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# Computer Science - AST

## 2022-23

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

Begin studies toward a Bachelor of Science degree in Computer Science. For the AS-T degree in Computer Science, various courses are offered such as calculus, physics, and computer science. A student can also take individual courses in areas of interest to deepen knowledge and understanding.

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)
- CS 170: Computer Programming (5 credits)
- ENGL& 101: English Composition I (5 credits)
- MATH& 151: Calculus I (5 credits)

### Second Quarter

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- CS 275: Object-Orientated Programming in Java (5 credits)
- MATH& 152: Calculus II (5 credits)
- MATH 215: Discrete Structures (5 credits)

### Third Quarter

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- Choose one:
  - ECON& 201: Micro Economics (5 credits)
  - ECON& 202: Macro Economics (5 credits)
  - HIST& 128: World Civilizations III (5 credits)
- MATH& 153: Calculus III (5 credits)
- MATH 220: Linear Algebra (5 credits)

## Fourth Quarter

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- CS 270: Data Structures I (5 credits)
- PHYS& 221: Engineering Physics I w/ Lab (5 credits)
- Choose one:
  - ART& 100: Art Appreciation (5 credits)
  - CMST 250: Intercultural Communication (5 credits)
  - HIST& 126: World Civilization I (5 credits)

## Fifth Quarter

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- PHYS& 222: Engineering Physics II w/ Lab (5 credits)
- Choose one:
  - ANTH& 100: Survey of Anthropology (5 credits)
  - ANTH& 206: Cultural Anthropology (5 credits)
  - HIST& 128: Western Civ III (5 credits)
  - HIST& 215: Women in US History (5 credits)
  - SOC& 101: Intro to Sociology (5 credits)
- Elective (5 credits)

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

## Sixth Quarter

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- Choose one:
  - BIOL& 100: Survey of Biology (5 credits)
  - BIOL& 160: General Biology w/ Lab (5 credits)
  - ENVS 215: Environmental Issues & Applications (5 credits)
  - ERSI 105: Earth Systems (5 credits)
- CS 280: Advanced Data Structures (5 credits)
- PHYS& 223: Engineering Physics III w/ Lab (5 credits)

## Detailed Class Sequence

### 1. College Success

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COLL 101: College Success 101 (2 credits)

### 2. Pre-Major Requirement

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CS 170: Computer Programming (5 credits)

- *Prerequisites: MATH 088 or MATH 097 with a grade of C or better and knowledge of Windows is required; or instructor permission.*

### 3. Communications Requirement

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ENGL& 101: English Comp I (5 credits)

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

#### 4. Math Requirement

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MATH& 151: Calculus I (5 credits)

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

#### 5. Pre-Major Requirement

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CS 275: Object Oriented Programming (5 credits)

- *Prerequisite: CS 170 with a grade of C or better, or instructor permission.*

#### 6. Math Requirement

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MATH& 152: Calculus II (5 credits)

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

#### 7. Pre-Major Requirement

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MATH 215: Discrete Structures (5 credits)

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

#### 8. Social Sciences Requirement

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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.*
- HIST& 128: Western Civ III (5 credits)
  - *Fulfills [ROOT] requirement at WSU*

#### 9. Pre-Major Requirement

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MATH& 153: Calculus III (5 credits)

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

#### 10. Pre-Major Requirement

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MATH 220: Linear Algebra (5 credits)

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

## 11. Pre-Major Requirement

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CS 270: Data Structures I (5 credits)

- *Prerequisite: MATH 098 and CS 170, both with a grade of C or better, or instructor permission.*

## 12. 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.*

## 13. Humanities / Diversity Requirement

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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*

## 14. 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. Social Science / Diversity Requirement

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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*
- SOC& 101: Intro to Sociology (5 credits)

## 16. Elective

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Choose any elective (5 credits)

## 17. Lab Based Science Course Requirement

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Choose one of these recommended courses:

- BIOL& 100: Survey of Biology (5 credits)
- BIOL& 160: General Biology w/ Lab (5 credits)
- ENV& 215: Environmental Issues & Applications (5 credits)
  - *Prerequisites: ENGL& 101 or consent of instructor.*
- ERSI 105: Earth Systems (5 credits)

## 18. Pre-Major Requirement

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CS 280 Advanced Data Structures (5 credits)

- *Prerequisites: CS 270 and MATH& 141, both with a grade of C or better, or instructor's permission.*

## 19. Pre-Major Requirement

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

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

## ( [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) )