

Guidelines for Continuing Education Unit Evaluation and Credit

Manitoba's Water and Wastewater Facility Operator's Regulation (Regulation) requires operators to have completed post secondary education to be eligible for Class 3 and Class 4 certification.

The Regulation, however, allows substitution of post secondary education with Continuing Education Units (CEU) for water distribution, wastewater treatment and wastewater collection. The CEU must be completed by December 31, 2010. The Regulation also allows substitution of the high school education requirements with CEU.

Continuing Education Unit (CEU) will be required for renewal of unrestricted operator certificate every 5 years. Effective January 1, 2011 to December 31, 2012 operators will need between 0.3 to 1.2 CEU for certificate renewal. Class 3 and 4 certificate renewals will require 1.2 CEU, Class 1 and 2 certificate renewals will require 0.6 CEU and Small System certificate renewal will require 0.3 CEU.

Effective January 1, 2013 operators will need between 1.5 and 6.0 CEU for certificate renewals every 5 years. Class 3 and 4 certificate renewals will require 6.0 CEU, Class 1 and 2 certificate renewals will require 3.5 CEU and Small System certificate renewal will require 1.5 CEU.

Continuing Education Unit

For the purposes of the operator certification criteria, one CEU represents 10 contact-hours of participation in an organized continuing education experience under the capable direction of qualified instructors or otherwise presented in a manner approved by the Director. CEU courses are offered by a variety of providers. To be used towards certification, the subject must be "water or wastewater works operations, engineering, science, or a related field."

Forty-five (45) CEU is equivalent to 1 grade of high school level achievement or 1 year of post secondary education.

The Regulation defines contact-hour as one hour of two-way communication and interaction between a learner and an instructor in order for the learner to gain knowledge and to receive feedback.

Post Secondary Education

The Regulation requires 2 years of post secondary education for Class 3 certification and 4 years of post secondary education for Class 4 certification. Substitutions of post secondary education with Direct Responsible Charge (DRC) experience or CEU are permitted for water distribution, wastewater treatment and wastewater collection. DRC substitution for post secondary education is allowed in the Regulation for Water Treatment Class 3 or Class 4 certification.

The Regulation defines operating experience as the time spent working at a facility in satisfactory performance of operating duties as approved by the Director.

"Direct responsible charge" or DRC operating experience is experience during which an operator has worked a position that the facility owner has designated as a DRC position. An operator working a DRC position would be working in some sort of supervisory capacity. There may be several DRC positions designated by the owner of the facility. A shift worked by a single operator would be designated as a DRC position, as the operator would be acting in a responsible capacity.

DRC operating experience can only be gained by an operator with a Class 2, 3 or 4 operator's certificate, through responsibility for the performance or supervision of daily on-site operational duties for a Class 2, Class 3 or Class 4 facility, or an operating shift in such a facility.

Operators must complete and pass the credit hour courses in order for them to be considered towards certification. The Certification Program reviews applicant operators' post-high school education to determine whether it qualifies as "water or wastewater works operations, engineering, science, or a related field." This means that it must be science- or math-based rather than arts- or humanities-based. Due to the differences between programs offered at college and university programs, the number of credit hours needed to equal one year of post-high school towards certification depends on the program and the institution. University curriculum requires 30 credit hours to receive credit for one full year; whereas college requires 40 credit hours to receive credit for one full year.

Unfinished degrees or certificates are evaluated on a CEU basis upon review of the courses completed and their relevance to water and wastewater operations. An individual who did not finish his/her degree will be given credits only for those courses that he/she finished successfully. For example, if the person receives a fail mark for a specific subject/course, no credit will be given for that subject/course.

Evaluation of Courses for CEU Assignment

The Certification Coordinator reviews applicant operators' total CEU to determine whether they qualify for certification. Upon request from a course provider, the Certification Coordinator reviews course material and scheduling in consultation with the Director and may pre-approve whether the course will be considered relevant for certification and, if so, confirm the number of CEU that it will be achieved through completion of the course. Different courses covering equivalent subject matter may not be used together towards certification.

