Academic Plan - Associate of Science Chemistry

# Catalog Year: 2020/2021

The purpose of a statewide articulation agreement is to identify the courses a student at a Colorado public community college must complete as part of an AA/AS degree to be guaranteed to be able to complete the designated baccalaureate degree program at any public four-year college and university (hereafter referred to as receiving institutions) that offers that program within the minimum number of credits designated by the Colorado Commission on Higher Education.

# Total Credits: 60

# A - General Education Courses

3 Credits, Arts / Humanities GT-AH1-AH4, available fall spring summer

3 Credits, ENG 121 - English Composition I: GT-CO1\*, available fall spring summer

3 Credits, ENG 122 - English Composition II: GT-CO2, available fall spring summer

3 Credits, History GT-HI1, available fall spring summer

3 Credits, Social / Behavioral Science GT-SS3, available fall spring summer

5 Credits, CHE 111 - General College Chemistry I with Lab: GT-SC1\*, available fall spring summer

5 Credits, CHE 112 - General College Chemistry II with Lab: GT-SC1\*, available fall spring summer

5 Credits, MAT 201 - Calculus I: GT-MA1, available fall spring summer

# B - Additional Required Courses

1 Credits, Elective (See Notes for specific requirements), available fall spring summer

4 Credits, MAT 203 - Calculus III: GT-MA1, available fall spring summer

5 Credits, CHE 211 - Organic Chemistry I with Lab, available fall

5 Credits, CHE 212 - Organic Chemistry II with Lab, available spring

5 Credits, MAT 202 - Calculus II: GT-MA1, available fall spring summer

5 Credits, PHY 211 - Physics: Calculus-Based I with Lab: GT-SC1\*, available fall spring summer

5 Credits, PHY 212 - Physics: Calculus-Based II with Lab: GT-SC1\*, available fall spring

# Pre-Requisites, Co-Requisites, and Recommendations

CHE 111 - General College Chemistry I with Lab: GT-SC1\*

Pre-Requisite: MAT 121 - College Algebra: GT-MA1 or equivalent placement scores

CHE 112 - General College Chemistry II with Lab: GT-SC1\*

Pre-Requisite: CHE 111 - General College Chemistry I with Lab: GT-SC1

Pre-Requisite: MAT 121 - College Algebra or Higher

CHE 211 - Organic Chemistry I with Lab

Pre-Requisite: CHE 112 - General College Chemistry II with Lab: GT-SC1

CHE 212 - Organic Chemistry II with Lab

Pre-Requisite: CHE 211 - Organic Chemistry I with Lab

ENG 121 - English Composition I: GT-CO1\*

Co-Requisite: CCR 094 - Studio 121

ENG 122 - English Composition II: GT-CO2

Pre-Requisite: ENG 121 - English Composition I OR ENG 131 - Technical Writing I

MAT 201 - Calculus I: GT-MA1

Pre-Requisite: MAT 122 - College Trigonometry: GT-MA1 OR MAT 166 - Pre-Calculus: GT-MA1

MAT 202 - Calculus II: GT-MA1

Pre-Requisite: MAT 201 - Calculus I: GT-MA1

MAT 203 - Calculus III: GT-MA1

Pre-Requisite: MAT 202 - Calculus II: GT-MA1

PHY 211 - Physics: Calculus-Based I with Lab: GT-SC1\*

Pre-Requisite: MAT 201 - Calculus I: GT-MA1

PHY 212 - Physics: Calculus-Based II with Lab: GT-SC1\*

Pre-Requisite: MAT 201 - Calculus I: GT-MA1

Pre-Requisite: PHY 211 - Physics: Calculus-Based I with Lab: GT-SC1

# Notes

Electives: Select any Guaranteed Transfer course or any of the following (excluding Special Topics, Independent Study, Capstone, and Internships): AAA 101, AAA 109, AST (100 or higher), BIO (100 or higher), CHE (100 or higher), CIS 118, CSC 119, CSC 126, CSC 160, CSC 161, CSC 165, CSC 200, CSC 225, CSC 233, CSC 236, CSC 240, EGG (100 or higher), any Foreign Language courses (including ASL) numbered 111 or higher, HNR 100, HNR 289, HWE 100, HWE 111, HWE 125, MAT 121 (or higher, except 155 / 156), or PHY 111 (or higher).

