

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.

Required Courses	Credits	Pre or Co Reqs Rqd	Course Availability		
			Fall	Spr	Sum
General Education Courses					
• Arts / Humanities GT-AH1-AH4	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• CHE 111 - General College Chemistry I with Lab: GT-SC1* (5 Cr.)	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• CHE 112 - General College Chemistry II with Lab: GT-SC1* (5 Cr.)	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• ENG 121 - English Composition I: GT-CO1*(3 Cr.)	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• ENG 122 - English Composition II: GT-CO2 (3 Cr.)	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• History GT-HI1	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• MAT 201 - Calculus I: GT-MA1 (5 Cr.)	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• Social / Behavioral Science GT-SS1-SS3	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Additional Required Courses					
• CHE 211 - Organic Chemistry I with Lab (5 Cr.)	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• CHE 212 - Organic Chemistry II with Lab (5 Cr.)	5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Elective (See Notes for specific requirements)	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• MAT 202 - Calculus II: GT-MA1 (5 Cr.)	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• MAT 203 - Calculus III: GT-MA1 (4 Cr.)	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• PHY 211 - Physics: Calculus-Based I with Lab: GT-SC1* (5 Cr.)	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• PHY 212 - Physics: Calculus-Based II with Lab: GT-SC1* (5 Cr.)	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Pre-Requisites, Co-Requisites, and Recommendations (grade C or better required)

Where requirements are listed as course categories (e.g. Electives, Arts/Humanities) rather than as specific courses, please note that depending upon course choice, pre-requisites may be required.

CHE 111 - General College Chemistry I with Lab: GT-SC1* (5 Cr.)

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

CHE 112 - General College Chemistry II with Lab: GT-SC1* (5 Cr.)

- 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 (5 Cr.)

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

CHE 212 - Organic Chemistry II with Lab (5 Cr.)

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

ENG 121 - English Composition I: GT-CO1*(3 Cr.)

- Co-Requisite: CCR 094 - Studio 121 (3 Cr.)

ENG 122 - English Composition II: GT-CO2 (3 Cr.)

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

MAT 201 - Calculus I: GT-MA1 (5 Cr.)

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

MAT 202 - Calculus II: GT-MA1 (5 Cr.)

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

MAT 203 - Calculus III: GT-MA1 (4 Cr.)

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

PHY 211 - Physics: Calculus-Based I with Lab: GT-SC1* (5 Cr.)

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

PHY 212 - Physics: Calculus-Based II with Lab: GT-SC1* (5 Cr.)

- Pre-Requisite: MAT 201 - Calculus I: GT-MA1
- Pre-Requisite: PHY 211 - Physics: Calculus-Based I with Lab: GT-SC1

Program Outcomes

- Demonstrate the ability to employ proper lab technique and critical thinking to carry out, record, and analyze data from chemical experiments.
- Solve chemistry problems using critical thinking and analytical reasoning.
- Use modern instrumentation to interpret and analyze graphical representations of experimental results.
- Demonstrate proficiency in writing about chemistry topics in a clear and concise manner.

Notes

- *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.

- 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.
- Course availability is subject to change.
- 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).
- Follow the Recommended Course Sequence on the following pages of this document.
- 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.
- Lecture and laboratory portions of organic chemistry, CHE 211 and 212, must not be taken in an online delivery format.
- 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.
- Refer to 21/22 catalog for specific requirements and important information about this degree.
- 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.
- The Colorado Department of Higher Education website has additional information about this statewide agreement.
- 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.

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 (form available at www.arapahoe.edu/departments-and-programs/graduation) by the deadline and meet all degree requirements.

RECOMMENDED COURSE SEQUENCE FULL-TIME TRACK

Year 1: Fall	Credits	Course
	5	CHE 111 - General College Chemistry I with Lab: GT-SC1 (5 Cr.)
	3	ENG 121 - English Composition I: GT-CO1 (3 Cr.)
	5	MAT 201 - Calculus I: GT-MA1 (5 Cr.)
Year 1: Spring	Credits	Course
	3	Arts / Humanities GT-AH1-AH4 ~Recommended Arts / Humanities Course(s)~ ART 110 - Art Appreciation GT-AH1* (3 Cr.) HUM 115 - World Mythology: GT-AH2* (3 Cr.) LIT 115 - Introduction to Literature I: GT-AH2* (3 Cr.) MUS 120 - Music Appreciation: GT-AH1* (3 Cr.) PHI 113 - Logic: GT-AH3* (3 Cr.) PHI 218 - Environmental Ethics: GT-AH3* (3 Cr.)
	5	CHE 112 - General College Chemistry II with Lab: GT-SC1 (5 Cr.)
	3	ENG 122 - English Composition II: GT-CO2 (3 Cr.)
	5	MAT 202 - Calculus II: GT-MA1 (5 Cr.)
Year 2: Fall	Credits	Course
	5	CHE 211 - Organic Chemistry I with Lab (5 Cr.)
	1	Elective ~Recommended Elective(s)~ AST 101 - Astronomy with Lab: Planetary Systems: GT-SC1* (4 Cr.) BIO 105 - Science of Biology with Lab: GT-SC1* (4 Cr.) CIS 118 - Intro to PC Applications (3 Cr.) CSC 160 - Computer Science I* (4 Cr.) GEO 111 - Physical Geography: Landforms with Lab: GT-SC1* (4 Cr.) GEO 112 - Physical Geography - Weather and Climate with Lab: GT-SC1* (4 Cr.) PED 100 - Fitness Concepts (1 Cr.)
	4	MAT 203 - Calculus III: GT-MA1 (4 Cr.)
	5	PHY 211 - Physics: Calculus-Based I with Lab: GT-SC1 (5 Cr.)
Year 2: Spring	Credits	Course
	5	CHE 212 - Organic Chemistry II with Lab (5 Cr.)
	3	History GT-HI1 ~Recommended History Course(s)~ HIS 101 - Western Civilization: Antiquity-1650: GT-HI1* (3 Cr.) HIS 102 - Western Civilization: 1650-Present: GT-HI1* (3 Cr.) HIS 111 - The World: Antiquity-1500: GT-HI1* (3 Cr.) HIS 112 - The World: 1500-Present: GT-HI1* (3 Cr.) HIS 235 - History of the American West HI1* (3 Cr.) HIS 236 - U.S. History since 1945: GT-HI1* (3 Cr.) HIS 247 - 20th Century World History: GT-HI1* (3 Cr.)
	5	PHY 212 - Physics: Calculus-Based II with Lab: GT-SC1 (5 Cr.)

