

Earth Sciences

Associate in Science - Transfer (AS-T)

Knowledge about the planet we inhabit, the surrounding universe and the natural forces that impact our world adds value to our daily lives and provides the basis for interesting careers in a broad range of disciplines: astronomy, geology, meteorology and oceanography. Begin studies for an advanced degree leading to positions with government agencies or private industry as an independent consultant, teacher, or researcher.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- [Earth Sciences Associate in Science - Transfer \(AS-T\) \(lowercolumbia.edu/program-maps/stem/AST-Earth-Sciences\)](https://lowercolumbia.edu/program-maps/stem/AST-Earth-Sciences)

Degree Requirements

Total credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

LCC students must meet distribution requirements for bachelor degrees, associate degrees, and specific certificates. See [Diversity and Distribution Lists \(lowercolumbia.edu/publications/catalog/distribution-lists/\)](https://lowercolumbia.edu/publications/catalog/distribution-lists/) for more information.

General Education Requirements

- **Communications:**

5 credits - ENGL& 101 English Composition I.

- **Quantitative / Symbolic Reasoning Skills:**

10 credits – MATH& 151* Calculus I **AND**
MATH& 152* Calculus II.

- **Humanities / Social Sciences:**

15 credits – Selected from at least three disciplines from the *Distribution List*. A minimum of 5 credits in Humanities, and a minimum of 5 credits in Social Science, and an additional 5 credits in either Humanities or Social Science.

- **Diversity:**

5 credits – From the *Diversity Course List*. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SPAN& 121 – Introduction to Spanish I:DIV.

- **Electives:**

At least 10 additional college-level credits to meet the 90 credit minimum. These remaining credits must include program advisor approved credits.

Program Requirements

Pre-Major Requirements (50 credits)

Course Code	Course Title	Number of Credits
CHEM& 161*	General Chemistry w/Lab I	5
CHEM& 162*	General Chemistry w/Lab II	5
CHEM& 163*	General Chemistry w/Lab III	5
ERSI 104	Intro to Earth Sciences	5
GEOL& 101	Intro Physical Geology	5
OCEA& 101 OR GEOL 118	Intro to Oceanography OR Historical Geology	5
MATH& 153* OR MATH& 146	Calculus III OR Introduction to Statistics	5
PHYS& 221*	Engr Physics I w/Lab	5
PHYS& 222*	Engr Physics II w/Lab	5
PHYS& 223*	Engr Physics III w/Lab	5

Recommended Electives

Course Code	Course Title	Number of Credits
MATH& 141	Precalculus I	6
MATH& 142	Precalculus II	5
ASTR& 101	Intro to Astronomy	5
OCEA& 101	Intro to Oceanography	5

Program Outcomes

Students completing this program should acquire the following skills and abilities:

- Interpret and use various kinds of maps, globes, charts, and graphs.
- Apply scientific knowledge and techniques to current environmental issues.
- Describe basic earth processes in an interdisciplinary context.
- Effectively communicate earth sciences concepts.
- Demonstrate familiarity with global and regional geology and geography.

Notes

Revised February 2020 (effective Winter 2020)

*It is recommended that sequence courses be completed at one institution.

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and for checking specific major requirements of baccalaureate institutions in the year prior to transferring. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.