This statewide transfer articulation agreement in Chemistry does not fulfill requirements for the gtPathways general education curriculum or the Associate of Science degree prior to transfer; however, this agreement does guarantee a student, if admitted, junior standing and completion of the baccalaureate degree within an additional 60 semester hours at the receiving institution.

Completion of the receiving institution’s lower division general education requirements is fulfilled only under the condition that one gtPathways-approved course in arts and humanities (AH1, AH2, AH3, or AH4) and one gtPathways-approved course in social and behavioral sciences (SS1, SS2, or SS3) are successfully completed at the receiving institution within the first 30 hours or 12 calendar months.

Students transferring to a 4-yr college/university under this Chemistry agreement are encouraged to ‘reverse’ transfer the one gtPathways course in arts and humanities and the one gtPathways course in social and behavioral sciences (Note #2 above) back to their community college in order to complete the gtPathways general education program and to earn their Associate of Science degree with a Chemistry designation.

Lecture and laboratory portions of organic chemistry, CHE 211 and 212, must not be taken in an online delivery format.

Course availability is subject to change.

Refer to 20/21 catalog for specific requirements and important information about this degree.

The Colorado Department of Higher Education website has additional information about this statewide agreement.

Follow the Recommended Course Sequence on the following pages of this document.

Recommended courses may be listed above for certain electives; consult with the Academic Advising Office (advising@arapahoe.edu or 303.797.5664) for additional elective recommendations.

\*This course requires college level readiness as measured by Accuplacer, ACT, or SAT scores; approved high school course work that is less than five years old; or successful completion of appropriate college-readiness course.

AAA 101 – College 101: Student Experience is required for all new college students seeking degrees or transfer.

In order to meet program requirements, students registered for ENG 121 or ENG 131 must also register for CCR 094 unless they can demonstrate otherwise meeting the CCR 094 standard through assessment testing, prior college coursework, or recent High School coursework. See an Advisor for details.

# Graduation Requirements

All courses required for this degree must be completed with a “C” or better to be considered for transfer to another Colorado institution. Transferability of courses to colleges/universities outside of Colorado is determined by the receiving institution.

To graduate, students must apply for graduation [here](http://www.arapahoe.edu/departments-and-programs/graduation) by the deadline and meet all degree requirements.

# RECOMMENDED COURSE SEQUENCE FULL-TIME TRACK

## Year 1: Fall

5 Credits, CHE 111 - General College Chemistry I with Lab: GT-SC1

3 Credits, ENG 121 - English Composition I: GT-CO1

5 Credits, MAT 201 - Calculus I: GT-MA1

## Year 1: Spring

3 Credits, Arts / Humanities GT-AH1-AH4

* ~Recommended Arts / Humanities Course(s)~
	+ ART 110 - Art Appreciation GT-AH1\*
	+ HUM 115 - World Mythology: GT-AH2\*
	+ LIT 115 - Introduction to Literature I: GT-AH2\*
	+ MUS 120 - Music Appreciation: GT-AH1\*
	+ PHI 113 - Logic: GT-AH3\*
	+ PHI 218 - Environmental Ethics: GT-AH3\*

5 Credits, CHE 112 - General College Chemistry II with Lab: GT-SC1

3 Credits, ENG 122 - English Composition II: GT-CO2

5 Credits, MAT 202 - Calculus II: GT-MA1

## Year 2: Fall

5 Credits, CHE 211 - Organic Chemistry I with Lab

1 Credits, Elective

* ~Recommended Elective(s)~
	+ AST 101 - Astronomy with Lab: Planetary Systems: GT-SC1\*
	+ BIO 105 - Science of Biology with Lab: GT-SC1\*
	+ CIS 118 - Intro to PC Applications
	+ CSC 160 - Computer Science I\*
	+ GEO 111 - Physical Geography: Landforms with Lab: GT-SC1\*
	+ GEO 112 - Physical Geography - Weather and Climate with Lab: GT-SC1\*
	+ GEY 135 - Environmental Geology with Lab: GT-SC1

4 Credits, MAT 203 - Calculus III: GT-MA1

5 Credits, PHY 211 - Physics: Calculus-Based I with Lab: GT-SC1

## Year 2: Spring

5 Credits, CHE 212 - Organic Chemistry II with Lab

3 Credits, History GT-HI1

* ~Recommended History Course(s)~
	+ HIS 101 - Western Civilization: Antiquity-1650: GT-HI1\*
	+ HIS 102 - Western Civilization: 1650-Present: GT-HI1\*
	+ HIS 111 - The World: Antiquity-1500: GT-HI1\*
	+ HIS 112 - The World: 1500-Present: GT-HI1\*
	+ HIS 235 - History of the American West HI1\*
	+ HIS 236 - U.S. History since 1945: GT-HI1\*
	+ HIS 247 - 20th Century World History: GT-HI1\*