Courses that may be assigned CEU credit includes classroom courses, seminars, workshops, conferences, in-house training by a utility, correspondence courses and on-line courses. CEU for correspondence/on-line courses will be determined by assessing the amount of time it would take to deliver the course in a classroom setting and not the actual time it takes to complete the course.

The following are a partial list of trainings/courses that are recognized by the Certification Program. If you have taken training that is not listed here and you think that it is relevant, you may submit a course outline/description to the Certification Coordinator for review. The list will be updated regularly as new courses are submitted for assessment.

Trainings and Conferences

Contents:

➤ Alberta Water & Wastewater Operators Association	➤ Thompson Rivers University
➤ American Water Works Association (AWWA)	➤ University College of the North
➤ Assiniboine Community College	➤ University of Manitoba
➤ California State University	➤ University of Saskatchewan
➤ City of Winnipeg Training	➤ University of Winnipeg
➤ Clow Canada/Deblo Industries	➤ Western Canada Water (WCW) [formerly Western Canada Water and Wastewater Association (WCWWA)]
➤ Digital-2000	➤ Western Canada Water Environment Association (WCWEA)
➤ Echologics Engineering Inc.	➤ YOW Canada
➤ Elite Safety Services	➤ Others
➤ Engineering Institute of Canada	
➤ ITT Water & Wastewater	
➤ Malaspina Community College	
➤ Manitoba Aboriginal & Northern Affairs	
➤ Manitoba Construction	
➤ Manitoba Emergency Measures Organization	
➤ Manitoba Water and Wastewater Association (MWWA)	
➤ New Heights Industries	
➤ Northern Alberta Institute of Technology	
➤ Nova Training and Development Inc.	
➤ Optimize Consulting	
➤ Power Engineering	
➤ Red River College	
➤ St. Johns Ambulance	

Alberta Water & Wastewater Operators Association (AWWOA)

<http://www.awwoa.ab.ca/>

Course Name	CEU
Pumps: Theory, Operation and Maintenance (Home study)	3.0
Small Wastewater System Operations (Home study)	0.6

American Water Works Association (AWWA)

<http://www.awwa.org>

Course Name	CEU
Disinfection of Pipelines & Storage Facilities	0.4
Fire Hydrant Operations & Maintenance	0.3
Teleconference - Water Resource Alternatives	0.3
UV Disinfection	0.8
Water Efficiency Workshop	1.6
Watershed Protection Seminar	1.6

Assiniboine Community College

<http://public.assiniboine.net/>

Course Name	CEU
Environmental Chemistry	6
Inorganic Chemistry	6
Water Quality	3

Course Name	CEU
Advanced WWT	9
Facilities - WAT703B	0.9
Industrial WWT Vol. II	3
Industrial WWT Vol. I	3
Manage for Success	4.5
Operation & Maintenance WWC Vol. II	9.0
Operation & Maintenance WWC Vol. I	9.0
Pretreatment Facility Inspection	6
Small Wastewater Systems Vol. II	9.0
Small Wastewater Systems Vol. I	9.0
Small Water Systems Operations and Maintenance Course	9.0
Small Water Systems Vol. II	9.0
Small Water Systems Vol. I	9.0
Small Water Systems Video Information System	3.0
Treatment of Metal Wastestreams	2.5
Treatment of WW from Electroplating	2.5
Utility Management (post-2003)	2
Utility Management (pre-2003)	4.5
Water Distribution System Operation & Maintenance	9.0
Water System Operation and Maintenance Video Training Series	3.0
Water Treatment Home study III, pre-88	9
Water Treatment Home study II, pre-88	9
Water Treatment Home study I, pre-88	9
WTP Operation Vol. III, post-88	9
WTP Operation Vol. II, post-88	9
WTP Operation Vol. I, post-88	9
WWT Home study Part III	9
WWT Home study Part II	9
WWT Home study Part I	9

