Program map for Biological Sciences Associate in Science - Transfer (AS-T) (Chemical Option)

2025-26

Complete basic background studies for transfer to a bachelor's degree program in engineering disciplines. Careers may be found in research, development, design, operations management, teaching, sales and consulting.

View this program in the LCC Catalog (lowercolumbia.edu/publications/catalog/programs/STEM-AST-Biological-Sciences)

See also

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

Second Quarter

- CHEM& 162: General Chemistry w/ Lab II (5 credits)
- MATH& 142: Precalculus II (5 credits)

- Choose one:

Third Quarter

- CHEM& 163: General Chemistry w/ Lab III (5 credits)
- ENGL& 101: English Composition I (5 credits)
- Choose one:

Fourth Quarter

- CHEM& 261: Organic Chemistry w/ Lab I (5 credits)
- MATH& 151: Calculus I (5 credits)
- Choose one:
  - HIST& 126: World Civilization I (5 credits)
  - ANTH& 100: Survey of Anthropology (5 credits)

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)

Research 4-year institutions and electives (lowercolumbia.edu/university-center)

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)

Eighth Quarter

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

Apply to 4-year schools (lowercolumbia.edu/university-center)

Ninth Quarter

- PHYS& 223: Engineering Physics III w/ Lab (5 credits)
- Choose one:
  - ECON& 201: Micro Economics (5 credits)
  - ECON& 202: Macro Economics (5 credits)

- MATH 220 Linear Algebra (5 credits)

Apply for Graduation (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 / Elective

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 / Elective

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& 240: Intercultural Communication (5 credits)
- HIST& 126: World Civilization I (5 credits)

7. Pre-Major Requirement

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

- *Prerequisites: CHEM& 162*

8. Communication Requirement

ENGL& 101: English Composition 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*
- 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. Recommended Elective

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

- *Prerequisite: CHEM& 262*

15. Math 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. Math Requirement

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:

- 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.*

22. Recommended Elective

MATH 220: Linear Algebra (5 credits)

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