3 Social / Behavioral Science GT-SS1-SS3

- ~Recommended Social / Behavioral Science Course(s)~
ECO 201 - Principles of Macroeconomics: GT-SS1* (3 Cr.)
ECO 202 - Principles of Microeconomics: GT-SS1* (3 Cr.)
GEO 105 - World Regional Geography: GT-SS2* (3 Cr.)
GEO 106 - Human Geography: GT-SS2* (3 Cr.)
POS 111 - American Government: GT-SS1* (3 Cr.)
PSY 101 - General Psychology I: GT-SS3* (3 Cr.)
SOC 101 - Introduction to Sociology I: GT-SS3* (3 Cr.)

RECOMMENDED COURSE SEQUENCE PART-TIME TRACK

Year 1: Fall	Credits	Course
	5	CHE 111 - General College Chemistry I with Lab: GT-SC1 (5 Cr.)
	3	ENG 121 - English Composition I: GT-CO1 (3 Cr.)
Year 1: Spring	Credits	Course
	5	CHE 112 - General College Chemistry II with Lab: GT-SC1 (5 Cr.)
	3	ENG 122 - English Composition II: GT-CO2 (3 Cr.)
Year 1: Summer	Credits	Course
	1	Elective ~Recommended Elective(s)~ AST 101 - Astronomy with Lab: Planetary Systems: GT-SC1* (4 Cr.) BIO 105 - Science of Biology with Lab: GT-SC1* (4 Cr.) CIS 118 - Intro to PC Applications (3 Cr.) CSC 160 - Computer Science I* (4 Cr.) GEO 111 - Physical Geography: Landforms with Lab: GT-SC1* (4 Cr.) GEO 112 - Physical Geography - Weather and Climate with Lab: GT-SC1* (4 Cr.) PED 100 - Fitness Concepts (1 Cr.)
	5	MAT 201 - Calculus I: GT-MA1 (5 Cr.)
Year 2: Fall	Credits	Course
	3	Arts / Humanities GT-AH1-AH4 ~Recommended Arts / Humanities Course(s)~ ART 110 - Art Appreciation GT-AH1* (3 Cr.) HUM 115 - World Mythology: GT-AH2* (3 Cr.) LIT 115 - Introduction to Literature I: GT-AH2* (3 Cr.) MUS 120 - Music Appreciation: GT-AH1* (3 Cr.) PHI 113 - Logic: GT-AH3* (3 Cr.) PHI 218 - Environmental Ethics: GT-AH3* (3 Cr.)
	5	CHE 211 - Organic Chemistry I with Lab (5 Cr.)
Year 2: Spring	Credits	Course
	5	CHE 212 - Organic Chemistry II with Lab (5 Cr.)
	3	History GT-HI1 ~Recommended History Course(s)~ HIS 101 - Western Civilization: Antiquity-1650: GT-HI1* (3 Cr.) HIS 102 - Western Civilization: 1650-Present: GT-HI1* (3 Cr.) HIS 111 - The World: Antiquity-1500: GT-HI1* (3 Cr.) HIS 112 - The World: 1500-Present: GT-HI1* (3 Cr.) HIS 235 - History of the American West HI1* (3 Cr.) HIS 236 - U.S. History since 1945: GT-HI1* (3 Cr.) HIS 247 - 20th Century World History: GT-HI1* (3 Cr.)
Year 2: Summer	Credits	Course
	5	MAT 202 - Calculus II: GT-MA1 (5 Cr.)
Year 3: Fall	Credits	Course
	5	PHY 211 - Physics: Calculus-Based I with Lab: GT-SC1 (5 Cr.)

3 Social / Behavioral Science GT-SS1-SS3

- ~Recommended Social / Behavioral Science Course(s)~
 ECO 201 - Principles of Macroeconomics: GT-SS1* (3 Cr.)
 ECO 202 - Principles of Microeconomics: GT-SS1* (3 Cr.)
 GEO 105 - World Regional Geography: GT-SS2* (3 Cr.)
 GEO 106 - Human Geography: GT-SS2* (3 Cr.)
 POS 111 - American Government: GT-SS1* (3 Cr.)
 PSY 101 - General Psychology I: GT-SS3* (3 Cr.)
 SOC 101 - Introduction to Sociology I: GT-SS3* (3 Cr.)

Year 3: Spring

Credits

Course

- 4 MAT 203 - Calculus III: GT-MA1 (4 Cr.)
 5 PHY 212 - Physics: Calculus-Based II with Lab: GT-SC1 (5 Cr.)