

# Water Environmental Technology Program

at Des Moines Area Community College



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IOWA DEPARTMENT OF  
NATURAL RESOURCES



American Water Works Association  
**.IowaSection**



IOWA  
ASSOCIATION OF MUNICIPAL  
UTILITIES



**WET.DMACC.EDU**

2023-2025

**DMACC**  
DES MOINES AREA  
COMMUNITY COLLEGE  
**Life's Calling™**

2023 - 2025

**This program trains current and future operators in all 4 disciplines:**

**Water/Wastewater/Distribution/Collections**

**ASSOCIATE DEGREE OPTION (2 years):**

- Water Environmental Technology

**DIPLOMA OPTIONS (1 year):**

- Wastewater Treatment & Collection System Technology
- Water Treatment & Distribution System Technology
- Water & Wastewater Treatment Technology
- Water Distribution & Wastewater Collection System Technology

**CERTIFICATE OPTIONS (1 semester):**

- Wastewater Treatment Technology
- Water Treatment Technology
- Water Distribution Systems Technology
- Wastewater Collection Systems Technology

## A NOTE FROM OUR PROGRAM CHAIR

Thank you for considering Des Moines Area Community College (DMACC) and the Water Environmental Technology (WET) program. This program is rapidly increasing the number of certified water treatment, wastewater treatment, water distribution system, wastewater collection system operators in our state by providing quality training in an 'earn while you learn' format.

In cooperation with local water and wastewater treatment associations, the Iowa Department of Natural Resources, the Iowa Water Environment Association (IAWEA) and other organizations, DMACC has created a newly formatted Water Environmental Technology program designed to accommodate student and employer needs.

DMACC's innovative WET program requires onsite work-place training in addition to advanced courses in water and wastewater technology for those seeking an entry level position or career advancement in this industry.

The two-year program is made up of four separate certificates; Wastewater Treatment, Water Treatment, Water Distribution Systems, and Wastewater Collection Systems. Each certificate requires a 320-hour internship and 170 hours of course work. Combining the certificates leads students to diplomas or the degree; completing all four certificates, the general education courses plus a summer internship leads to an Associate of Applied Sciences Degree in Water Environmental Technology.

I look forward to your participation in the WET program as you prepare for a rewarding career in the water or wastewater industry. If you have any questions, please contact me at 515-965-7015 or [cjhennager@dmacc.edu](mailto:cjhennager@dmacc.edu).

Sincerely,

*Craig Hennager*

Craig Hennager  
WET Lead Instructor/Program Chair

# Water Environmental Technology Program at Des Moines Area Community College

## WATER ENVIRONMENTAL TECHNOLOGY (WET) PROGRAM APPLICATION PROCEDURES AND CHECK LIST

These are the procedures an applicant must successfully complete to become accepted as a WET program student. Check off each step when completed.

- \_\_\_\_\_ 1. **Complete the DMACC Application** online at [www.dmacc.edu](http://www.dmacc.edu). Go to “Admissions > Apply Now > New Student > Get Started as a New Student > I am ready to apply”. Click on ‘create account’ (under Sign In). The program choice should always be “Water Environmental Tech AAS” at Ankeny campus in the ‘Ag Animal and Natural Resources Pathway’ (unless you are an apprentice, check before applying).  
\*Students will be contacted by admissions after application is received – email or phone call. You will receive your DMACC student ID# and log-in information upon acceptance to be used for accessing a student portal for orientations and registration.
- \_\_\_\_\_ 2. **Apply for Financial Aid – complete the FAFSA** (Free Application for Federal Student Aid) [www.studentaid.gov/fafsa](http://www.studentaid.gov/fafsa). All students should apply because aid is not always income based. Apply by July 1<sup>st</sup> each year. Also check scholarships.
- \_\_\_\_\_ 3. **Secure an internship before classes begin.** It is the student’s responsibility to locate his/her own internship site/employer if not already working in the industry. New students should visit WET.DMACC.EDU > CREDIT PROGRAM > WET JOB BOARD, for recent postings; open positions are added weekly. Assistance is available if you are not currently working in the industry.
- \_\_\_\_\_ 4. **Complete the Online Orientation Session** – Students will be notified by email from the Orientation department when this is available, typically starts in April for fall, and October for spring. The email provides instructions of how to access the session.
- \_\_\_\_\_ 5. **Register for classes**– after orientation you will meet with the Advisor or Pathway Navigator to set up your schedule. More info is provided in the orientation session.

**CALENDAR OF KEY DATES  
WET PROGRAM | 2023 – 2025**

**2023**

**April thru July** – Ongoing orientation & class registration sessions.

**July 1** – Financial Aid application (FAFSA) deadline for the Last Dollar Scholarship!

Fall Semester - Wastewater Treatment or Water Distribution Track

|                         |                                 |
|-------------------------|---------------------------------|
| <b>August 23</b>        | Start of Fall Semester          |
| <b>September 4</b>      | Holiday – College Closed        |
| <b>October 17</b>       | Midterm                         |
| <b>October 27</b>       | In-Service Day – College Closed |
| <b>November 23-24</b>   | Holiday – College Closed        |
| <b>December 14</b>      | End of Fall semester            |
| <b>December 22 – 31</b> | Holiday – College Closed        |

**2024**

Spring Semester – Water Treatment or Wastewater Collections Track

|                      |                                 |
|----------------------|---------------------------------|
| <b>January 1 – 2</b> | Holiday - College Closed        |
| <b>January 8</b>     | Start of Spring Semester        |
| <b>January 15</b>    | Holiday – College Closed        |
| <b>February 16</b>   | In-Service Day – College Closed |
| <b>March 4</b>       | Midterm                         |
| <b>March 11 – 15</b> | Spring break                    |
| <b>May 2</b>         | End of Spring semester          |

