: Prevention and Cross-Connection Control	0.2

31.	Flushing and Bacteriological Testing	0.2
32.	Fire Hydrant Basics for Pressurized Water Systems	0.2
33.	Water Treatment Operator Level 1	6.0
34.	Water Treatment Operator Level 2	6.0
35.	Water Treatment Operator Level 3	6.0
36.	College Chemistry Course	Varies
37.	A Sanitary Microbiology Course	Varies
38.	A Water Treatment Design Course	Varies
39.	Distribution	1.0
40.	Limited Treatment	0.8
41.	Hot-Hydrant/Valve O&M	0.3
42.	Michigan Public Service Institute Management Course	3.2

A variety of these courses may be taken through universities, colleges, and community colleges.

**CERTIFICATION RENEWAL STATUS**  
*Michigan Department of Environment, Great Lakes, and Energy*  
*Operator Training and Certification Program (OTCU)*  
*Certified Waterworks Operators*

Individuals writing and passing a certification examination are issued certificates based on a 3-year renewal cycle. This applies regardless of the number of certificates already held. The expiration date of the certification is extended so that it coincides with the **expiration date** for the exam most recently passed.

Individuals renewing a certificate are issued certificates on a 3-year renewal cycle, provided they have met the continuing education renewal requirement for the highest level of certification held and submitted the completed renewal application. A certificate will expire on one of the quarterly expiration dates, as shown below, regardless of the calendar year.

Quarterly <b>Expiration Dates</b> regardless of calendar year	January 15	April 15	July 15	October 15
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Persons with an expired certificate are eligible for employment at a waterworks system; however, they cannot serve as the “operator in charge” or “back-up operator” of a distribution system, a treatment system or a “shift operator” at a water treatment plant.

A certificate that has expired may be reinstated within 1-year from the expiration date of the certificate only when an individual has completed the necessary continuing education requirements as prorated from the certificate’s expiration date. **If a certificate is not reinstated within 1-year, the individual will no longer hold any drinking water certification and will be required to re-test for the desired certification.**

The following is a guide to help calculate the prorated CEC’s for the expired D, DR, F, FR and/or S, SR certifications held.

Certification Level Held	Renewal CEC’s needed	1 to 90 days expired	91 to 180 days expired	181 to 270 days expired	271 to 365 days expired
1, 2, or 3	2.4	2.6	2.8	3.0	3.2
4	1.2	1.3	1.4	1.5	1.6
5	0.9	0.9	1.0	1.1	1.2

For example, if an individual wrote and passed a fall 2017 exam, the issue date would be the day of the exam, 11/1/2017. Three years out would be in November 2020, but the closest future quarterly expiration date is January 15, 2021. If the individual did not meet the renewal CEC’s needed, the schedule above would apply. The days denoted in the table above are an approximation since EGLE works with quarterly expiration dates only. **There is no flexibility in this policy. It is the certified operator’s responsibility to maintain a training history and be able to verify any training attended, and to submit a renewal application no sooner than 8 weeks prior to certification expiration.**

A renewal applicant, who does not meet the continuing education requirements for a higher certification level (1, 2 or 3), but meets the continuing education requirements for the level 4, may choose to renew at the 4 level and give up the higher certification level. The request to give up the higher-level certification level and be renewed as a 4 level must be in writing.

Certified operators can check their CEC’s and certification status online at:  
[Michigan.gov/EGLEOperatorTraining](http://Michigan.gov/EGLEOperatorTraining)

Certified operators due to expire can generate a renewal application online 8 weeks or less prior to expiration by clicking on the link “Check Your Drinking Water CEC’s Online and Approved Courses” to open the Operator Training & Certification Information System (OTCIS) page. Use the navigation tools on the left side of the OTCIS page to search out operator information by last name or operator ID.

## CONTINUING EDUCATION CREDIT

Michigan Department of Environmental Quality, Operator Training and Certification Program (OTCU)

### Certified Drinking Water Operators

Highest certification level held	Minimum number of continuing education training hours* required to renew	Minimum number of continuing education training hours categorized as "technical" or "managerial"
1 or 2	24	18
3	24	12
4	12	6
5	9	no minimum

**It is your responsibility to obtain the correct combination of training so that you will be able to renew your certificate when it is ready to expire.**

Training courses qualifying for continuing education credit must be advisory board-approved. Individuals may download a complete list of approved courses and providers from the OTCU website that lists continuing education credit for courses not shown on this document at [Michigan.gov/EGLEOperatorTraining](http://Michigan.gov/EGLEOperatorTraining).

