

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

2022-23

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: (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 (3 credits)
- 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 (3 credits)

- *Prerequisite: High school or 100-level physics or chemistry, or instructor permission. Concurrent enrollment in MATH& 142.*

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.*

(lowercolumbia.edu/program-maps/stem) Program Maps for Science, Technology, Engineering and Math (STEM) (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)
- Bioengineering and Chemical Pre-Engineering - AS-T (Chemical Engineering Option) (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)
- Biology - DTA/MRP (lowercolumbia.edu/program-maps/stem/DTA-MRP-Biology)
- Chemistry - AS-T (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)

- [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)