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# Earth Sciences - AS-T

## 2022-23

### Program map for 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.

See also: ( [lowercolumbia.edu/programs/stem](http://lowercolumbia.edu/programs/stem) )

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

***Please note that many course sequences only begin in fall quarter. Please check with your program advisor for more information.***

***Please review both the "By Quarter Overview" and "Detailed Class Sequence" tabs below.***

## By Quarter Overview

### First Quarter

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- COLL 101: College Success 101 (2 credits)
- ENGL& 101: English Composition I (5 credits)
- CHEM& 161: General Chem w/ Lab I (5 credits)
- ERSI 104: Introduction to Earth Sciences (5 credits)

**Meet with faculty advisor ( [lowercolumbia.edu/advising/meet-with-advisor](http://lowercolumbia.edu/advising/meet-with-advisor) )**

**Apply for FAFSA ( [lowercolumbia.edu/financial-aid](http://lowercolumbia.edu/financial-aid) )**

### Second Quarter

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- CHEM& 162: General Chem w/Lab II (5 credits)
- MATH& 141: Precalculus I (6 credits)
- GEOL& 101: Intro Physical Geology (5 credits)

**Meet with faculty advisor ( [lowercolumbia.edu/advising/meet-with-advisor](https://lowercolumbia.edu/advising/meet-with-advisor) )**

**Decide on transfer university; research transfer requirements; contact transfer university advisor ( [lowercolumbia.edu/university-center](https://lowercolumbia.edu/university-center) )**

### **Third Quarter**

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- CHEM& 163: General Chem w/Lab III (5 credits)
- SOC& 101: Intro to Sociology (5 credits)
- MATH& 142: Precalculus II (5 credits)

**Meet with faculty advisor ( [lowercolumbia.edu/advising/meet-with-advisor](https://lowercolumbia.edu/advising/meet-with-advisor) )**

### **Fourth Quarter**

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- PHYS& 221: Engr Physics I w/Lab (5 credits)
- HIST& 126: World Civilization I (5 credits)
- MATH& 151: Calculus I (5 credits)

**Meet with faculty advisor ( [lowercolumbia.edu/advising/meet-with-advisor](https://lowercolumbia.edu/advising/meet-with-advisor) )**

**Apply for FAFSA ( [lowercolumbia.edu/financial-aid](https://lowercolumbia.edu/financial-aid) )**

**Contact transfer university advisor**

**Apply to transfer university**

### **Fifth Quarter**

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- PHYS& 222: Engr Physics II w/Lab (5 credits)
- MATH& 152: Calculus II (5 credits)
- HIST& 127: World Civilization II (5 credits)

**Meet with faculty advisor ( [lowercolumbia.edu/advising/meet-with-advisor](https://lowercolumbia.edu/advising/meet-with-advisor) )**

**Apply for Spring graduation ( [lowercolumbia.edu/graduation](https://lowercolumbia.edu/graduation) )**

### **Sixth Quarter**

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- PHYS& 223: Engr Physics III w/Lab (5 credits)
- MATH& 153: Calculus III (5 credits)
- OCEA& 101: Intro to Oceanography (5 credits)

**Spring Graduation ( [lowercolumbia.edu/commencement](https://lowercolumbia.edu/commencement) )**

## **Detailed Class Sequence**

### **1. College Success**

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COLL 101: College Success 101 (2 credits)

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## 2. Communications Requirement

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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.*

## 3. Chem Pre-Major Requirement

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

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

## 4. Geo Pre-Major Requirement

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ERSI 104: Intro to Earth Sciences (5 credits)

## 5. Chem Pre-Major Requirement

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

- *Prerequisites: CHEM& 161*

## 6. Elective

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MATH& 141: Precalculus I (6 credits)

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

## 7. Geo Pre-Major Requirement

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GEOL& 101: Intro to Physical Geology (5 credits)

## 8. Chem Pre-Major Requirement

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

- *Prerequisites: CHEM& 162*

## 9. Humanities/Social Science Requirement

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SOC& 101: Intro to Sociology (5 credits)

## 10. Elective

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MATH& 142: Precalculus II (5 credits)

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

### **11. Physics Pre-Major Requirement**

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

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

### **12. Humanities/Social Science Requirement**

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HIST& 126: World Civilization I (5 credits)

### **13. Quantitative Requirement**

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MATH& 151: Calculus I (5 credits)

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

### **14. Physics Pre-Major Requirement**

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

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

### **15. Quantitative Requirement**

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MATH& 152: Calculus II (5 credits)

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

### **16. Humanities/Social Sciences Requirement**

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HIST& 127: World Civilization II (5 credits)

### **17. Physics Pre-Major Requirement**

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

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

### **18. Math Pre-Major Requirement**

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MATH& 153: Calculus III (5 credits)