5 Credits, PHY 212 - Physics: Calculus-Based II with Lab: GT-SC1

3 Credits, Social / Behavioral Science GT-SS3

* ~Recommended Social / Behavioral Science Course(s)~
	+ ECO 201 - Principles of Macroeconomics: GT-SS1\*
	+ ECO 202 - Principles of Microeconomics: GT-SS1\*
	+ GEO 105 - World Regional Geography: GT-SS2\*
	+ GEO 106 - Human Geography: GT-SS2\*
	+ POS 111 - American Government: GT-SS1\*
	+ PSY 101 - General Psychology I: GT-SS3\*
	+ SOC 101 - Introduction to Sociology I: GT-SS3\*

# RECOMMENDED COURSE SEQUENCE PART-TIME TRACK

## Year 1: Fall

5 Credits, CHE 111 - General College Chemistry I with Lab: GT-SC1

3 Credits, ENG 121 - English Composition I: GT-CO1

## Year 1: Spring

5 Credits, CHE 112 - General College Chemistry II with Lab: GT-SC1

3 Credits, ENG 122 - English Composition II: GT-CO2

## Year 1: Summer

1 Credits, Elective

* ~Recommended Elective(s)~
	+ AST 101 - Astronomy with Lab: Planetary Systems: GT-SC1\*
	+ BIO 105 - Science of Biology with Lab: GT-SC1\*
	+ CIS 118 - Intro to PC Applications
	+ CSC 160 - Computer Science I\*
	+ GEO 111 - Physical Geography: Landforms with Lab: GT-SC1\*
	+ GEO 112 - Physical Geography - Weather and Climate with Lab: GT-SC1\*
	+ GEY 135 - Environmental Geology with Lab: GT-SC1

5 Credits, MAT 201 - Calculus I: GT-MA1

## Year 2: Fall

3 Credits, Arts / Humanities GT-AH1-AH4

* ~Recommended Arts / Humanities Course(s)~
	+ ART 110 - Art Appreciation GT-AH1\*
	+ HUM 115 - World Mythology: GT-AH2\*
	+ LIT 115 - Introduction to Literature I: GT-AH2\*
	+ MUS 120 - Music Appreciation: GT-AH1\*
	+ PHI 113 - Logic: GT-AH3\*
	+ PHI 218 - Environmental Ethics: GT-AH3\*

5 Credits, CHE 211 - Organic Chemistry I with Lab

## Year 2: Spring

5 Credits, CHE 212 - Organic Chemistry II with Lab

3 Credits, History GT-HI1

* ~Recommended History Course(s)~
	+ HIS 101 - Western Civilization: Antiquity-1650: GT-HI1\*
	+ HIS 102 - Western Civilization: 1650-Present: GT-HI1\*
	+ HIS 111 - The World: Antiquity-1500: GT-HI1\*
	+ HIS 112 - The World: 1500-Present: GT-HI1\*
	+ HIS 235 - History of the American West HI1\*
	+ HIS 236 - U.S. History since 1945: GT-HI1\*
	+ HIS 247 - 20th Century World History: GT-HI1\*

## Year 2: Summer

5 Credits, MAT 202 - Calculus II: GT-MA1

## Year 3: Fall

5 Credits, PHY 211 - Physics: Calculus-Based I with Lab: GT-SC1

3 Credits, Social / Behavioral Science GT-SS3

* ~Recommended Social / Behavioral Science Course(s)~
	+ ECO 201 - Principles of Macroeconomics: GT-SS1\*
	+ ECO 202 - Principles of Microeconomics: GT-SS1\*
	+ GEO 105 - World Regional Geography: GT-SS2\*
	+ GEO 106 - Human Geography: GT-SS2\*
	+ POS 111 - American Government: GT-SS1\*
	+ PSY 101 - General Psychology I: GT-SS3\*
	+ SOC 101 - Introduction to Sociology I: GT-SS3\*

## Year 3: Spring

4 Credits, MAT 203 - Calculus III: GT-MA1

5 Credits, PHY 212 - Physics: Calculus-Based II with Lab: GT-SC1