



**2015-2016 PETITION/PROGRAM SHEET**  
**Degree: Associate of Applied Science**  
**Major: Water Quality Management**

**About This Major . . .**

The Water Quality Management Program will prepare students for entry level employment as technicians in the water processing industry. Water quality technicians work in teams to operate drinking water treatment systems and wastewater treatment systems. The workers plan, test for quality, operate complex equipment to acquire and deliver high quality drinking water or process waste water for return to the environment.

This program will provide the student with an understanding of the regulatory expectations, the science involved in meeting regulatory expectations, the equipment used to process water, and the systems management skills necessary to be a successful employee in the water processing industry. The industries interested in hiring graduates of this program are the public drinking water utilities and the wastewater treatment systems.

For more information on what you can do with this major, go to <http://www.coloradomesa.edu/wccc/programs.html>

All CMU associate graduates are expected to demonstrate proficiency in critical thinking, communication fluency, quantitative fluency, and specialized knowledge/applied learning. In addition to these campus-wide student learning outcomes, graduates of this major will be able to:

1. Apply business communication using listening, verbal and written, and electronic forms that are needed for entry level employment. (Communication)
2. Apply Mathematical and applied physics concepts for industry to meet employment requirements (Quantitative Fluency)
3. Research, evaluate, synthesize and apply information/data relevant to business, sciences, and technical careers. (Critical Thinking)
4. Demonstrate knowledge of terminology, symbols, business practices, and principles and application of associated technical skills. (Specialized Knowledge)
5. Perform the necessary applied skill sets to fulfill the needs of entry level employment. (Applied Learning)
6. Demonstrate ethical, civic, and work place responsibility as part of professional behavior. (Specialized Knowledge)

**NAME:** \_\_\_\_\_ **STUDENT ID #:** \_\_\_\_\_

**LOCAL ADDRESS AND PHONE NUMBER:** \_\_\_\_\_

\_\_\_\_\_ ( ) \_\_\_\_\_

I, (Signature) \_\_\_\_\_, hereby certify that I have completed (or will complete) all the courses listed on the Program Sheet. I have read and understand the policies listed on the last page of this program sheet. I further certify that the grade listed for those courses is the final course grade received except for the courses in which I am currently enrolled and the courses which I complete next semester. I have indicated the semester in which I will complete these courses.

\_\_\_\_\_  
Signature of Advisor

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Department Head

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Registrar

\_\_\_\_\_  
Date

**DEGREE REQUIREMENTS:**

- 68 semester hours total (A minimum of 16 taken at CMU in no fewer than two semesters).
- 2.00 cumulative GPA or higher in all CMU coursework
- A grade of "C" or higher must be achieved in all coursework toward major content area.
- Pre-collegiate courses (usually numbered below 100) cannot be used for graduation.
- A student must follow the CMU graduation requirements either from 1) the program sheet for the major in effect at the time the student officially declares a major; or 2) a program sheet for the major approved for a year subsequent to the year during which the student officially declares the major and is approved for the student by the department head. Because a program may have requirements specific to the degree, the student should check with the faculty advisor for additional criteria. It is the student's responsibility to be aware of, and follow, all requirements for the degree being pursued. Any exceptions or substitutions must be approved by the student's faculty advisor and Department Head.
- When filling out the program sheet a course can be used only once.
- See the "Undergraduate Graduation Requirements" in the catalog for additional graduation information.

**ESSENTIAL LEARNING REQUIREMENTS** (Minimum 15 semester hours) See the current catalog for a list of courses that fulfill the requirements below. If a course is on the Essential Learning list of options and a requirement for your major, you must use it to fulfill the major requirement and make a different selection within the Essential Learning requirement. The Essential Learning capstone course and co-requisite Essential Speech course (required for bachelor's degrees) cannot be used as options for the below requirements.

| Course | No | Title | Sem.hrs | Grade | Term |
|--------|----|-------|---------|-------|------|
|--------|----|-------|---------|-------|------|

**Communication:** (6 semester hours)

|          |                     |   |       |       |
|----------|---------------------|---|-------|-------|
| ENGL 111 | English Composition | 3 | _____ | _____ |
| ENGL 112 | English Composition | 3 | _____ | _____ |

**-OR-**

|          |                                       |   |       |       |
|----------|---------------------------------------|---|-------|-------|
| ENGL 111 | English Composition <u>and</u>        | 3 | _____ | _____ |
| SPCH 101 | Interpersonal Communication <u>or</u> | 3 | _____ | _____ |
| SPCH 102 | Speechmaking                          | 3 | _____ | _____ |

| Course | No | Title | Sem.hrs | Grade | Term |
|--------|----|-------|---------|-------|------|
|--------|----|-------|---------|-------|------|

**Mathematics:** (Minimum 3 semester hours)

|                   |                       |   |       |       |
|-------------------|-----------------------|---|-------|-------|
| MATH 108          | Technical Mathematics | 4 | _____ | _____ |
| (or higher level) |                       |   |       |       |

**Social Sciences, Natural Science, Fine Arts, or Humanities**  
(Minimum 6 semester hours)

|       |       |   |       |       |
|-------|-------|---|-------|-------|
| _____ | _____ | 3 | _____ | _____ |
| _____ | _____ | 3 | _____ | _____ |

