

# Program map for Chemistry Associate in Science - Transfer (AS-T)

2024-25



[Return to Science, Technology, Engineering and Math \(STEM\) Program Maps \(lowercolumbia.edu/program-maps/stem\)](https://lowercolumbia.edu/program-maps/stem)

Chemistry explores matter and the basic properties and processes that surround us. Prepare for advanced studies and to work in a laboratory, manufacturing, research, management, environmental services and related fields. Analysts and technicians assist scientists in general lab work or process control. Students can also specialize in chemistry education.

[View this program in the LCC Catalog \(lowercolumbia.edu/publications/catalog/programs/STEM-AST-Chemistry\)](https://lowercolumbia.edu/publications/catalog/programs/STEM-AST-Chemistry)

## See also

- [Degree Requirements for Science, Technology, Engineering and Math \(STEM\) programs \(lowercolumbia.edu/programs/stem\)](https://lowercolumbia.edu/programs/stem)
- [Course descriptions in the LCC Catalog \(lowercolumbia.edu/publications/catalog/courses\)](https://lowercolumbia.edu/publications/catalog/courses)
- [Distribution lists in the LCC Catalog \(lowercolumbia.edu/publications/catalog/distribution-lists\)](https://lowercolumbia.edu/publications/catalog/distribution-lists)

**Important:** Many course sequences only begin in fall quarter. Check with your program advisor.

## By Quarter Overview

### First Quarter

- CHEM& 161: General Chemistry w/ Lab I (5 credits)
- COLL 101: College Success 101 (2 credits)
- MATH& 141: Precalculus I (6 credits)

[Make plan with advisor \(lowercolumbia.edu/advising/meet-with-advisor\)](https://lowercolumbia.edu/advising/meet-with-advisor)

## Second Quarter

- CHEM& 162: General Chemistry w/ Lab II (5 credits)
- MATH& 142: Pre-Calculus II (5 credits)
- Choose one:
  - ART& 100: Art Appreciation (5 credits)
  - CMST 250: Intercultural Communication (5 credits)
  - HIST& 126: World Civilization I (5 credits)

## Third Quarter

- CHEM& 163: General Chemistry w/ Lab III (5 credits)
- ENGL& 101: English Composition I (5 credits)
- Choose one:
  - ANTH& 100: Survey of Anthropology (5 credits)
  - ANTH& 206: Cultural Anthropology (5 credits)
  - ECON& 201: Micro Economics (5 credits)
  - ECON& 202: Macro Economics (5 credits)
  - HIST& 128: Western Civ III (5 credits)
  - HIST& 215: Women in US History (5 credits)

[Research 4-year schools \(lowercolumbia.edu/university-center\)](https://lowercolumbia.edu/university-center)

## Fourth Quarter

- CHEM& 261: Organic Chemistry w/ Lab I (5 credits)
- MATH& 151: Calculus I (5 credits)

[Research 4-year schools \(lowercolumbia.edu/university-center\)](https://lowercolumbia.edu/university-center)

## Fifth Quarter

- CHEM& 262: Organic Chemistry w/ Lab II (5 credits)
- MATH& 152: Calculus II (5 credits)

## Sixth Quarter

- CHEM& 263: Organic Chemistry w/ Lab III (5 credits)
- MATH& 153: Calculus III (5 credits)

## Seventh Quarter

- PHYS& 221: Engineering Physics I w/ Lab (5 credits)
- MATH& 254: Calculus IV (5 credits)

[Visit 4-year schools \(lowercolumbia.edu/university-center\)](https://lowercolumbia.edu/university-center)

## Eighth Quarter

- PHYS& 222: Engineering Physics II w/ Lab (5 credits)
- MATH 240: Differential Equations (5 credits)

*\*Pre- and co-requisite(s)*

[Apply to 4-year schools \(lowercolumbia.edu/university-center\)](http://lowercolumbia.edu/university-center)

## Ninth Quarter

- PHYS& 223: Engineering Physics III w/ Lab(5 credits)
- Choose one:
  - ANTH& 100: Survey of Anthropology (5 credits)
  - ANTH& 206: Cultural Anthropology (5 credits)
  - ECON& 201: Micro Economics (5 credits)
  - ECON& 202: Macro Economics (5 credits)
  - HIST& 128: Western Civ III (5 credits)
  - HIST& 215: Women in US History (5 credits)
- MATH 220: Linear Algebra (5 credits)

[Apply for Graduation \(lowercolumbia.edu/graduation\)](http://lowercolumbia.edu/graduation)

## Detailed Class Sequence

### 1. Pre-Major Requirement

CHEM& 161: General Chemistry w/ Lab I (5 credits)

- *Prerequisites: CHEM& 100 or high school chemistry and MATH 098.*

### 2. College Success

COLL 101: College Success 101 (2 credits)

