



## Useful Study Tips for Municipal Waterworks Exams

1. Use the study guide (!) – provided free of charge at:  
<http://dnr.wi.gov/regulations/opcert/muniWaterworks.html>
  - **Every exam question is based on a specific key knowledge from the study guide (SG)**
  - Unless you have a photographic memory, you will likely not remember every single detail of information from the the SG, so focus your study time on the content that seems to be most pertinent
  - Spend more than just one day or night perusing the SG – it helps jog the memory if you can study the material on several different days
  - Review the SG at your ‘**peak mental time**’ of the day – that is, don’t try to study when you are already mentally exhausted or when your brain hasn’t quite gotten ‘cooking’ yet (don’t study the moment you wake up or when you’re fending off sleep). Identify your most alert time of the day, and put in some valuable study time then.
2. Only register for as many exams as you can **comfortably** take during an exam period or during a day (exam periods are 3 hours long in the morning and afternoon).
  - Remember that these are rigorous, state exams. Give yourself adequate time to check your answers and to return to difficult questions
  - Think: it is better to take and pass 2 exams on one exam day than to take and fail 6
  - Consider registering for exams during both the morning and afternoon exam sessions to give yourself enough time when taking multiple exams

3. When completing the study guide, first consult the sources provided at the end of the SG, but don't be afraid to use other sources.
  - The list of sources at the end of the SG is useful, but there are other great sources out there if you search the web – states other than WI sometimes offer great waterworks operator study materials for free on their websites (for instance, New Mexico and West Virginia offer some helpful, free study materials).
  - Be sure the sources you are using to complete the SG are both **up-to-date** and **published by credible organizations** (i.e. AWWA and the EPA are examples of credible sources. You should shy away from using information from internet forums or uncited Wikipedia articles).
  - Use the EPA's website found at: <http://www.epa.gov/> to help you complete the SG, especially for key knowledges related to **federal** rules, regulations, and laws (e.g. Safe Drinking Water Act, Disinfection Byproducts Rule: Stage 1 and Stage 2, Surface Water Treatment Rule). The EPA's website provides a bounty of free and useful information relevant to the study guides.
  - Use Wisconsin Administrative Codes NR 809-811 found at: [https://docs.legis.wisconsin.gov/code/admin\\_code/nr/](https://docs.legis.wisconsin.gov/code/admin_code/nr/) to help you complete the SG, especially for key knowledges related to **state** rules, regulations, and laws. Familiarizing yourself with these Codes can help you in completing your SG and passing the exam. Access to Codes NR 809-811 is free.
  - Know relevant **state and federal** limits, regulations, and laws for the exam
  - Check out manuals and books from the **UW Water Library**: <http://www.aqua.wisc.edu/Waterlibrary/>
  - If you cannot find an answer for a key knowledge on the SG, don't get hung up looking for it – come back to all the difficult-to-find key knowledges at the end, and use sources to answer them the best you can.
4. Identify your objective – you must score 75% or higher to pass the exam (in other words – you must answer 30 out of 40 questions correct (except for the Surface Water exam – you must answer 60 out of 80 questions correct to pass that exam)).

- You CAN get some of the hardest questions wrong and still pass the exam - don't expect to get every question right
  - If you have reviewed the SG well, you should be able to get less than 10 questions wrong - you can get up to 10 questions wrong and still pass!
5. If you have taken the exam previously, review closely the key knowledges from your exam results letter that you struggled with last time around when studying to avoid making the same mistakes this time.
  6. Read all of the answer choices before selecting one, even if you see the one you think is correct - sometimes there is a better or more accurate answer later in the list of choices (for instance, 'all of the above' or 'none of the above').
  7. Eliminate answer choices for each question that you know are incorrect or misleading, and focus on the ones that you find to be potentially correct.
    - Try to never outright guess - always analyze the question and answer choices to at least make an educated selection
    - Utilize information provided in other exam questions - it may help you answer a question on a totally different page or in a different section
  8. Identify your strength of study - we all have different learning mechanisms and strategies - find yours and use it.
    - Read the SG out loud or use a tape recorder and record yourself reading key knowledges and listen to them while driving to and from work if you are an auditory learner
    - Create and use flash cards if you are a visual learner
    - Study with a friend or co-worker if you are a social learner
    - Find a silent area if you are a solitary learner or someone who is easily distracted
    - Bottom line: do NOT waste your time studying in a way that you know you won't retain the information well, even if this learning style works for someone else
  9. Know what time your exam is at (either 9 A.M. or 1 P.M.), and arrive early!
    - Plan for traffic and other potential obstacles beyond your control by leaving extra early to arrive at your exam destination early (seriously - try leaving home an extra hour or 2 earlier - worst case scenario, you'll have more time to study, use the restroom, or to go grab a snack before the exam)

- The stress from arriving late can negatively affect your memory, your cognitive function, and your overall exam performance (!)
  - Arrive early and review the key points from the SG one last time, so they are fresh on your mind
  - Arriving early gives you time to clear your mind from everything else going on in your life
10. Don't let the mathematics section of the exam keep you from passing.
- *Instead of simply reading or studying the numbers, equations, units, and answers from the math section of the SG, practice rewriting and solving the equation many times using different numbers*
  - Remember to bring a calculator to use on exam day
- 11-12. Alright, these two are probably obvious to everyone by now, but seriously – get a good night's sleep (8 hours), and eat some *quality* breakfast!
- You don't have to take our word for it – you can search the internet for the wealth of literature and research out there emphasizing how important sleep and nourishment are for our brains to mentally recover.
  - Don't substitute coffee for breakfast – it won't replenish all the vitamins and nutrients your brain needs for peak mental functioning
  - Eat a *quality* breakfast – i.e. opt for some whole-grain cereal over some deep-fried fast food – it will boost your cognitive function
13. Try to relax the best you can.
- Don't let mental stress trip you up or distract you
  - Do whatever personally helps you calm down and clear your mind
  - Maybe shy away from your group of friends before the exam, so you can keep your mind clear and focused

## GOOD LUCK OPERATORS!

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