Program map for Computer & Electrical Pre-Engineering AS-T COMP E EE/MRP (2 year)

2024-25

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

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.

View this program in the LCC Catalog (lowercolumbia.edu/publications/catalog/programs/STEM-AST-Computer-and-Electrical-Pre-Engineering)

See also

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

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)
  - *Prerequisities: 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.*