

Cleveland State University  
Washkewicz College of Engineering  
Bachelor of Mechanical and Electrical Engineering

Mechanical Engineering + Electrical Engineering Map (Effective Spring 2025)

| First Year  |         |       |     |                                       |         |       |    |             |
|---|---------|-------|-----|---------------------------------------|---------|-------|----|-------------|
| Fall Semester   | Credits | Major | CC  | Spring Semester                       | Credits | Major | CC |             |
| ENG 100 Intensive College Writing OR<br>ENG 101 College Writing I | 3       |       | FYV | MTH 182 Calculus II                   | 4       |       |    | FQR/<br>DDL |
| MTH 181 Calculus I  | 4       |       | FQR | PHY 241 University Physics I          | 5       |       |    | SI/SIL      |
| ESC 151 C Program OR ESC 152 MATLAB                               | 3       | X     |     | MCE 181 Computer Aided Engineering II | 2       |       |    |             |
| MCE 180 Computer Aided Engineering I                              | 2       | X     |     | MCE 276 Materials & Manufacturing     | 3       | X     |    |             |
| Inquiry Launch  | 3       |       | IL  | MCE 286 Manufacturing Processing Lab  | 1       | X     |    |             |
| Semester Total  | 15      |       |     | Semester Total                        | 15      |       |    |             |

| Second Year  |         |       |     |                                      |         |       |    |      |
|--|---------|-------|-----|--------------------------------------|---------|-------|----|------|
| Fall Semester  | Credits | Major | CC  | Spring Semester                      | Credits | Major | CC |      |
| ESC 250 Differential Equations                             | 3       | X     |     | ESC 202 Dynamics                     | 3       | X     |    |      |
| ESC 201 Statics  | 3       | X     |     | ESC 301 Fluid Mechanics              | 3       | X     |    |      |
| ESC 102 Technical Writing or<br>ENG 102 College Writing II | 3       |       | RPW | EEC 310 Electric Circuits I          | 4       | X     |    |      |
| PHY 242 University Physics II                              | 5       |       |     | EEC 312 Circuits Lab                 | 2       | X     |    |      |
| ESC 350 Linear Algebra for Engineers                       | 3       | X     |     | African-American History and Culture | 3       |       |    | AAHC |
| Semester Total   | 17      |       |     | Semester Total                       | 15      |       |    |      |

| Third Year                         |         |       |    |                             |         |       |    |     |
|------------------------------------|---------|-------|----|-----------------------------|---------|-------|----|-----|
| Fall Semester                      | Credits | Major | CC | Spring Semester             | Credits | Major | CC |     |
| EEC 313 Electronics I              | 3       | X     |    | EEC 384 Digital Systems Lab | 2       | X     |    |     |
| ESC 211 Strength of Materials      | 3       | X     |    | MCE 371 Vibrations          | 3       | X     |    |     |
| EEC 383 Digital Systems            | 3       | X     |    | MCE 362 Machine Analysis    | 3       | X     |    |     |
| ESC 321 Engineering Thermodynamics | 3       | X     |    | MCE 470 Eng Measurements    | 3       | X     |    |     |
| EEC 315 Electronics Lab            | 2       | X     |    | MCE 480 Measurements Lab    | 1       | X     |    |     |
|                                    |         |       |    | Society and Human Behavior  | 3       |       |    | SHB |
| Semester Total                     | 14      |       |    | Semester Total              | 15      |       |    |     |

| Fourth Year                         |         |       |     |                                      |         |       |    |     |
|-------------------------------------|---------|-------|-----|--------------------------------------|---------|-------|----|-----|
| Fall Semester                       | Credits | Major | CC  | Spring Semester                      | Credits | Major | CC |     |
| MCE 450 or EEC 493 Design Project I | 2       | X     | WAC | MCE 451 or EEC 494 Design Project II | 3       | X     |    | CAP |
| MCE 441 Intro Linear Controls       | 3       | X     |     | PHL 215 Engineering Ethics           | 3       |       |    | HCC |
| General Elective                    | 3       |       |     | General Elective                     | 3       |       |    | WAC |
| Scientific Inquiry                  | 3       |       | SI  | MCE Lab Elective                     | 3       | X     |    |     |
| Global Human Perspectives           | 3       |       | GHP | Diversity in Society                 | 3       |       |    | DS  |
| Semester Total                      | 14      |       |     | Semester Total                       | 15      |       |    |     |

Total Degree Hours: 120

**Assumption:** University Requirement of Foreign Language has been met by either successfully completing two (2) years of the same language in high school; or two (2) semesters of the same language in college; or passing CSU's language placement test in reading, writing, and speaking of a second language other than English.

**College/Program Notes:** The plan above is a suggested guide to ensure that all General Education, College, University, and Major requirements are met within 4 years of study. Students may deviate from the suggested placement of Gen Ed courses, although the M/QL and W/C requirements should be completed during the first year. General Electives ensure that a student accumulates the minimum credit hour totals needed for graduation. Students must have a **minimum of 120 total credit hours**. Depending upon elective choices made, students may not need as many electives as indicated above or may need additional electives.

**General Education Key + Notes**

|   |  |
|---|--|
| General Ed. Electives can be taken in any order except ESC 282 (Engineering Economy) after MTH 182 (Calculus II) as well as PHL 215 (Engineering Ethics) after ESC 102 /ENG 102 (Tech. Writing/College Writing II). |  |
| Intro = Introduction to University Life Requirement (one course required)   | SS = Social Sciences Requirement (2 courses required, one of which must be focused outside the US)                   |
| W/C = Writing/Composition Requirement (two courses, each C or better required)  | A&H = Arts & Humanities Requirement (2 courses required, one of which must be focused outside the US)                |
| M = Mathematics (two courses required, each C or better)  | DIV = Social Diversity Requirement (2 courses required, one US Diversity and one African American Experience)        |
| NS = Natural Sciences (two courses required, one of which must have a lab – NS&LAB)   | WAC/SPAC = Writing/Speaking Across the Curriculum Requirement (3 courses required, one in the major)                 |
| ESC 100/ASC 101 can be waived for transfer students with 60 credits or more   | CAP = Capstone topic needs to be a combination of Mechanical Engineering and Electrical Engineering                  |
| *Engineering, & Computer Science Career Prep course (ESC 130) is highly recommended   | **Of the SS and A&H courses, at least one must be focused on Africa, Latin America, Asia or the Middle East (ALAAME) |

This information is provided solely for the convenience of the reader, and the University expressly disclaims any liability which may otherwise be incurred. This publication is neither a contract nor an offer to make a contract. While every effort has been made to ensure the accuracy of the information, the University reserves the right to make changes at any time with respect to course offerings, degree requirements, services provided, or any other subject addressed herein