Summer Semester - Internship

|                 |                          |
|-----------------|--------------------------|
| <b>May 21</b>   | Start of Summer Semester |
| <b>May 27</b>   | Holiday – College Closed |
| <b>July 2</b>   | Midterm                  |
| <b>July 4</b>   | Holiday – College Closed |
| <b>August 1</b> | End of Summer semester   |

Fall Semester - Wastewater Treatment or Water Distribution Track

|                     |                        |
|---------------------|------------------------|
| <b>August 21</b>    | Start of Fall semester |
| <b>December 12*</b> | End of Fall semester   |

**2025**

Spring Semester – Water Treatment or Wastewater Collections Track

|                   |                          |
|-------------------|--------------------------|
| <b>January 6*</b> | Start of Spring semester |
| <b>May 2*</b>     | End of Spring semester   |
| <b>May 7*</b>     | WET graduation           |

**NOTE: \*These dates are approximate dates only, and are subject to Board approval.**

## DES MOINES AREA COMMUNITY COLLEGE WATER ENVIRONMENTAL TECHNOLOGY PROGRAM

The Water Environmental Technology (WET) program is designed to provide the education requirements and work experience to meet eligibility of the industry certification exams. **Operators working in the industry and students interested in entering the field of water and wastewater treatment will benefit from the instruction.** The program requires an internship every semester, a 30-hour class and only 2 days a month of classroom lectures/laboratory activities at Des Moines Area Community College (DMACC) with the remainder of instruction on-line. Upon completion of the full program, the student will be prepared for a position as a Grade 1 or 2 operator in the water or wastewater treatment industry.

### **Online, Virtual, and Face-to-Face classes – Stay and work in your community!**

AAS degree is four 16-week semesters and one 10-week summer semester. Students remain in their communities to work. Students spend approximately 13 full-days attending classes either virtually (6 days) or at the Ankeny DMACC Campus (7 days) in the fall and spring, and intern at work in the summer.

- Breakdown of hours: 75 hours of virtual or face to face class time, 75 hours online, and 320 hours of internship over a 16-week span. This program will require an average of 5-6 hours a week of homework in addition to a student's regular hours at work/internship.
- General education course work for the AAS degree (such as Math, Communications, Science, or Management, etc.) can be completed online or at a location and time convenient to the student, and will not interfere with the student's internship.

### **Credit for Prior Learning**

Do you have a Grade 2 Certification or higher in any of the 4 disciplines? Submit your certificate to show your expertise for up to 50% of the degree. Contact Lori Card, Pathway Navigator, for appropriate forms.

### **Non-credit to Credit Conversion**

If you have taken a 30-hour course with us in prior years, we will accept those credits so you don't have to re-take the course. Contact Lori Card, Pathway Navigator, for appropriate forms.

### **CEU Conversion – earn your continuing education units faster!**

1 credit in this program = 1.5 CEUs

1 semester (12 credits) = 16 CEUs

The AAS degree = 79.5 CEUs

### **Employer/Internship site**

Since considerable time is spent on the internship, it is the prospective student's responsibility to locate his or her own employer/facility to gain industry work experience. If necessary, students can receive assistance in locating a potential internship site. The internship site provides training-related employment for the student during his/her work experience periods. Students will earn while they learn, so a considerable portion of any costs involved in the program is offset by the income earned during the internships.

### **Program Costs**

All tuition, fees and textbook costs are the responsibility of the WET program student; however, **most students are attending tuition-free** due to the overwhelming opportunities currently available through federal and state workforce funding. The two-year program costs are approximately \$12,882\* for in-state tuition/fees and \$2,600\* for books. Non-resident tuition may vary.

*\* Estimate only, based on 2022-23 tuition rate. Tuition rate is subject to annual Board approval.*

## PROGRAM BENEFITS

### **EARN PROFESSIONAL CERTIFICATIONS:**

WET Students meet IDNR/ABC Professional Operators Grade 1 certification requirements and are eligible to sit for the exams in each area at the end of each semester. Students meet Grade 2 certification requirements after 2 years and completing the AAS degree.

### **STUDENTS WORK FULL-TIME IN THEIR COMMUNITIES WHILE ATTENDING:**

Unlike conventional programs where the student goes to college and then secures a job, at DMACC, the WET student secures an employer before starting the program. This program requires some effort on the part of the students, however, the benefits are worth the effort. The WET program helps to develop the student's knowledge and skills needed to work in today's water and wastewater field, and start a career as a water or wastewater operator.

### **STUDENTS EARN WHILE THEY LEARN:**

Students will be paid while they are in the program. Pay rates are negotiated between the students and their employers. As a guide, rates for students on internship have run between \$15.00 per hour up to \$21.00 per hour. In some cases, employers are also helping the student with school expenses.

### **FREE TUITION\* - STATE AND INDUSTRY FUNDED SCHOLARSHIPS:**

Most students receive tuition free education in this program!