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

## 19. Geo Pre-Major Requirement

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OCEA& 101: Intro to Oceanography (5 credits)

### **( [lowercolumbia.edu/program-maps/stem](http://lowercolumbia.edu/program-maps/stem) ) Program Maps for Science, Technology, Engineering and Math (STEM) ( [lowercolumbia.edu/program-maps/stem](http://lowercolumbia.edu/program-maps/stem) )**

- Bioengineering and Chemical Pre-Engineering - AS-T (Bioengineering Option) ( [lowercolumbia.edu/program-maps/stem/AST-Bioengineering-and-Chemical-Pre-Engineering-Bioengineering-Option](http://lowercolumbia.edu/program-maps/stem/AST-Bioengineering-and-Chemical-Pre-Engineering-Bioengineering-Option) )
- Bioengineering and Chemical Pre-Engineering - AS-T (Chemical Engineering Option) ( [lowercolumbia.edu/program-maps/stem/AST-Bioengineering-and-Chemical-Pre-Engineering-Chemical-Option](http://lowercolumbia.edu/program-maps/stem/AST-Bioengineering-and-Chemical-Pre-Engineering-Chemical-Option) )
- Biological Sciences - AS-T ( [lowercolumbia.edu/program-maps/stem/AST-Biological-Sciences](http://lowercolumbia.edu/program-maps/stem/AST-Biological-Sciences) )
- Biology - DTA/MRP ( [lowercolumbia.edu/program-maps/stem/DTA-MRP-Biology](http://lowercolumbia.edu/program-maps/stem/DTA-MRP-Biology) )
- Chemistry - AS-T ( [lowercolumbia.edu/program-maps/stem/AST-Chemistry](http://lowercolumbia.edu/program-maps/stem/AST-Chemistry) )
- Computer and Electrical Pre-Engineering - AS-T (2 Year Option) ( [lowercolumbia.edu/program-maps/stem/AST-Computer-and-Electrical-Pre-Engineering-2-year](http://lowercolumbia.edu/program-maps/stem/AST-Computer-and-Electrical-Pre-Engineering-2-year) )
- Computer and Electrical Pre-Engineering - AS-T (3 Year Option) ( [lowercolumbia.edu/program-maps/stem/AST-Computer-and-Electrical-Pre-Engineering-3-year](http://lowercolumbia.edu/program-maps/stem/AST-Computer-and-Electrical-Pre-Engineering-3-year) )
- Computer Science - AST ( [lowercolumbia.edu/program-maps/stem/AST-Computer-Science](http://lowercolumbia.edu/program-maps/stem/AST-Computer-Science) )
- Computer Science - AST (WSUV) ( [lowercolumbia.edu/program-maps/stem/AST-Computer-Science-WSU-V](http://lowercolumbia.edu/program-maps/stem/AST-Computer-Science-WSU-V) )
- Earth Sciences - AA-DTA ( [lowercolumbia.edu/program-maps/stem/AADTA-Earth-Sciences](http://lowercolumbia.edu/program-maps/stem/AADTA-Earth-Sciences) )
- Earth Sciences - AS-T ( [lowercolumbia.edu/program-maps/stem/AST-Earth-Sciences](http://lowercolumbia.edu/program-maps/stem/AST-Earth-Sciences) )
- Environmental Science - AS-T ( [lowercolumbia.edu/program-maps/stem/AST-Environmental-Science](http://lowercolumbia.edu/program-maps/stem/AST-Environmental-Science) )
- Mechanical, Civil, Aeronautical, Industrial, Materials Science Engineering (2 Year Option) ( [lowercolumbia.edu/program-maps/stem/AST-Mechanical-Civil-Aeronautical-Industrial-Materials-Science-Engineering-2-year](http://lowercolumbia.edu/program-maps/stem/AST-Mechanical-Civil-Aeronautical-Industrial-Materials-Science-Engineering-2-year) )
- Mechanical, Civil, Aeronautical, Industrial, Materials Science Engineering (3 Year Option) ( [lowercolumbia.edu/program-maps/stem/AST-Mechanical-Civil-Aeronautical-Industrial-Materials-Science-Engineering-3-year](http://lowercolumbia.edu/program-maps/stem/AST-Mechanical-Civil-Aeronautical-Industrial-Materials-Science-Engineering-3-year) )
- Physics - AS-T ( [lowercolumbia.edu/program-maps/stem/AST-Physics](http://lowercolumbia.edu/program-maps/stem/AST-Physics) )
- Physics - AS-T (Math Transfer Option) ( [lowercolumbia.edu/program-maps/stem/AST-Physics-Math-Transfer-Option](http://lowercolumbia.edu/program-maps/stem/AST-Physics-Math-Transfer-Option) )