

Computer and Electrical Pre-Engineering - AS-T COMP E EE/MRP (2 year)



2024-25

Program map for Computer and Electrical Pre-Engineering Associate in Science Transfer (AS-T COMP E EE/MRP), two year option

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

See also

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

(lowercolumbia.edu/program-maps/stem/) **Important:** Many course sequences only begin in fall quarter. Check with your program advisor.

By Quarter Overview

First Quarter

- COLL 101: College Success 101 (2 credits)
- CHEM& 161: General Chemistry w/ Lab I (5 credits)
- ENGR 106: Engineering Problems (5 credits)
 - Prerequisite is C or better in MATH 098 or placement into MATH& 141
- MATH& 151: Calculus I (5 credits)

Second Quarter

- Choose one:
 - ART& 100: Art Appreciation (5 credits)
 - CMST 250: Intercultural Communication (5 credits)
 - HIST& 126: World Civilization I (5 credits)

- MATH& 152: Calculus II (5 credits)
- Choose one:
 - ECON& 201: Micro Economics (5 credits)
 - ECON& 202: Macro Economics (5 credits)

Third Quarter

- ENGL& 101: English Comp I (5 credits)
- MATH& 153: Calculus III (5 credits)
- CS 170: Computer Programming (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)

Fourth Quarter

- MATH& 254: Calculus IV (5 credits)
- PHYS& 221: Engineering Physics I w/ Lab (5 credits)
- CS 270: Data Structures I (5 credits)
- ENGR 205: Design of Logic Circuits (5 credits)

Apply for Financial Aid at transfer institution

Fifth Quarter

- MATH 240: Differential Equations (5 credits)
- PHYS& 222: Engineering Physics II w/ Lab (5 credits)
- ENGR 206: Microprocessor Systems (5 credits)

Apply for Graduation (lowercolumbia.edu/graduation)

Sixth Quarter

- MATH 220: Linear Algebra (5 credits)
- PHYS& 223: Engineering Physics III w/ Lab (5 credits)
- ENGR& 204: Electrical Circuits (6 credits)

Detailed Class Sequence

1. College Success

COLL 101: College Success 101 (2 credits)

2. Pre-Major Requirement

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

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

3. Elective

ENGR 106: Engineering Problems (5 credits)

- *Prerequisite is C or better in MATH 098 or placement into MATH& 141*

4. Math Requirement

MATH& 151: Calculus I (5 credits)

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

5. 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*

6. Math Requirement

MATH& 152: Calculus II (5 credits)

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

7. 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)
 - *Prerequisites: ECON& 201 or instructor permission.*

8. Communication 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. Math Requirement

MATH& 153: Calculus III (5 credits)

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

10. Pre-Major Requirement

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.*

11. Social Science / Diversity 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*

12. Recommended Elective

MATH& 254: Calculus IV (5 credits)

- *Prerequisites: MATH& 153 with a grade of C or better.*
- *Required to transfer to WSUV at junior level*

13. Pre-Major Requirement

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

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

14. Pre-Major Requirement

CS 270: Data Structures I (5 credits)

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

15. Recommended Elective

ENGR 205: Design of Logic Circuits (5 credits)

- *Prerequisites: MATH& 141*
- *Required to transfer to WSUV at junior level*

16. Math Requirement

MATH 240: Differential Equations (5 credits)

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

17. Pre-Major Requirement

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

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

18. Recommended Elective

ENGR 206: Microprocessor Systems (5 credits)

- *Prerequisites: CS 270, ENGR 205*
- *Required to transfer to WSUV at junior level*

19. Math Requirement

MATH 220: Linear Algebra (5 credits)

- *Prerequisite: MATH& 152 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. Pre-Major Requirement

ENGR& 204: Electrical Circuits (6 credits)

- *Prerequisites: PHYS 222, MATH& 152 and computer literacy.*



Program Maps for Science, Technology, Engineering and Math (STEM) (lowercolumbia.edu/program-maps/stem)

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