City of Winnipeg Training

Course Name	CEU
Advanced Cable and Pipe Locating	0.8
Advanced Foremanship-Project Skills	0.8
Aerial Work Protection	0.70
Amalgamated Workplace Health & Safety Regulations	0.7
Asbestos Awareness	0.35
Basic Computer Applications	0.6
Chemical and Biological Hazard Control	0.6
Chemical Safety	0.6
Chemical Safety - Intro	0.6
Citizen/Customer Service	0.7
Confined Entry	0.6
Customer Service	0.7
Emergency First Aid CPR	0.6
Emergency Response Planning Seminar	1.5
ERP Water System Training Program	1.25
Fall Protection	0.60
Foremanship Level 3	2
Foremanship Level 2	1.8
Foremanship Level 1	1.4
Foundations of Supervisory Development	1.5
Front End Loader Training	0.8
Frontline Leadership	1.2
Fundamentals for Safety and Health Committee	0.7
Iview	0
Leakfinder Training	1.6
Lift Truck	0.60
Lock out/Tag out	0.35
NEWPCC BNR (Centrate Transfer, SBRs, Blower System, Methanol System)	0.4
NEWPCC BNR (SBR Overview, Basin set-up, Aeration, Equalization)	0.4
Outlook – Working with the Calendar	0
Safety Responsibilities for Leadhand	0.7
Phosphorus Removal System Control	0.3
Safety Responsibilities for Supervisors	0.7
Special Boiler Operator	4
Tapping and Connecting	0.6
Traffic Control Training	0.3
Transportation of Dangerous Goods Training Program	0.3
Understanding a Centrifugal Pump Curve	0.4
Vulnerability Assessment Workshop	0.7

City of Winnipeg Training (Cont'd.)

Course Name	CEU
Wastewater Emergency Response Training	1.2
Water Leak Detection Course	1.5
WEWPCC BNR (DAF Process, Process Change, Potential Emergency Response and Safety)	0.4
WEWPCC BNR (Fermenter Process Review, DAF Process, Flow Measurement)	0.4
WEWPCC BNR (Ferric Chloride Feed System, Polymer Feed System, Jar Test)	0.4
WEWPCC BNR (Primary Sludge Fermentation, Solids Handling)	0.4
WEWPCC BNR (Secondary Clarifier, Aeration System and Blowers)	0.4
WEWPCC BNR (Upgrade Activated Sludge, Nutrient Removal)	0.4
WHIMS	0.60
WHIMS	0.30
Windows - Intro	0.4
Winnipeg Emergency Management	1.3
ZeeWeed Drinking Water User's Group Seminar	1.09

Clow Canada<http://www.clowcanada.com/>

Course Name	CEU
Fire Hydrant and Valve Maintenance - 2010 onwards	0.6
Fire Hydrant and Valve Maintenance - pre 2010	0.3

Digital-2000<http://www.digital2000.com/>

Course Name	CEU
Chemical Safety Module (online)	0.1
Electrical Safety (online)	0.1
Elevated Work* (online)	0.1
Field Equipment Module II* (online)	0.1
Field Equipment Module I (online)	0.15
Field Operations Safety Module III (online)	0.1
Field Operations Safety Module II (online)	0.1
Field Operations Safety Module I (online)	0.1
First Aid Module (online)	0.15
Personnel Protective Equipment Module (online)	0.15
Tool Safety (online)	0.1
Treatment Plant Safety Module (online)	0.2
Water/Wastewater Operations Safety Module (online)	0.15

*Cannot be combined due to overlapping topics.

Echologics Engineering Inc.<http://echologics.com/>

Course Name	CEU
Water Leak Detection Listening Course	0.6

Elite Safety Services<http://www.elitesafetyservices.ca/>

Course Name	CEU
Anhydrous Ammonia	0.3
Chlorine Kit "B": & Decon	0.3
Confined Space Entry (16 hours)*	1.2
Confined Space Rescue (16 hours)* If they have not completed Confined Space Entry	1.2
Confined Space Rescue (16 hours) If they have completed Confined Space Entry	0.5
Fall Protection	0.6
H2S Awareness	0.3
Incident Command System	0.3
Level A 7 Level B - CPC	0.3
Self Contained Breathing Apparatus (SCBA)	0.3

*Some topics overlap.

