Computer and Electrical Pre-Engineering - AS-T COMP E EE/MRP (3 year)

2023-24

Program map for Computer and Electrical Pre-Engineering Associate in Science Transfer (AS-T COMP E EE/MRP), three 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: (lowercolumbia.edu/programs/stem)

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

- COLL 101: College Success 101 (2 credits)
- CHEM& 161: General Chemistry w/ Lab I (5 credits)
- ENGR 106: Engineering Problems (5 credits)

Second Quarter

- CHEM& 162: General Chemistry w/ Lab II (5 credits)
- MATH& 141: Precalculus I (6 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& 142: Precalculus II (5 credits)
- CS 170: Computer Programming (5 credits)

Fourth Quarter

- MATH& 151: Calculus I (5 credits)
- PHYS& 221: Engineering Physics I w/ Lab (5 credits)
- CS 270: Data Structures I (5 credits)

Fifth Quarter

- MATH& 152: Calculus II (5 credits)
- PHYS& 222: Engineering Physics II 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)

Sixth Quarter

- MATH& 153: Calculus III (5 credits)
- PHYS& 223: Engineering Physics III w/ Lab (5 credits)
- ENGR& 204: Electrical Circuits (6 credits)

Seventh Quarter

- MATH& 254: Calculus IV (5 credits)
- ENGR 205: Design of Logic Circuits (5 credits)

Apply for Financial Aid at transfer institution

Eighth Quarter

- MATH 240: Differential Equations (5 credits)
- ENGR 206: Microprocessor Systems (5 credits)
- ENGL& 235: Technical Writing (5 credits)

Apply for Graduation (lowercolumbia.edu/graduation)

Ninth Quarter

- MATH 220: Linear Algebra (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)

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: C or better in MATH 098 or placement into MATH& 141.*

4. Recommended Elective

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

- *Prerequisites: CHEM& 161*

5. Prerequisite Coursework / Elective

MATH& 141: Precalculus I (6 credits)

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

6. 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.*

7. Communications 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.*

8. Prerequisite Coursework / Elective

MATH& 142: Precalculus II (5 credits)

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

9. 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.*

10. Math Requirement

MATH& 151: Calculus I (5 credits)

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

11. Pre-Major Requirement

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

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

12. 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.*

13. Math Requirement

MATH& 152: Calculus II (5 credits)

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

14. Pre-Major Requirement

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

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

15. 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*

16. Math Requirement

MATH& 153: Calculus III (5 credits)

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

17. Pre-Major Requirement

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

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

18. Pre-Major Requirement

ENGR& 204: Electrical Circuits (6 credits)

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

19. 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*

20. Recommended Elective

ENGR 205: Design of Logic Circuits (5 credits)

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

21. Math Requirement

MATH 240: Differential Equations (5 credits)

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

22. Recommended Elective

ENGR 206: Microprocessor Systems (5 credits)

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

23. Recommended Elective

ENGL& 235: Technical Writing (5 credits)

- *Prerequisite: ENGL& 101 with a grade of C or better.*
- *Fulfills [WRTG] requirement at WSU*

24. Math Requirement

MATH 220: Linear Algebra (5 credits)

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

25. 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*

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)**