- \*The program qualifies for the Last Dollar Scholar financial assistance through the state of Iowa and most students who complete their FAFSA by July 1 receive assistance.
- All students entering the program receive a \$1000 scholarship from an industry fundraising event. The scholarship is paid over the course of their first year and is currently renewable to the 2<sup>nd</sup> year to students in good academic standing.
- Many additional industry scholarships are available to students entering the water/wastewater field. We maintain a list of on-going college and industry scholarships and encourage everyone to apply for everything they are eligible for to reduce tuition fees.
- Students can find the most up-to-date list of scholarships on our website at <https://www.dmaccc.edu/programs/water/Pages/wet-scholarships.aspx>

If you would like additional information on these topics, please feel free to contact us:

Craig Hennager  
WET Lead Instructor / Program Chair  
Phone: 515-965-7015  
Email: [cjhennager@dmacc.edu](mailto:cjhennager@dmacc.edu)

Lori Card  
Pathway Navigator  
Phone: 515-965-7160  
Email: [llcard@dmacc.edu](mailto:llcard@dmacc.edu)

[WET.DMACC.EDU](http://WET.DMACC.EDU) (click on [Credit Program - learn more](#))

## **EXPECTED RESPONSIBILITIES OF PARTICIPANTS**

### **DES MOINES AREA COMMUNITY COLLEGE**

- WET Program Chair will manage all administrative aspects of the WET program.
- Assist employers with student selection process and recruiting.
- Furnish program information on request.
- Provide on-campus instruction in accordance with the approved WET curriculum.
- Maintain student scholastic records.
- Provide academic advisement.
- Keep employers informed regarding students' academic progress and/or potential problems.
- Identify competencies to be gained during work experience at internship.
- Work with employer WET contact person to assure attainment of work experience competencies.

### **WET STUDENT**

- Obtain and maintain employment in water or wastewater field.
- Provide employer with responsible and productive employment.
- Maintain a 2.0 GPA (C or better in all WET courses) and 67% completion of all coursework.
- Adhere to attendance policy as established by DMACC WET program.
- Participate in all learning activities at the scheduled times.
- Be responsible for program costs: tuition, fees, books.
- Wear appropriate work uniforms during on job training.
- Participate in meetings during internships and any other training provided by the employer.

### **EMPLOYER**

- Appoint a contact person to guide students in their work experiences and maintain close communication with DMACC.
- Interview and select prospective student(s).
- Agree to provide "WET coordinated work experience" in accordance with the program schedule for the duration of the curriculum.
- Agree to pay WET student(s) during periods of WET-coordinated work experience based on the trainee's experience and ability.
- Provide related work experience that supplements the trainee's most recent instruction (to the extent possible).
- Provide consideration consistent with other employees, such as uniforms, etc.
- Attend WET Industry meetings.
- Participate in WET Advisory Board meetings if desired or upon invite.



## **WET ADMINISTRATION**

The WET program is administered by the Industry and Technology Department at Des Moines Area Community College.

Jenny Foster, Exec Academic Dean of Industry & Technology, and Craig Hennager, WET Program Chairperson, perform the duties of coordinating the WET program.

## **WET INSTRUCTORS**

All WET instructors will maintain a Grade 3 IDNR license in water treatment, waste water treatment, water distribution, or waste water collections or verifiable subject matter expertise. DMACC instructors are responsible for attending continuing education contact hours in order to retain their IDNR licenses as well as to ensure that the instructors are fully trained in appropriate subject areas. Some WET instructors will be cross-trained in subjects outside of their assigned teaching area(s).

## **WET ADVISORY COMMITTEE**

The main purpose of the WET Advisory Committee is to further the quality of operator education, both at the employer level and at school.

The WET Advisory Committee is made up of the following people:

- industry representatives
- college representatives
- organization and association representatives
- one present or graduate student representative.

This committee meets twice a year and has the responsibility to vote on any changes made to the WET program.

If you would like to serve as a member of our advisory board, please contact Craig Hennager.

## **WORK EXPERIENCE/INTERNSHIP ROLES AND RESPONSIBILITIES**

The WET Program Chair also serves as an Internship Instructor.

This arrangement will:

- Provide immediate feedback on the effectiveness of the instruction.
- Encourage the employer to work closely with the WET program chair.
- Result in the best possible application of college instruction put to use on the job.

The WET student will:

- Log their work experience daily.
- Have a supervisor sign off on it weekly.
- Submit reports weekly to the WET Internship Instructor (see page A-1).

During each semester's internship, the WET Internship Instructor, Employer, and the WET student will arrange at least one formal conference. A Supervisor Performance Evaluation and an Internship Questionnaire (see pages A-2 and A-3) will be completed by the WET Internship Instructor and Internship Supervisor at each visitation.

### **WET INTERNSHIP**

The internship is vital to the Water and Wastewater industry and the WET student. The employer's investment will be greatly enhanced by providing work experience that compliments the current semester's course work.

Each student and employment coordinator will be given an internship outline and task list. It is the responsibility of the student to check off each task as it is completed.

It is the responsibility of the employment coordinator to provide work in those areas the student has just completed classroom instruction. Through this cooperation, the skills taught in class can be fully developed and the employer will benefit from the student's growth.

**DES MOINES AREA COMMUNITY COLLEGE  
WATER ENVIRONMENTAL TECHNOLOGY (WET)**

**Contact Persons**

**Craig Hennager, Lead Instructor/Chair**

WET Program

DMACC

2006 S. Ankeny Blvd., Bldg. 19

Ankeny, IA 50023

515-965-7015

[cjhennager@dmacc.edu](mailto:cjhennager@dmacc.edu)

Scott Schultz

Executive Academic Dean

DMACC

2006 S. Ankeny Blvd., Bldg. 9

Ankeny, IA 50023

515-965-7123

[sfschultz@dmacc.edu](mailto:sfschultz@dmacc.edu)

Aimee Devereaux, Training Coordinator

WET Program – Continuing Education

DMACC

2006 S. Ankeny Blvd., Bldg. 19

Ankeny, IA 50023

515-964-6818

[adevereaux@dmacc.edu](mailto:adevereaux@dmacc.edu)