**It is strongly recommended that you check the list of approved courses and their categories prior to signing up for a course or training.**

**Successful Course Completion** - One or two-day meetings and seminars require full day attendance for successful completion. This will be determined by signing a training course participant roster, filling out a continuing education credit form (CEC) which is validated by a course official at the conclusion of the training, or by obtaining a certificate of completion after a training course or seminar has concluded. If an individual leaves a meeting or course early continuing education credit will not be given. Credit for one and two-day meetings of this type are normally assigned based on the number of contact hours with 1.0 CECs for 10 contact hours. Partial credit will not be given for one-day meetings. For courses of a longer duration, such as the 3-day courses or 12-week courses, successful completion for full credit generally requires individuals to meet the attendance requirement.

**Repeat Credit** - Full credit may be awarded for repeat attendance at meetings and seminars with a changing course content or agenda, such as Regional Meetings and the Michigan Section, AWWA and Michigan Rural Water Association annual conferences. For courses that repeat the course content, continuing education credit may be awarded to the individual for each successful repeat that occurs outside or after his or her current renewal cycle. No credit will be awarded for repeating such courses during the current certificate renewal period.

**Credit for Course Instructors** - Continuing education credit for course instructors may be awarded for certain courses of long duration (20 contact hours or greater). Such credit will be awarded based on the number of contact hours available to students taking the course, except that instructors may not be awarded more than one-half the number of continuing education hours required for their own level of certification. This maximum value applies to all such courses conducted by an instructor within the instructor's current renewal period.

**In-Service Training & College Courses** - Advisory board-approved water utility in-service training and individual college courses may be awarded continuing education credit. Water utility in-service training programs must be approved by the advisory board of examiners. CECs will be awarded for any college course when the student receives credit from the college or university provided the course is a semester in duration and relates to the duties, responsibility, operation, maintenance or supervision of a drinking water system. The following course categories merit credit: Math, Chemistry, Physics, Computer, Electronics, Public Administration/Management, Mechanics/Technical, General Business, Engineering, Technical Writing/Communication, and Microbiology. It is recommended that students electing to take such courses contact the Operator Training and Certification Program at 517-282-6102 prior to enrolling in the course.

**Other Credit** - Continuing education credit equal to 1-hour (0.1 CEC) maximum may be awarded annually for an active individual, an active affiliate or an active organization representative membership in certain organizations, such as the American Water Works Association (AWWA) and Michigan Rural Water Association (MRWA). This credit value is based upon full year membership as of December 31 of each year. Accordingly, individuals holding membership each month of the 3-year renewal period may be awarded the maximum available credit of 3 hours (0.3 CECs). This credit may also be awarded in ensuing renewal periods. Also, a maximum of 6 hours (0.6 CECs) for exhibits, such as Joint Expo or MRWA annual exhibits will be allowed in any 3-year renewal cycle.

# Operator Training and Certification Staff

**Koren Carpenter** – Supervisor, 517-881-6311, Operator Training and Certification Program,  
email: CarpenterK5@Michigan.gov

**Renee Artz** – Secretary, 517-525-2978, email: ArntzR@Michigan.gov  
Provides clerical support for community drinking water programs.  
Mails training information and notification letters for the drinking water program.

**OTCU Fax Number-** 517-241-1328

## Drinking Water Staff

**Brianna Moore** – Senior Environmental Quality Analyst, 517-899-6955, email: MooreB15@Michigan.gov  
Prepares drinking water exams, study guides and worksheets. Reviews exam applications. Coordinates course approvals for  
CEC's and manages the Advisory Board of Examiners  
Answers questions on drinking water certification; renewal, exams, status.

**Scott Schmidt** – Senior Environmental Quality Analyst, 517-899-6906, email: SchmidtS@Michigan.gov  
Coordinates exam sites and training events. Reviews exam applications.  
Maintains correspondence(s), operator training database, and operator records. Review's reciprocity and provisional cases.  
Instructor for drinking water courses. Project Manager of IT projects.  
Website administration. Answers questions on drinking water certification; renewal, exams, status.

**Edith Monteiro**, General Office Assistant, 517-930-1912, email: MonteiroE@Michigan.gov  
Processes renewals for certification and aids the community drinking water program.

**Courtney Vincent** –Departmental Tech, 517-282-6102, email: VincentC4@Michigan.gov  
Maintains operator training records, certification history, and processes certification renewals.

**Martin Morales** – Environmental Engineer, 517-525-8032, email: Moralesm1@Michigan.gov  
Reviews exam applications, maintains correspondence(s), and operator records. Instructs drinking water courses.  
Answers questions on drinking water certification; exams, status.

**Tafadzwa Chiduma** – Student Assistant, 517-927-7334, email: ChidumaT@michigan.gov  
Answers general questions.