Engineering Institute of Canada<http://www.eic-ici.ca/>

Course Name	CEU
Canadian Electrical Code Training (2 days)	1.4

ITT Water & Wastewater<http://www.ittflygt.ca/> (Canada)

Course Name	CEU
ITT Municipal Operators and Maintenance Training Course	0.5

Malaspina College<http://www.mala.ca/>

Course Name	CEU
Water Technician Course	82

Manitoba Aboriginal & Northern Affairs

Course Name	CEU
Electrical Awareness Training	0.2
Public Works Employee Workshop 2010 - Thompson	0.6

Manitoba Construction Conference<http://www.constructionconference.ca/>

Course Name	CEU
Accident Investigation	0.4
Confined Space Awareness	0.7
Conflict Management	0.4
Electrical Safety/Arc Flash & Electrical Hazards	0.3
Emergency Preparedness	0.3
Environmental Management in Construction Industry	0.7
Excavation and Trenching	0.3
Fall Protection Systems	0.3
Flag Person Training	0.3
Ground Disturbance	0.7
H2S Alive	0.7
Hazard Assessment, Analysis and Control	0.3
Health Hazards	0.4
Incident Investigation	0.3
PPE	0.4
Project Safety Plans	0.3
Safe Work Procedures	0.3
Safety Skills for Supervisors	0.7
Workplace Safety Legislation	0.3

Manitoba Emergency Measures Organization<http://www.gov.mb.ca/emo/>

Course Name	CEU
Manitoba Emergency Management Course (2-day course)	1.0

Manitoba Water and Wastewater Association (MWWA)<http://www.mwwa.net/>

Course Name	CEU
Annual Seminar and Trade Show (2011)	1.2
Annual Seminar & Trade Show (2010)	1.2
Annual Seminar & Trade Show (2009)	1.8
Annual Seminar & Trade Show (2008)	1.4
Annual Seminar & Trade Show (2007)	1.4
Annual Seminar & Trade Show (2006)	1.4
Care, Maintenance & Inspection Wells	0.6
Disinfection Alternatives Workshop	0.7
Excel Form Development	0.6
Filter Workshop	0.6
General Guidelines for Creation of SOPs 2010	0.6
GPS/GIS Workshop	0.6
Hydrant & Valve Maintenance Workshop	0.6
Industrial Confined Space Awareness Workshop	0.6
Iron and Manganese Removal Workshop	0.6
Jar Testing Workshop	0.7
Lab Practices - WW Treatment	0.5
Lagoon Workshop	0.6
Membrane Filtration Workshop 2010	0.6
Membrane Water Technology Workshop	0.6
Nutrient Removal Workshop 2010	0.6
Personal Protective Safety	0.63
Pump Maintenance & Variable Frequency Drive	0.6
Pump Workshop 2011	0.65
Supervisors and Safe Work	0.6
Tapping Workshop	0.6
Transportation of Dangerous Goods and Workplace Hazardous Material Information System (WHMIS)	0.6
Turbidity Workshop	0.6
Wastewater Disinfect Selkirk	0.6
Wastewater Pumping Station and Forcemain Systems Design, Operation and Maintenance Workshop	1.2
Water Distribution - Aging Infrastructure	0.6
WHMIS Chemical Handling for W/WW Facilities	0.6
Wells – Operation, Maintenance and Troubleshooting	0.6

New Heights Industries<http://www.newheightsindustries.com/>

Course Name	CEU
Workplace Safety and Health Workshop	3.0
Fall Protection and Rescue – Level 2	1.2

Northern Alberta Institute of Technology<http://www.nait.ca/>

Course Name	CEU
Hydraulics & Blueprint Reading	7.0
NAIT Water & Wastewater Technician	90
Science and Electricity	4.0
Support Systems	9.0
Technical Mathematics Part 1	4.5
Wastewater Collection II – WWW213	6.0
Wastewater Collection I - WWW103	5.0
Wastewater Treatment II - WWW204	9.0
Wastewater Treatment I - WWW104	9.0
Water Distribution II - WWW201	6.0
Water Distribution I - WWW101	6.0
Water Treatment II - WWW202	9.0
Water Treatment I - WWW102	8.0

Nova Training and Development Inc.<http://novatraining.org/>

Course Name	CEU
Basic Microbiological Concepts	0.6
Cross Connection Control	0.6
Monitoring and Sampling	0.5
Water Main and Storage Facility Disinfection	0.6
Water Quality Complaint Investigations	0.6

Optimize Consulting

Course Name	CEU
Operation and Maintenance of Valves	0.6
Pumps and Hydraulics	0.7

Power Engineering

To receive CEU credit the applicant must submit a copy of course completion certificate or transcripts.