Christa Grove, Academic Advisor

DMACC

2006 S. Ankeny Blvd., Bldg. 1

Ankeny, IA 50023

515-964-6243

[clgrove@dmacc.edu](mailto:clgrove@dmacc.edu)

**Lori Card, Pathway Navigator**

DMACC

2006 S. Ankeny Blvd., Bldg. 18

Ankeny, IA 50023

515-965-7160

[llcard@dmacc.edu](mailto:llcard@dmacc.edu)

**The primary WET contacts are Craig Hennager and Lori Card.**

## **WET PROGRAM INSTRUCTIONAL STAFF**

**Craig Hennager, Lead Instructor**

Current WET Program Chair  
Des Moines Area Community College

**Steve Moehlmann, Adjunct Instructor**

Owner: M & M Consulting Services  
Retired WET Program Chair, DMAACC  
Retired Training Specialist:  
Des Moines Wastewater Reclamation Authority (WRA)

**Phil Propes, Adjunct Instructor**

Retired Water Treatment Supervisor:  
Rock Island Arsenal and City of Ames Water Treatment Plant

**Tim Wilson, Adjunct Instructor**

Current Project Manager | Western Division  
DIXON Engineering, Inc.

**Scott Oberholte, Adjunct Instructor**

Current Sales/Principal  
Allied Systems, Inc.

**Adam Smith, Adjunct Instructor**

Current Deputy Director  
Des Moines Public Works

**Tom Atkinson, Adjunct Instructor**

Current Senior Water Solutions Specialist  
ISG Inc.

**Amber Erickson, Adjunct Instructor**

Current Lab Analyst 2, FOG Inspector  
Des Moines Wastewater Reclamation Authority (WRA)

**Tim Runde, Adjunct Instructor**

Current Training Specialist  
Des Moines Wastewater Reclamation Authority (WRA)

## TUITION AND FEES

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### Tuition

Resident Full or Part-time enrollment (per credit) . . . . . \$185.00\*  
Non-resident tuition is 200% of resident rate

### Fees\*\*

Credit for Prior Learning, processing fee. . . . . \$50.00  
On-line Technology Course Fee (per credit hour) . . . . . \$30.00  
Web-Blended Course Fee (per credit hour) . . . . . \$0.00

\* *Tuition rate is for 2023-24 academic year.*

\*\**All fees are non-refundable.*

*Des Moines Area Community College reserves the right to change tuition and fees at any time.*

## FINANCIAL AID

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**ALL students are highly encouraged to apply for financial aid regardless of income level.**

Water Environmental Technology students are eligible for many extra state and industry scholarships/grants and many are not dependent on income.

All financial assistance available to DMACC students is administered by the Ankeny Campus Financial Aid Office. Students may receive assistance in the form of scholarships, grants, loans, and/or part-time employment, depending on eligibility.

- **How to apply:** The Free Application for Federal Student Aid (FAFSA) is available at [www.studentaid.gov](http://www.studentaid.gov) or by appointment with an Iowa College Access Network (ICAN) at any DMACC campus or through Iowa High School counselors.
- **When to apply:** Apply for financial aid as soon as you can, the application is available in October for the next academic year. It can take several weeks for these applications to be processed and it is necessary to reapply each year.

**Deadline for additional state funds (Last Dollar Scholar) is JULY 1<sup>st</sup>.**

Contact the DMACC Financial Aid Office for additional information  
515-964-6282

## STUDENT FINANCIAL PLANNING GUIDE

|                    | <b>2023<br/>Fall<br/>Semester<br/>(16 credits)</b> | <b>2024<br/>Spring<br/>Semester<br/>(15 credits)</b> | <b>2024<br/>Summer<br/>Semester<br/>(8 credits)</b> | <b>2024<br/>Fall<br/>Semester<br/>(15 credits)</b> | <b>2025<br/>Spring<br/>Semester<br/>(15 credits)</b> | <b>Total Cost<br/>(69 credits)</b> |
|--------------------|--|--|---|--|--|------------------------------------|
| <b>Tuition</b>     | \$2,960.00   | \$2,775.00   | \$1,480.00  | \$2,775.00   | \$2,775.00   | \$12,765.00                        |
| <b>Online fees</b> | \$150.00   | \$120.00   | \$90.00   | \$120.00   | \$120.00   | \$600.00                           |
| <b>Books</b>       | \$750.00   | \$650.00   | \$350.00  | \$500.00   | \$350.00   | \$2,600.00                         |
| <b>Total*</b>      | \$3,860.00   | \$3,545.00   | \$1,920.00  | \$3,395.00   | \$3,245.00   | \$15,965.00                        |

\* Costs are approximate figures, based on 2023-24 in-state tuition rates. For out-of-state costs - see Tuition and Fees, page 10. Tuition and fee rates are subject to Board approval each year.

**Most students are currently paying much less than this because of the available financial assistance for the program.**

### HOUSING

**WET Students are able to live anywhere in the state during this program;** they do not need to move to the Ankeny campus. This information is for students whose internship is in the Des Moines area and wish to live on campus.

Des Moines Area Community College does not have dormitories and does not manage housing. See below for various housing options and management entities.

For more information on housing opportunities, contact the DMACC Information Office at 515-964-6200, or visit the DMACC website at <https://www.dmacc.edu/housing/Pages/welcome.aspx>

### GYM MEMBERSHIP – ANKENY CAMPUS

Work out while you're on campus! DMACC students enrolled in 6 credits or more can use Trail Point Aquatics and Wellness Center in Ankeny, Building 5 for FREE!

