

# CHEMICAL TECHNOLOGY - ASSOCIATE IN APPLIED SCIENCE



## CHMT

This program was the first in the nation to be accredited by the American Chemical Society (<https://www.acs.org/content/acs/en.html>).

The chemical industry is one of the fastest growing industries in the United States. Its need for trained technicians in quality control, analysis, and research and development laboratories is extensive.

The Chemical Technology program prepares graduates to enter the chemical field in any one of a variety of capacities: chemical research technician, laboratory assistant, chemical production technician, junior chemist or analytical technician. The program is structured to develop a fundamental understanding of general, organic and analytical chemistry, with emphasis on laboratory applications and techniques.

**Note:** Many courses require prerequisites, corequisites and/or testing. See course descriptions (<https://catalog.ccri.edu/course-descriptions/>) for details.

## Program Learning Outcomes

As a result of this program, a student will be able to:

1. Display a strong "Workplace Ethic" by exhibiting reliability, promptness, and a positive work attitude.
2. Work effectively as a member of a team including managing a team by providing direction and motivation and collaborating effectively with other team members.
3. Develop problem solving skills that relate to the chemical industries including conducting experiments, analyzing results, using computers and data management systems, performing chemical calculations, and conducting separation techniques and various forms of spectrophotometric, gravimetric, and volumetric analyses.
4. Maintain a Safe and Clean Lab by adhering to all safety protocols including recognizing hazards, assessing and minimizing risks, and preparing for emergencies in the laboratory including using SDS, personal protective equipment and engineering controls, and understanding emergency response equipment.
5. Effectively communicate orally and in written form using appropriate chemical terminology.
6. Conduct literature searches to find research opportunities that utilize novel, small molecules being tested as therapies in the treatment of diseases and which Chemical Technology students could synthesize as a capstone project.
7. Possess the skills and knowledge needed to work in the chemical field or to continue their education by transferring to a four-year institution to pursue a bachelor's degree.

## Requirements

Code	Title	Hours
<b>General Education Requirements</b>		
CHMT 1120	Chemical Technology I Quantitative Literacy	6
ENGL 1010	Composition I (or ENGL 1010A) Communication; Information Literacy	3
MATH 1200	College Algebra (or MATH 1200C) <sup>2</sup> ; MSCI; Scientific Reasoning; Quantitative Literacy	4
MATH 2103	Applied Precalculus MSCI; Scientific Reasoning; Quantitative Literacy	4
Social Science Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/</a> ) SSCI		3
Choose ONE of the following:		4
BIOL 1000	Cell Biology for Technology <sup>1</sup> ; MSCI; Scientific Reasoning; Social and Professional Responsibilities	
BIOL 1002	Introductory Biology: Cellular Communication; Scientific Reasoning	
Choose ONE of the following:		3-4
Humanities Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#humngened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#humngened/</a> ) HUMN		
Social Science Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/</a> ) SSCI		
Subtotal		27-28
<b>Major Requirements</b>		
BUSN 1015	Business Computing Applications	3
CHMT 1220	Chemical Technology II	6
CHMT 2321	Chemical Technology III	5
CHMT 2322	Chemical Technology IV	5
CHMT 2421	Chemical Technology V <sup>^</sup>	8
ETEE 1050	Introduction to DC & AC Electrical Circuits	3
INST 1010	Introduction to Instrumentation Technology	3
Subtotal		33
<b>Total Hours</b>		<b>60-61</b>

<sup>1</sup> Students who also plan to complete the Biotechnology certificate program should choose Cell Biology for Technology (BIOL 1000).

<sup>2</sup> MATH 1200 or MATH 1200C meets the general education mathematics requirement only for the CHMT, DMSD, and XRAY programs.

<sup>^</sup> Work-based learning course

## Recommended Course Sequence

Course	Title	Hours
<b>Year 1</b>		
<b>Semester 1</b>		
CHMT 1120	Chemical Technology I	6
ENGL 1010	Composition I (or ENGL 1010A)	3
MATH 1200	College Algebra (or MATH 1200C)	4
<b>Hours</b>		<b>13</b>
<b>Semester 2</b>		
CHMT 1220	Chemical Technology II	6
INST 1010	Introduction to Instrumentation Technology	3

MATH 2103	Applied Precalculus	4
Choose ONE of the following:		3
Humanities Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#humngened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#humngened/</a> )		
Social Science Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/</a> )		
<b>Hours</b>		<b>16</b>
<b>Summer Session</b>		
CHMT 2321	Chemical Technology III	5
<b>Hours</b>		<b>5</b>
<b>Year 2</b>		
<b>Semester 1</b>		
CHMT 2322	Chemical Technology IV	5
Choose ONE of the following:		4
BIOL 1000	Cell Biology for Technology	
BIOL 1002	Introductory Biology: Cellular	
Social Science Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/</a> )		3
<b>Hours</b>		<b>12</b>
<b>Semester 2</b>		
CHMT 2421	Chemical Technology V <sup>^</sup>	8
BUSN 1015	Business Computing Applications	3
ETEE 1050	Introduction to Electromechanical Systems	3
<b>Hours</b>		<b>14</b>
<b>Total Hours</b>		<b>60</b>

<sup>1</sup> MATH 1200 meets the general education mathematics requirement only for the CHMT, DMSD, and XRAY programs.

<sup>^</sup> Work-based learning course

## Transfer

Please meet with an Academic Advisor/Student Success Coach (<https://ccri.edu/advising/>) if you are interested in earning a bachelor's degree. Your Academic Advisor will help you select the courses that best prepare you for transfer to a four-year college or university.

Check out the Joint Admissions Agreement (<https://ccri.edu/jaa/>) if you are interested in transferring to Rhode Island College or the University of Rhode Island. The JAA program offers seamless transfer to RIC or URI with additional benefits. Transfer information, events, and articulations are available on the Transfer Center website ([https://ccri.edu/oes/transfer\\_center/](https://ccri.edu/oes/transfer_center/)).