

AS-T COMP E EE/MRP

# Computer & Electrical Pre-Engineering

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.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- [Computer & Electrical Pre-Engineering AS-T COMP E EE/MRP \(lowercolumbia.edu/program-maps/stem/AST-Computer-and-Electrical-Pre-Engineering-3-year\)](http://lowercolumbia.edu/program-maps/stem/AST-Computer-and-Electrical-Pre-Engineering-3-year)
- [Computer & Electrical Pre-Engineering AS-T COMP E EE/MRP \(lowercolumbia.edu/program-maps/stem/AST-Computer-and-Electrical-Pre-Engineering-2-year\)](http://lowercolumbia.edu/program-maps/stem/AST-Computer-and-Electrical-Pre-Engineering-2-year)

## Degree Requirements

**Total credits required to earn this degree:** A minimum of 91 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

LCC students must meet distribution requirements for associate degrees and specific certificates. See [Diversity and Distribution Lists \(lowercolumbia.edu/publications/catalog/distribution-lists/\)](http://lowercolumbia.edu/publications/catalog/distribution-lists/) for more information.

## General Education Requirements

- **Communications:**

5 credits - ENGL& 101 English Comp I.

- **Quantitative/Symbolic Reasoning Skills:**

25 credits – MATH& 151\* Calculus I, MATH& 152\* Calculus II, MATH& 153\* Calculus III, MATH 220 Linear Algebra **AND** MATH 240 Differential Equations.

- **Humanities/ Social Sciences:**

15 credits – minimum 5 credits in Humanities, minimum 5 credits in Social Science, plus an additional 5 credits in either Humanities or Social Science from the *Distribution List*. ECON& 201 or 202 recommended.

- **Diversity:**

5 credits – from the *Diversity Course List*. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Intro to Sociology:DIV.

- **Electives:**

10 credits minimum – select electives appropriate for your intended major and intended baccalaureate institution.

## Program Requirements

### Pre-Major Requirements (41 credits)

Course Code	Course Title	Number of Credits
CHEM& 161*	General Chemistry w/Lab I	5
CS 170	Fundamentals of Computer Programming	5
CS 270	Data Structures I	5
PHYS& 221*	Engr Physics I w/Lab	5
PHYS& 222*	Engr Physics II w/Lab	5
PHYS& 223*	Engr Physics III w/Lab	5
ENGR& 204	Electrical Circuits	6

### Recommended Electives

Course Code	Course Title	Number of Credits
BIOL& 221	Majors Ecology/Evolution: w/Lab	5
CHEM& 162*	General Chemistry 2/Lab II	5
ENGL& 235	Technical Writing	5
ENGR 205**	Design of Logic Circuits	5
ENGR 206	Microprocessor Systems	5
ENGR& 214	Statics	5
ENGR& 215	Dynamics	5

Course Code	Course Title	Number of Credits
ENGR& 224	Thermodynamics	5
MATH& 254* (was MATH 154)	Calculus IV	5

\*\*Required for WSU-V

## Program Outcomes

Students completing this program should acquire the following skills and abilities:

- Demonstrate the ability to use foundational knowledge in mathematics, physics, chemistry, and biology.
- Design and conduct experiments.
- Make measurements, analyze data, and interpret results.
- Problem solving, team, self-assessment and lifelong learning skills.
- Communicate effectively.

## Notes

### Revised April 2023 (effective Summer 2023)

\*It is recommended that sequence courses be completed at one institution.

Baccalaureate institutions party to this agreement are: UW Seattle, WSU, EWU, Gonzaga U, St. Martin's U, Seattle Pacific U, Seattle U and Walla Walla U.

Additional general education requirements, cultural diversity requirements, and foreign language requirements, as required by the receiving institution, must be met prior to the completion of a baccalaureate degree.

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.