The facility has a pool, 2 full gyms, fitness center (cardio-free weights-cable-weight machines), fitness classes, indoor track, personal training, racquetball courts, and a kid's zone!

Visit their website at <https://www.mytrailpoint.com/Pages/welcome.aspx> for more information.

### Wastewater Treatment Track – (recommended track for 1<sup>st</sup> year)

WAT111 Wastewater Treatment 30-Hour - 2 credits

Tues/Thu, 9:00am – 3:00pm: (First 3 weeks of the semester)

Virtual classroom on Blackboard Collaborate

WAT112 Wastewater Treatment Lab - 1 credit

Online only, no meeting times: runs all semester (pre-req. / co-req. WAT111)

WAT113 Wastewater Math, Analysis, O & M - 4 credits

Meets online all semester AND Face-to-Face in Ankeny on selected days

- 2 Thursdays, 8:00am – 4:30pm: - Sep (Operations & Maintenance)
- 2 Thursdays, 8:00am – 4:30pm - Oct (Analysis)
- 3 Thursdays, 9:00am – 3:00pm - Nov (Math)

WAT114 Technical Internship I - 5 credits

Location is workplace, Online assignments due weekly runs all semester; no meeting times

### Water Distribution Track

WAT241 Water Distribution 30-Hour – 2 credits

Tues/Thu, 9:00am – 3:00pm: (First 3 weeks of the semester)

Virtual classroom on Blackboard Collaborate

WAT242 Water Distribution Lab - 1 credit

Online only, no meeting times: runs all semester (pre-req. / co-req. WAT241)

WAT243 Water Distribution Math, Analysis, O & M - 4 credits

Meets online all semester AND Face-to-Face in Ankeny on selected days

- 2 Tuesdays, 8:00am – 4:30pm: - Sep (Operations & Maintenance)
- 2 Tuesdays, 8:00am – 4:30pm - Oct (Analysis)
- 3 Tuesdays, 9:00am – 3:00pm - Nov (Math)

WAT244 Technical Internship IV – 5 credits

Location is workplace, Online assignments due weekly runs all semester; no meeting times

### General Education course selections – 1<sup>st</sup> & 3<sup>rd</sup> semester

CHOOSE 1 EACH SEMESTER:

SDV108 The College Experience – 1 credit – online

MAT772 Applied Math – 3 credits – online

MGT145 Human Relations in Management – 3 credits - online

### Water Treatment Track – (recommended track for 1<sup>st</sup> year)

WAT121 Water Treatment 30-Hour - 2 credits

Tues/Thu, 9:00am – 3:00pm: (First 3 weeks of the semester)

Virtual classroom on Blackboard Collaborate

WAT122 Water Treatment Lab - 1 credit

Online only, no meeting times: runs all semester (pre-req. / co-req. WAT121)

WAT123 Water Treatment Math, Analysis, O & M - 4 credits

Meets online all semester AND Face-to-Face in Ankeny on selected days

- 2 Tuesdays, 8:00am – 4:30pm: - February (Operations & Maintenance)
- 2 Tuesdays, 8:00am – 4:30pm - March (Analysis)
- 3 Tuesdays, 9:00am – 3:00pm - April (Math)

WAT124 Technical Internship II - 5 credits

Location is workplace, Online assignments due weekly, runs all semester; no meeting times

### Wastewater Collections Track

WAT251 Wastewater Collections 30-Hour – 2 credits

Tues/Thu, 9:00am – 3:00pm: (First 3 weeks of the semester)

Virtual classroom on Blackboard Collaborate

WAT252 Wastewater Collections Lab - 1 credit

Online only, no meeting times: runs all semester (pre-req. / co-req. WAT251)

WAT253 Wastewater Collections Math, Analysis, O & M - 4 credits

Meets online all semester AND Face-to-Face in Ankeny on selected days

- 2 Thursdays, 8:00am – 4:30pm: - February (Operations & Maintenance)
- 2 Thursdays, 8:00am – 4:30pm - March (Analysis)
- 3 Thursdays, 9:00am – 3:00pm – April (Math)

WAT254 Technical Internship V – 5 credits

Location is workplace, Online assignments due weekly runs all semester; no meeting times

### General Education course selections – 2<sup>nd</sup> & 4<sup>th</sup> semester

CHOOSE 1 EACH SEMESTER:

COM703 Communication Skills – 3 credits – online

One Core AAS Humanities or Social/Behavioral course – 3 credits - online



## **Example of SUMMER Course Schedule**

### **Summer Internship**

WAT131 Technical Internship III – 5 credits

Location is workplace, Online assignments due weekly runs all semester; no meeting times

### **General Education course options – 3<sup>rd</sup> semester**

*CHOICE:* Core AAS course – 3 credits - online

## **WET Program Course Descriptions**

### **WAT111 Wastewater Treatment 30 hour**

This course has been developed using the Association of Boards of Certification Wastewater Treatment Operator Need to Know Criteria. The instruction includes fundamentals of wastewater treatment operations, maintenance, lab analysis, security, safety, and administrative procedures.

### **WAT112 Wastewater Treatment Lab (online)**

This course has been developed using the Association of Boards of Certification Wastewater Treatment Operator Need to Know Criteria. Through this course, students will demonstrate knowledge of wastewater treatment operations, maintenance, lab analysis, security, safety, and administrative procedures.

### **WAT113 Wastewater Treatment Math, Lab Analysis, and Equipment O&M**

In this course students will learn: how to use and complete formulas and conversion tables to solve wastewater treatment problems; proper techniques for wastewater treatment regulatory compliance sampling, analyzing and interpreting lab data, and use of laboratory equipment and instrumentation; different types of wastewater treatment equipment, their specific uses, lubrications, start up and shut down, preventive and corrective maintenance, and troubleshooting.