Course Name	CEU
Power Engineering 5 th Class	11.2
Power Engineering 4 th Class	20
Power Engineering 3 rd Class	20
Power Engineering 2 nd Class	20
Power Engineering 1 st Class	10
Power Engineering Technology	2 years post secondary

Red River College

<http://www.rrc.mb.ca/>

Course Name	CEU
Business Communications 1 - E33H100	6.4
Environment Issues in the Workplace - E33H110	4
Environmental Protection Technology	3 years post secondary
Managing Occupational Health & Safety - E33H109	6
Municipal Technology Diploma	3 years
Occupational Health & Safety Data Management - E33H102	2
Occupational Health & Safety Risk Management - E33H101	4
Occupational Hygiene - E33H103	4
Occupational Safety - E33H105	4
Plumbing Cross Connection Control	3.5
Project Management: Fundamentals - E33H107	4
Small Systems Refresher course	2.5
Water and Wastewater - CIVL3008	8
Water and Wastewater School Third Year (one week course)	3.0
Water and Wastewater School Second Year (one week course)	3.0
Water and Wastewater School First Year (one week course)	3.0
Water and Wastewater Refresher course Class I and Class II (4-day)	3.0
Water Treatment III Refresher course	3.5
Math and Science Refresher	2.0

St. John Ambulance

<http://www.sja.ca/>

Course Name	CEU
First Aid/CPR	0.6

Thompson Rivers University<http://www.tru.ca/>

Course Name	CEU
Adv Coagulation & Particle Removal - WWTP 272 *	4.5
Applied Math and Science - WWTP 172 *	4.5
Disinfection - WWTP 274 *	4.5
Electrical Fundamentals II - WWTP 270 *	4.5
Electrical Fundamentals I - WWTP 180 *	4.5
Environment & Health Issues - WWTP 174 *	4.5
Filtration - WWTP 273 *	4.5
Instrumentation II - WWTP 282 *	4.5
Instrumentation I - WWTP 182 *	4.5
Limnology - WWTP 281 *	4.5
Mechanical Systems II - WWTP 183 *	4.5
Mechanical Systems I - WWTP 173 *	4.5
Microbiology & Toxicology - WWTP 280 *	4.5
Practicum II - WWTP 289 *	4.5
Practicum I - WWTP 189 *	4.5
Supervisory & Leadership Skills - WWTP 283 *	4.5
Water Chemistry - WWTP 271 *	4.5
Water Sources - WWTP 170 *	4.5
Water Treatment II - WWTP 185 *	4.5
Water Treatment I - WWTP 171 *	4.5
Water Treatment Technology Diploma	90

* Each course can be separated into smaller modules and each module is worth 1.5 CEU.

University College of the North<https://www.ucn.ca/ics>

Course Name	CEU
Natural Resources Management Technology	2 years post secondary

University of Manitoba<http://umanitoba.ca/>

Course Name	CEU
Bachelor of Science (Major)	4 years post secondary
Bachelor of Science	3 years post secondary
Basic Plant Science	3
Biology: Biological Diversity and Interaction (online study)	3
Biology: Foundations of Life (online study/flexible study)	3
Calculus 2	3
Calculus - Intro	3
Crop Science	5
Engineering Degree	4 years post secondary
Environmental Science 1: Concepts (online study)	3
Essentials of Microbiology (online study)	3
Farm Insects	3
Farm Machinery	4
Farm Power	4
Personnel Management - 41.249	3
Soil Management	3
Soils 2 - Intro	3
Soils 1 - Intro	3
Weed Control	3

