

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.

## Degree 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.

## Pre-Major Requirements (41 credits)

|            |                           |   |
|------------|---------------------------|---|
| CHEM& 161* | General Chemistry w/Lab I | 5 |
| CS 170     | 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

|                              |                                 |   |
|------------------------------|---------------------------------|---|
| 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                        |   |
| ENGR& 224                    | Thermodynamics                  | 5 |
| MATH& 254*<br>(was MATH 154) | Calculus IV                     | 5 |

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at [lowercolumbia.edu/catalog](http://lowercolumbia.edu/catalog).

Total transferable credits required to earn this degree: 90 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.

**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.

**Revised June 2019 (Effective Fall 2019)**

**Planner**

The distribution lists are in the LCC Catalog. If you are online, click on the links below:

**Diversity Course List**

**Distribution List**

| Fall Quarter |         |     | Winter Quarter |         |     | Spring Quarter |         |     | Summer Quarter |         |     |
|--------------|---------|-----|----------------|---------|-----|----------------|---------|-----|----------------|---------|-----|
| √            | Courses | Crs | √              | Courses | Crs | √              | Courses | Crs | √              | Courses | Crs |
|              |         |     |                |         |     |                |         |     |                |         |     |
|              |         |     |                |         |     |                |         |     |                |         |     |
|              |         |     |                |         |     |                |         |     |                |         |     |
|              |         |     |                |         |     |                |         |     |                |         |     |
| Total:       |         |     | Total:         |         |     | Total:         |         |     | Total:         |         |     |

| Fall Quarter |         |     | Winter Quarter |         |     | Spring Quarter |         |     | Summer Quarter |         |     |
|--------------|---------|-----|----------------|---------|-----|----------------|---------|-----|----------------|---------|-----|
| √            | Courses | Crs | √              | Courses | Crs | √              | Courses | Crs | √              | Courses | Crs |
|              |         |     |                |         |     |                |         |     |                |         |     |
|              |         |     |                |         |     |                |         |     |                |         |     |
|              |         |     |                |         |     |                |         |     |                |         |     |
|              |         |     |                |         |     |                |         |     |                |         |     |
| Total:       |         |     | Total:         |         |     | Total:         |         |     | Total:         |         |     |

**Notes:**

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.