### **WAT114 Internship**

Work experience at a Wastewater Treatment Facility. Tasks will be consistent with the student's ability and coursework.

### **WAT121 Water Treatment 30 hour**

This course has been developed using the Association of Boards of Certification Water Treatment Need Operator Know Criteria. The instruction includes fundamentals of water treatment operations, maintenance, source water characteristics, lab analysis, security, safety, compliance, and administrative procedures.

### **WAT122 Water Treatment Lab (online)**

This course has been developed using the Association of Boards of Certification Water Treatment Need Operator Know Criteria. Through this course, students demonstrate knowledge of water treatment operations, maintenance, source water characteristics, lab analysis, security, safety, compliance, and administrative procedures.

### **WAT123 Water Treatment Math, Lab Analysis, Equipment O&M**

In this course students will learn: how to use and complete formulas and conversion tables to solve water treatment problems; proper techniques for water treatment regulatory compliance sampling, analyzing and interpreting lab data, and use of laboratory equipment and instrumentation; different types of water treatment equipment, their specific uses, lubrications, start up and shut down, preventive and corrective maintenance, and troubleshooting.

### **WAT124 Internship**

Work experience at a Water Treatment Facility. Tasks will be consistent with the student's ability and coursework. The students will be working full or part-time for a minimum of 320 hours each semester. Internships may be longer since students can work during college breaks.

### **WAT131 Summer Internship**

Work experience in the Water Environmental Industry Field. Tasks will be consistent with the student's ability and coursework. The students will be working full or part-time for a minimum of 320 hours each semester. Internships may be longer since students can work during college breaks.

### **WAT241 Water Distribution 30 Hour**

This course has been developed using the Association of Boards of Certification Water Distribution Operator Need to Know Criteria. The instruction includes fundamentals of water distribution system components, equipment installation, operation, maintenance, disinfection monitoring, evaluation, adjustment, lab analysis/interpretation, security, safety, administration procedures, and public interactions.

### **WAT242 Water Distribution Lab (online)**

This course has been developed using the Association of Boards of Certification Water Distribution Operator Need to Know Criteria. Through this course, students demonstrate knowledge of water distribution system components, equipment installation, operation, maintenance, disinfection monitoring, evaluation, adjustment, lab analysis/interpretation, security, safety, administration procedures, and public interactions.

### **WAT243 Water Distribution Math, Lab Analysis, Equipment O&M**

In this course students will learn: how to use and complete formulas and conversion tables to solve water distribution system problems; proper techniques for water distribution regulatory compliance sampling, analyzing and interpreting lab data, and use of laboratory equipment and instrumentation; different types of water distribution equipment, their specific uses, lubrications, start up and shut down, preventive and corrective maintenance, and troubleshooting.

### **WAT244 Internship**

Work experience for a Water Distribution System. Tasks will be consistent with the student's ability and coursework. The students will be working full or part-time for a minimum of 320 hours each semester. Internships may be longer since students can work during college breaks.

### **WAT251 Wastewater Collections 30 Hour**

This course has been developed using the Association of Boards of Certification Wastewater Collection Operator Need to Know Criteria. The instruction includes fundamentals of collection system operations, equipment, maintenance, restoration, monitoring, evaluation, adjustment, security, safety, and administrative procedures.

**WAT252 Wastewater Collections Lab (online)**

This course has been developed using the Association of Boards of Certification Wastewater Collection Operator Need to Know Criteria. Through this course, students will demonstrate knowledge of collection system operations, equipment, maintenance, restoration, monitoring, evaluation, adjustment, security, safety, and administrative procedures.

**WAT253 Wastewater Collections Math, Lift Stations, Equipment O & M**

In this course students will learn: how to use and complete formulas and conversion tables to solve wastewater collection system problems; lift station operation and maintenance; different types of wastewater collection equipment, their specific uses, lubrications, start up and shut down, preventive and corrective maintenance, and troubleshooting.

**WAT254 Internship**

Work experience for a Wastewater Collection System. Tasks will be consistent with the student's ability and coursework. The students will be working full or part-time for a minimum of 320 hours each semester. Internships may be longer since students can work during college breaks.

## **GENERAL EDUCATION COURSES:**

### **SDV 108 – The College Experience**

The goals of the course are to connect students to faculty, peers, and college resources, while introducing students to the college's expectations and environment and to strategies that promote and encourage student success in college and life.

### **COM 703 – Communication Skills**

Reading, writing, speaking, and listening are studied as methods of exploring and evaluating technological advances in trades and industry. Adapting communication for different audiences, evaluating industry-related literature and basic business writing are emphasized.

### **MAT 772 – Applied Math**

A course in elementary mathematical skills for technicians. Topics covered include fundamental operations with whole numbers, fractions, decimals, and signed numbers; percents; geometric figures and basic constructions; area and volume formulas; English/metric systems; measurements; and the interpretation of graphs and charts.

### **MGT 145 – Human Relations in Management (or any AAS Social/Behavioral course)**

Emphasizes the importance of the development of proper attitudes toward self, others, and organizational settings. Stresses the development of a good self-image and the relationship this has to energy levels, emotions, verbal and nonverbal communication and defensiveness.

### **Choice of any AAS Humanities OR Social/Behavioral course**

This is a course of your choice in Psychology, Sociology, Political Science, Art, History, Literature, Music, History, Philosophy/Ethics, or Religion. Check with your Pathway Navigator or Academic Advisor for recommendations or substitutions.