### 3. Prerequisite Coursework

MATH& 141: Precalculus I (6 credits)

- *Prerequisites: C or better in MATH 098, B or better in ABE 092, or placement.*

### 4. Pre-Major Requirement

CHEM& 162: General Chemistry w/ Lab II (5 credits)

- *Prerequisites: CHEM& 161*

## 5. Prerequisite Coursework

MATH& 142: Precalculus II (5 credits)

- *Prerequisites: C or better in MATH& 141.*

## 6. Humanities / Diversity Requirement

Choose one of these recommended courses:

- ART& 100: Art Appreciation (5 credits)
- CMST 250: Intercultural Communication (5 credits)
  - *Fulfills [DIVR] requirement at WSU*
- HIST& 126: World Civilization I (5 credits)
  - *Fulfills [DIVR] requirement at WSU*

## 7. Pre-Major Requirement

CHEM& 163: General Chemistry w/ Lab III (5 credits)

- *Prerequisites: CHEM& 162*

## 8. Communications Requirement

ENGL& 101: English Comp I (5 credits)

- *Prerequisites: College level reading and writing skills or completion of ENGL 099 or TECH 105 with a grade of C or better.*

## 9. Social Science Requirement

Choose one of these recommended courses:

- ANTH& 100: Survey of Anthropology (5 credits)
  - *Fulfills [DIVR] requirement at WSU*
- ANTH& 206: Cultural Anthropology (5 credits)
  - *Fulfills [DIVR] requirement at WSU*
- ECON& 201: Micro Economics (5 credits)
  - *Prerequisites: MATH 088 or TECH 088 or BUS 104 and ENGL& 101 or BUS 190.*
- ECON& 202: Macro Economics (5 credits)
  - *Prerequisite: ECON& 201 or instructor permission.*
- HIST& 128: Western Civ III (5 credits)
  - *Fulfills [ROOT] requirement at WSU*
- HIST& 215: Women in US History (5 credits)
  - *Fulfills [DIVR] requirement at WSU*

## 10. Pre-Major Requirement

CHEM& 261: Organic Chemistry w/ Lab I (5 credits)

- *Prerequisite: CHEM& 163 or instructor permission.*

## 11. Math Requirement

MATH& 151: Calculus I (5 credits)

- *Prerequisites: MATH& 142 with a grade of C or better.*

## 12. Pre-Major Requirement

CHEM& 262: Organic Chemistry w/ Lab II (5 credits)

- *Prerequisites: CHEM& 261*

## 13. Math Requirement

MATH& 152: Calculus II (5 credits)

- *Prerequisite: MATH& 151 with a grade of C or better.*

## 14. Pre-Major Requirement

CHEM& 263: Organic Chemistry w/ Lab III (5 credits)

- *Prerequisite: CHEM& 262*

## 15. Pre-Major Requirement

MATH& 153: Calculus III (5 credits)

- *Prerequisite: MATH& 152 with a grade of C or better.*

## 16. Pre-Major Requirement

PHYS& 221: Engineering Physics I w/ Lab (5 credits)

- *Prerequisites: Completion of or concurrent enrollment in MATH& 151 or instructor permission.*

## 17. Recommended Elective

MATH& 254: Calculus IV (5 credits)

- *Prerequisites: MATH& 153 with a grade of C or better.*

## 18. Pre-Major Requirement

PHYS& 222: Engineering Physics II w/ Lab (5 credits)

- *Prerequisites: PHYS& 221, MATH& 152 or instructor permission.*

## 19. Recommended Elective

MATH 240: Differential Equations (5 credits)

- *Prerequisite: MATH& 254 with a grade of C or better.*

## 20. Pre-Major Requirement

PHYS& 223: Engineering Physics III w/ Lab (5 credits)

- *Prerequisites: PHYS& 222 or instructor permission.*

## 21. Social Science Requirement

Choose one of these recommended courses:

- ANTH& 100: Survey of Anthropology (5 credits)
  - *Fulfills [DIVR] requirement at WSU*
- ANTH& 206: Cultural Anthropology (5 credits)
  - *Fulfills [DIVR] requirement at WSU*
- ECON& 201: Micro Economics (5 credits)
  - *Prerequisites: MATH 088 or TECH 088 or BUS 104 and ENGL& 101 or BUS 190.*
- ECON& 202: Macro Economics (5 credits)
  - *Prerequisite: ECON& 201 or instructor permission.*
- HIST& 128: Western Civ III (5 credits)
  - *Fulfills [ROOT] requirement at WSU*
- HIST& 215: Women in US History (5 credits)
  - *Fulfills [DIVR] requirement at WSU*

## 22. Recommended Elective

MATH 220: Linear Algebra (5 credits)

- *Prerequisite: MATH& 152 with a grade of C or better.*