**WELLNESS REQUIREMENT** (2 semester hours)

|          |                     |   |       |       |
|----------|---------------------|---|-------|-------|
| KINE 100 | Health and Wellness | 1 | _____ | _____ |
| KINA 1   | _____               | 1 | _____ | _____ |

**ASSOCIATE OF APPLIED SCIENCE: COURSE REQUIREMENTS**

(51 semester hours)

|           |                                 |   |       |       |
|-----------|---------------------------------|---|-------|-------|
| CHEM 121  | Principles of Chemistry         | 4 | _____ | _____ |
| CHEM 121L | Principles of Chem Lab          | 1 | _____ | _____ |
| WQMS 100  | Intro to Water Quality          | 3 | _____ | _____ |
| WQMS 105  | Calculations for WQM            | 4 | _____ | _____ |
| WQMS 106  | Mech/Phys Treatment             | 3 | _____ | _____ |
| WQMS 109  | Water Distribution              | 3 | _____ | _____ |
| WQMS 116  | Surface Water Treatment         | 3 | _____ | _____ |
| WQMS 118  | Wastewater Collect Syst         | 3 | _____ | _____ |
| WQMS 119  | Water Quality Analysis          | 4 | _____ | _____ |
| WQMS 227  | Utility Management              | 3 | _____ | _____ |
| WQMS 212  | Drinking Water Regulations      | 4 | _____ | _____ |
| PROS 100  | Intro to Process Technology     | 3 | _____ | _____ |
| PROS 110  | Safety, Health, and Environment | 3 | _____ | _____ |
| PROS 210  | Pros Tech II: Systems           | 4 | _____ | _____ |
| PROS 130  | Instrumentation                 | 3 | _____ | _____ |
| TECI 110  | Applied Physics                 | 3 | _____ | _____ |

\*Please see your advisor for requirements specific to this program.

## SUGGESTED COURSE SEQUENCING FOR A MAJOR IN WATER QUALITY MANAGEMENT

This is a recommended sequence of course work. Certain courses may have prerequisites or are only offered during the Fall or Spring semesters. It is the student's responsibility to meet with the assigned advisor and check the 2 year course matrix on the Colorado Mesa website for course availability.

### FRESHMAN YEAR

| <b>Fall Semester</b> |                               | <b>Hours</b> | <b>Spring Semester</b>                      |                             | <b>Hours</b> |
|----------------------|-------------------------------|--------------|---------------------------------------------|-----------------------------|--------------|
| MATH 108             | Technical Mathematics         | 4            | Essential Learning Soc/Beh. Sci, Humanities |                             | 3            |
| WQMS 100             | Intro to Water Quality        | 3            | WQMS 105                                    | Calculation in WQM          | 4            |
| WQMS 106             | Mechanical/Physical Treatment | 3            | WQMS 116                                    | Surface Water Treatment     | 3            |
| WQMS 109             | Water Distribution            | 3            | TECI 110                                    | Applied Physics             | 3            |
| PROS 100             | Intro to Process Technology   | 3            | CHEM 121                                    | Principles of Chemistry     | 4            |
| KINE 100             | Health and Wellness           | <u>1</u>     | CHEM 121L                                   | Principles of Chemistry Lab | <u>1</u>     |
|                      |                               | 17           |                                             |                             | 18           |

### SOPHOMORE YEAR

| <b>Fall Semester</b> |                                 | <b>Hours</b> | <b>Spring Semester</b>                      |                                     | <b>Hours</b> |
|----------------------|---------------------------------|--------------|---------------------------------------------|-------------------------------------|--------------|
| ENGL 111             | English Composition             | 3            | ENGL 112                                    | English Composition or SPCH 101/102 | 3            |
| PROS 130             | Instrumentation                 | 3            | Essential Learning Soc/Beh. Sci, Humanities |                                     | 3            |
| PROS 210             | Process Tech II: Systems        | 4            | WQMS 119                                    | Basic Water Quality Analysis        | 4            |
| WQMS 118             | Wastewater Collection           | 3            | WQMS 227                                    | Utility Management                  | 4            |
| PROS 110             | Safety, Health, and Environment | 3            | WQMS 212                                    | Drinking Water Regulations          | <u>3</u>     |
| KINA XXX             | Activity                        | <u>1</u>     |                                             |                                     | 17           |
|                      |                                 | 17           |                                             |                                     |              |

#### POLICIES:

1. Please see the catalog for a complete list of graduation requirements.
2. This program sheet must be submitted with your graduation planning sheet to your advisor during the **semester prior to the semester of graduation, no later than October 1 for spring graduates, no later than March 1 for fall graduates.** You must turn in your "Intent to Graduate" form to the Registrar's Office **by September 15 if you plan to graduate the following May, and by February 15 if you plan to graduate the following December.**
3. Your advisor will sign and forward the Program Sheet and Graduation Planning Sheet to the Department Head for signature. Finally, the Department Head will submit the signed forms to the Registrar's Office. (Students cannot handle the forms once the advisor signs.)
4. If your petition for graduation is denied, it will be your responsibility to reapply for graduation in a subsequent semester. Your "Intent to Graduate" does not automatically move to a later graduation date.
5. NOTE: The semester before graduation, you may be required to take a Major Field Achievement Test (exit exam).