University of Saskatchewan<http://www.usask.ca/><http://www.siastr.sk.ca/> (SIAST)

Course Name	CEU
Analysis and Design	3
Analytical Geometry	3
Calculus 2 - Intro	3
Calculus 1 - Intro	3
Differential Calculus	3
Diploma in Surveying Engineering Technology (SIAST)	2.5 years post secondary
Electricity and Magnetism 2	3
Electricity and Magnetism 1	3
General Chemistry	3
Graphics and Design	3
Materials Strength	3
Mechanics 3	3
Mechanics 2	3
Mechanics 1	3
Water and Wastewater Technician Diploma (SIAST)	90

Course Name	CEU
Agricultural Geography - GEOG.2401	3
Atmospheric Science - Intro - GEOG.1201	3
Atmospheric Science - Intro - GEOG	3
Bachelor of Science in Environmental Studies	4 years post secondary
Calculus - Intro - MATH.1101	6
Chemistry & Society - CHEM.2801	3
Chemistry & Society - CHEM	3
Chemistry - Intro - CHEM.1101	6
Earth Science - Intro - GEOG.1202	3
Environment & Health - ENV.2604	3
Environmental Biology - BIOL.1106	3
Environmental Economics - ECON.2317	3
Environmental Ethics - PHIL.2233	3
Environmental Impact Assessment - ENV.4611	6
Environmental Perceptions - GEOG.2408	3
Environmental Sustainability - ENV.2306	3
Issues Sustainable Cities - ENV.3025	3
Law and the Environment - ENV.3035	3
PHYS.1101	6
Statistical Techniques for Environmental Analysis - GEOG.2309	3
Water Resources - GEOG.3408	3

Western Canada Water (WCW) [formerly Western Canada Water and Wastewater Association (WCWWA)]
<http://www.wcwwa.ca/>

Course Name	CEU
Assessing and Addressing Challenging Hydraulic	0.4
Biosolids and Residuals	0.5
Cross Connection Control Through Awareness and Backflow Prevention	0.3
Disinfection By-product Seminar	0.6
Disinfection of Pipelines and Storage Facilities	0.3
Emergency Response Planning	1.5
Greenhouse Gases and Carbon Footprinting in the Water/Wastewater Industry	0.4
Mathematics (correspondence)	9
Membrane Technologies for Water and Wastewater Treatment	0.6
Membrane Technologies for Water Treatment	0.5
On-Site Hypochlorite Generation as a Chemical Disinfection Alternative	0.6
Problem Solving Water & Wastewater Infrastructure	0.5
Project Management	0.3
Project Planning, Delivery & Commissioning Seminar	1.2
Regional Water Systems – Design and Operation Basics	0.3
River Health	0.3
SCADA Fundamentals	0.3
Small System Nutrient Removal Seminar 2010	1.2
Small System Nutrient Removal Seminar 2009	1.0
Tertiary Filtration Workshop	0.3
The Future Art of Stormwater	0.5
Understanding Contaminants of Emerging Concern and the Challenges Faced by the Wastewater Treatment Industry	0.4
Utility Asset Management	0.3
Utility Management Workshop - A Holistic Approach to Your Utility	0.7
Vulnerability Assessment Workshop	0.7
Wastewater Pumping Station and Forcemain Systems Design, Operation and Maintenance Workshop	1.2
Watershed and Stormwater Management	0.3
Water Treatment Plant Operation correspondence course	15
Web Workshop on Pumps Operations and Maintenance	0.4
Western Canada Water 2010 Conference	0.9
Western Canada Water 2009 Conference	1.2
Western Canada Water and Wastewater Association Conference Workshops 2006 Conference	0.6
Western Canada Water Pre-conference half day workshop (each)	0.3
Where has all our Water Gone	0.4

Western Canada Water Environment Association (WCWEA)

<http://www.wcwea.org/>

Course Name	CEU
Nutrient Removal Seminar 2005	1.3

YOW Canada

<http://www.yowcanada.com/>

Course Name	CEU
TDG for All Workers (online course)	0.3

Others

Course Name	CEU
City of Brandon Respiratory Protection Training	0.3