**Cal Poly Humboldt Mechanical Engineering (MECH) Graduation Contract**

**for Second Bachelor's Students**

Double-click in the gray text boxes below to fill:

**Name:** **ID#:** **Email:**

**Major Advisor:** **Date:**

Please consult with your major advisor if you have questions as you complete the agreement below and/or if you plan to propose any course substitutions. All requirements for this major, including detailed course descriptions and GE requirements, can be found in the [Cal Poly Humboldt catalog](https://catalog.humboldt.edu/preview_program.php?catoid=10&poid=6304&returnto=1615).

Each of the courses listed below is required for the MECH major. Please UNCHECK the box (double-click and select ‘not checked’) next to any requirement for which you are proposing to substitute another class or classes - either from Cal Poly Humboldt or another institution. For each unchecked box, you’ll provide details on your substitutions in the next section.

A checked box indicates that you plan to complete the requirement by taking the specific Humboldt course listed.

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| **Lower Division (LD - 41 Units)** | **Upper Division (UD - 43 Units)** |
| [x]  CHEM 109 - General Chemistry I (5) | [x]  PHYX 315 - Intro Electronics and Elec Instrumentation (3) |
| [x]  ENGR 115 - Introduction to Engineering (3) | [x]  ENGR 313 - Systems Analysis (3) |
| [x]  ENGR 123 - Engineering Fabrication (1) | [x]  ENGR 317 - Dynamic Systems and Vibrations (3) |
| [x]  ENGR 205 - Introduction to Design (3) | [x]  ENGR 322 - Risk and Data Analysis for Engineers (4) |
| [x]  ENGR 210 - Solid Mechanics: Statics (3) | [x]  ENGR 326 - Computational Methods for Engr III (3) |
| [x]  ENGR 225 - Computational Methods for Engr I (3) | [x]  ENGR 330 - Mechanics and Science of Materials (3) |
| [x]  ENGR 226 - Computational Methods for Engr II (3) | [x]  ENGR 331 - Thermodynamics and Energy Systems I (3) |
| [x]  MATH 109 - Calculus I (4) | [x]  ENGR 333 - Fluid Mechanics (4) |
| [x]  MATH 110 - Calculus II (4) | [x]  ENGR 417 - Heat and Mass Transport Processes (3) |
| [x]  MATH 210 - Calculus III (4) | [x]  ENGR 430 - Manufacturing I (3) |
| [x]  PHYX 109 - General Physics A: Mechanics (4) | [x]  ENGR 464 - Measurements, Instrumentation, and Control (3) |
| [x]  PHYX 211 - General Physics C: Electricity, Magnetism (4) | [x]  ENGR 465 - Machine Design (3) |
|  | [x]  ENGR 492B - Mech Engineering Capstone Design I (2) |
|  | [x]  ENGR 492CW - Mech Engineering Capstone Design II (3) |

For any unchecked requirement above, please indicate below the course(s) you are proposing to substitute. Examples are shown in gray. You may add rows if necessary. *Please note that courses taken at Junior Colleges are typically not accepted for upper division requirements. A grade of C- or better is required in all major classes.*

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| **Humboldt LD or UD Requirement** | **Alternate Course(s) to Be Substituted for Lower Division and/or** **Upper Division MECH Requirements** |
| **Course Catalog #** | **Units** | **Institution** | **Course Catalog #** | **Course Title** | **Units** | **Term Taken (or planned)** |
| *CHEM 109* | *5* | *Example: Made-Up Valley JC* | *Chem 101* | *Gen Chem A* | *3* | *Fall 2021* |
| *“* | *“* | *Example: Made-Up Valley JC* | *Chem 102* | *Gen Chem B* | *3* | *Spring 2022* |
| *PHYX 315* | *3* | *Example: CSU New* | *Phys 356* | *Electronics* | *4* | *Spring 2022* |
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### Major Elective Program (12 Units)

Please CHECK the box (double-click to select “Checked”) for the one (1) Life Science elective and the three (3) Engineering Design electives you would like to count toward your MECH degree. If you are proposing to substitute another class or classes - either from Cal Poly Humboldt or another institution - for any of these electives, please enter information on the substitutions in the table below.

**Life Science Elective: Select one course from the following.**

[ ]  BIOL 104 - General Biology (3)

[ ]  BIOL 105 - Principles of Biology (4)

[ ]  SOIL 104 - Introduction to Sustainable Agriculture (3)

**Engineering Design: Select a total of three courses. At least one course must be from List A.**

**Engineering Design List A**

[ ]  ENGR 421 - Advanced Numerical Methods for Engineers I (3)

[ ]  ENGR 433 - Advanced Manufacturing Processes (3)

[ ]  ENGR 462 - Mechatronics (3)

[ ]  ENGR 468 - Materials Processes (3)

[ ]  ENGR 471 - Thermodynamics and Energy Systems II (3)

**Engineering Design List B**

[ ]  ENGR 418 - Applied Hydraulics (3)

[ ]  ENGR 434 - Air Quality Management (3)

[ ]  ENGR 473 - Building Energy Analysis (3)

[ ]  ENGR 475 - Renewable Energy Power Systems (3)

[ ]  ENGR 478 - Electricity Grids and Distributed Renewable Energy (3)

[ ]  ENGR 481 - Selected Topics with Engineering Design (3)
[ ]  ENGR 498 - Directed Design Project (1-3) (*3 units required*)

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| **Humboldt Elective Category** | **Alternate Course(s) to Be Substituted for Life Science or Engineering Design Elective** |
| **Life Science** **or** **ENGR Design** | **List A or B (if Design)** | **Institution** | **Course Catalog #** | **Course Title** | **Units** | **Term Taken (or planned)** |
| *Life Sci* |  | *Example: CSU New* | *BIOL 205* | *Biology Topics* | *3* | *Fall 2022* |
| *Design* | *A* | *Example: Elsewhere Univ* | *ENG 444* | *Building Fun Stuff* | *3* | *Spring 2023* |
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**When completed, please email this form (without signatures) to** **engineering@humboldt.edu****. It will be routed via Adobe Sign for student and faculty signatures. Signed copy will be sent to the Registrar’s Office.**

Student Signature Advisor Signature Department Chair Signature