### **Choice of any AAS Distributed course**

This is a course of your choice in any of the core academic areas and could include science, math, an additional social/behavioral/humanities course, or a composition/public speaking type of course. Check with your Pathway Navigator or Academic Advisor for recommendations or substitutions.

### Please note:

- These related recommended courses meet minimum standards required for an WET AAS degree but may not be the best choice if you plan to transfer to a four-year university. Before registering, it is best to check with the Pathway Navigator or Academic Advisor for recommended courses.
- If you have taken college coursework at DMACC or another college prior to this degree, your credits may be able to fulfill some or all of these requirements. Submit all official transcripts to our admissions department for an official credit evaluation at least 2-3 weeks prior to registration.

## **PROPOSED WET PAY PLAN...A GUIDE FOR EMPLOYERS**

**This page is to provide direction to employers in the development of a pay plan for their new WET students and address the following questions:**

1. Provide a fair and competitive wage.
2. Develop an incentive plan that will reward the WET intern for academic performance, industry certifications, and productivity.
3. Provide regular salary increases as knowledge and skills increase.
4. Encourage the WET intern to remain as a full-time employee after graduation.

### **Important points to remember about a WET intern:**

1. The intern is a trainee – not just a laborer or seasonal help.
2. The intern should be assigned to work with an experienced operator who will function as a “training operator.”
3. The goal is for interns to be paid a salary.
4. WET interns gauge their value to the employer by how they feel they are treated and how they are paid.

### **Encouraged Salary Conversations For new WET interns & their employers**

#### **Encouraged Starting Salary:**

- \$15 - \$21 per hour depending on experience

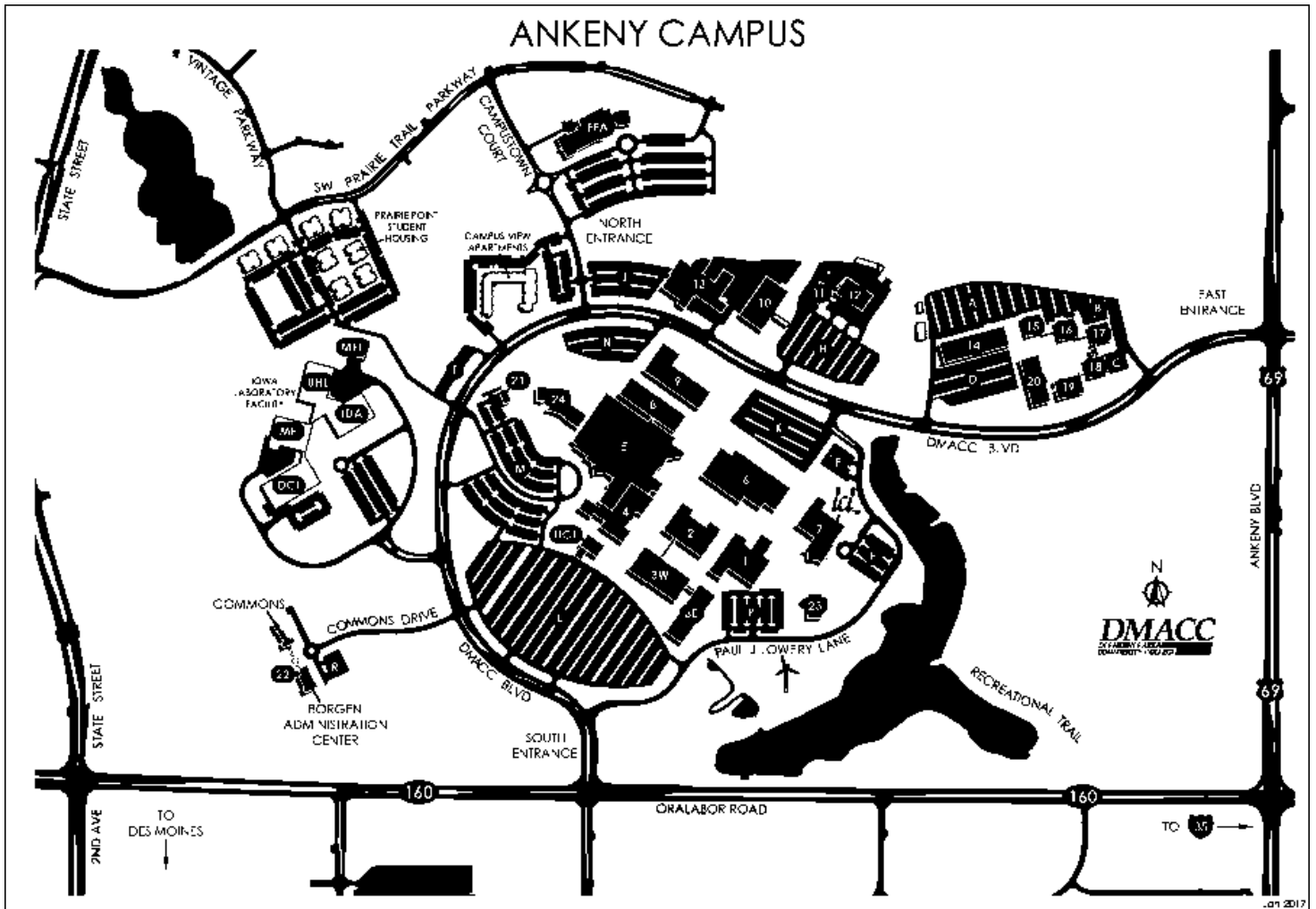
#### **Possible Incentives:**

- Each student will be taking their IDNR exams at the end of each internship. We recommend opportunities for pay increases as they earn their grades.

#### **Remember:**

- Treat the intern as a valuable employee.
- Provide the related on the job training.
- Pay a fair wage.

Questions about Internship pay, responsibilities, and student performance expectations should be directed to the WET Program Chair, Craig Hennager.



DMACC, Des Moines Area Community College  
 2006 S. Ankeny Blvd.  
 Ankeny, IA 50023-3993  
 515-964-6200 or 1-800-362-2127

**WET INTERNSHIP: WEEKLY WORK REPORT**

**Student Name:** \_\_\_\_\_

**Week of:** \_\_\_\_\_

**Instructions:**

- Fill in the form each day.
- Each day should include information from the following 5 categories in order to describe a clear picture of the day's work.
  - a. Equipment operation, evaluation & maintenance
  - b. Collection system operation, maintenance & restoration
  - c. Lift station operation and maintenance
  - d. Collection system monitoring, evaluation & adjustment
  - e. Security, safety & administrative procedures

| Day       | Work Order # | Work Done | Hours |
|-----------|--------------|-----------|-------|
| Monday    |              |           |       |
| Tuesday   |              |           |       |
| Wednesday |              |           |       |
| Thursday  |              |           |       |
| Friday    |              |           |       |
| Saturday  |              |           |       |
| Sunday    |              |           |       |

Supervisor Signature: \_\_\_\_\_



Student Name: \_\_\_\_\_

Week of: \_\_\_\_\_

**Instructions:**

- Complete Supervisor Evaluation with Supervisor.
- Must have Supervisors Signature and Date when submitted.
- Grade 1 “Need to Know” should accompany this document.

| Objectives  | Work Done/Examples/Comments | Goal   |
|---|-----------------------------|--|
| Equipment Operations, Evaluation, & Maintenance   |                             | <ol style="list-style-type: none"> <li>1. Needs Improvement</li> <li>2. Meets</li> <li>3. Exceeds</li> </ol> |
| Systems Operation, Maintenance, & Restoration     |                             | <ol style="list-style-type: none"> <li>1. Needs Improvement</li> <li>2. Meets</li> <li>3. Exceeds</li> </ol> |
| Lift Station/Pump Station Operation & Maintenance |                             | <ol style="list-style-type: none"> <li>1. Needs Improvement</li> <li>2. Meets</li> <li>3. Exceeds</li> </ol> |
| Treatment Process                                 |                             | <ol style="list-style-type: none"> <li>1. Needs Improvement</li> <li>2. Meets</li> <li>3. Exceeds</li> </ol> |
| System Monitoring, Evaluation & Adjustment        |                             | <ol style="list-style-type: none"> <li>1. Needs Improvement</li> <li>2. Meets</li> <li>3. Exceeds</li> </ol> |
| Security, Safety & Administrative Procedures      |                             | <ol style="list-style-type: none"> <li>1. Needs Improvement</li> <li>2. Meets</li> <li>3. Exceeds</li> </ol> |
| Laboratory Analysis                               |                             | <ol style="list-style-type: none"> <li>1. Needs Improvement</li> <li>2. Meets</li> <li>3. Exceeds</li> </ol> |
| Teamwork, Productivity & Reliability              |                             | <ol style="list-style-type: none"> <li>1. Needs Improvement</li> <li>2. Meets</li> <li>3. Exceeds</li> </ol> |

Supervisor Signature: \_\_\_\_\_ Date \_\_\_\_\_

**DES MOINES AREA COMMUNITY COLLEGE  
WATER ENVIRONMENTAL TECHNOLOGY (WET) PROGRAM  
INTERNSHIP QUESTIONNAIRE**

Date \_\_\_\_\_

Internship #: \_\_\_\_\_

Student Name \_\_\_\_\_

Employer \_\_\_\_\_

Employment Personnel Interviewed \_\_\_\_\_

DMACC Internship Coordinator \_\_\_\_\_

This evaluation is a factor used in calculating the grade of the student for this internship. Internships are part of their college graduation requirements.

1. Who is the operator acting as a mentor to the intern?

\_\_\_\_\_

2. How is work assigned to the intern?

\_\_\_\_\_

3. Does the person assigning work have a copy of the task list?

\_\_\_\_\_

4. Does the intern arrive to work daily and on time?

\_\_\_\_\_

5. Is the intern a courteous and conscientious worker?

\_\_\_\_\_

6. Is the intern ready and willing to work?

\_\_\_\_\_

7. Does the intern get along with co-workers?

\_\_\_\_\_

8. How often does the intern ask for help? (% of jobs or type of jobs)

\_\_\_\_\_

9. Do you believe the intern's technical level is appropriate for this point in his/her education?

\_\_\_\_\_

10. At what types of jobs does the intern excel?

\_\_\_\_\_

11. What types of jobs does the intern struggle with?

\_\_\_\_\_

OVER

12. What percentage of tasks has been completed at this point?

---

13. What task(s) will not be completed and why?

---

---

14. Has the overall WET internship experience been satisfactory?

---

15. What is the intern's wages?

---

16. Has there been a raise this internship?

---

17. Are there any different expectations for the next internship?

---

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18. In your opinion, what grade should your intern receive if you were assigning a grade today and why?

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19. Additional comments.

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# **Water** **Environmental** **Technology Program** at Des Moines Area Community College

**For more information:**

**Craig Hennager**  
**Lead Instructor/Chair**  
515-965-7015  
[cjhennager@dmacc.edu](mailto:cjhennager@dmacc.edu)

**Lori Card**  
**Pathway Navigator**  
515-965-7160  
[llcard@dmacc.edu](mailto:llcard@dmacc.edu)

**Scan to go to our  
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DMACC WET Program  
Water Environmental Technology



Degree  
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