

Electrical Engineering, BS

F.M. Long Bioengineering Option



University of Wyoming, 2017-18

| Freshman Fall Semester | | | | Hrs | Min Grade | Notes |
|------------------------|------|---|--|-----------|-----------|---|
| USP First-Year Seminar | | | | 3 | C | FY; recommend EE 1101 (Bits & Bytes: A Taste of Electronics). |
| CHEM | 1020 | General Chemistry I * | | 4 | | PN |
| ENGL | 1010 | College Composition and Rhetoric | | 3 | C | C1 |
| ES | 1060 | Intro to Engineering Problem Solving ** | | 3 | C | |
| MATH | 2200 | Calculus I *** | | 4 | C | Q |
| Credit hours subtotal: | | | | <u>17</u> | | |

| Freshman Spring Semester | | | | Hrs | Min Grade | Notes |
|--------------------------|------|--------------------------------|--|-----------|-----------|--|
| CHEM | 2300 | Introductory Organic Chemistry | | 4 | C | |
| ES | 2110 | Statics | | 3 | ^ | May substitute any ES, EE, or BE course (>2000-level), COSC 3011 (Intro to Software Design), or COSC 3750 (Linux Programming for System Apps). |
| MATH | 2205 | Calculus II | | 4 | C | |
| PHYS | 1210 | Engineering Physics I | | 4 | C | PN; no credit can be earned in PHYS 1210 if taken after ES 2120. |
| Credit hours subtotal: | | | | <u>15</u> | | |

| Sophomore Fall Semester | | | | Hrs | Min Grade | Notes |
|-------------------------|------|---------------------------|--|-----------|-----------|--|
| USP Human Culture | | | | 3 | | H |
| ES | 2120 | Dynamics | | 3 | ^ | May substitute any ES, EE, or BE course (>2000-level), COSC 3011 (Intro to Software Design), or COSC 3750 (Linux Programming for System Apps). |
| ES | 2210 | Electric Circuit Analysis | | 3 | C | |
| MATH | 2210 | Calculus III | | 4 | C | |
| PHYS | 1220 | Engineering Physics II | | 4 | C | Should be taken before or concurrently with ES 2210. |
| Credit hours subtotal: | | | | <u>17</u> | | |

| Sophomore Spring Semester | | | | Hrs | Min Grade | Notes |
|---------------------------|------|----------------------------------|--|-----------|-----------|----------------------|
| EE | 2220 | Circuits and Signals | | 4 | C | Offered spring only. |
| EE | 2390 | Digital Systems Design | | 4 | C | |
| LIFE | 1010 | General Biology | | 4 | C | |
| MATH | 2250 | Elementary Linear Algebra | | 3 | C | |
| MATH | 2310 | Applied Differential Equations I | | 3 | C | |
| Credit hours subtotal: | | | | <u>18</u> | | |

This is a guide for course work in the major; actual course sequence may vary by student. Please refer to the online student degree evaluation, and consult with an academic advisor. • Not all courses are offered every semester and some electives may have prerequisites. Students should review the course descriptions in the *University Catalog* and consult with their academic advisor to plan accordingly.

University of Wyoming requirements:

Students must have a minimum cumulative GPA of 2.0 to graduate. • Students must complete 42 hours of upper division (3000-level or above) coursework, 30 of which must be from the University of Wyoming. • Courses must be taken for a letter grade unless offered only for S/U. • University Studies Program (USP) Human Culture (H) and Physical & Natural World (PN) courses must be taken outside of the major subject, but can be cross-listed with the major.

College of Engineering and Applied Science requirements:

Students must have a minimum cumulative GPA of 2.0 in all Engineering courses for graduation. • A grade of C or higher is required for all prerequisite courses. Students must also achieve a grade of C or better in all required mathematics courses.

Electrical Engineering - Bioengineering Option Program Notes:

^ Students must have a minimum cumulative GPA of 2.0 in all Engineering courses for graduation.

* Requires MATH ACT ≥ 23 , MATH SAT ≥ 600 , Math Placement Exam ≥ 3 , or concurrent enrollment in MATH 1400, 1405, or 1450. (University standard)

** Requires MATH 2200 or concurrent enrollment.

*** Requires MATH ACT ≥ 27 , MATH SAT ≥ 600 , Math Placement Exam ≥ 5 , or $\geq C$ in MATH 1405 or 1450. (University standard)

Electrical Engineering, BS

F.M. Long Bioengineering Option



University of Wyoming, 2017-18

| Junior Fall Semester | | | Hrs | Min Grade | Notes |
|------------------------|------|---------------------|-----------|-----------|-----------------------------------|
| | | USP Communication 2 | 3 | C | C2; must be taken before EE 4820. |
| | | USP Human Culture | 3 | | H |
| EE | 3220 | Signals and Systems | 3 | C | Offered fall only. |
| EE | 3310 | Electronics I | 4 | C | Offered fall only. |
| EE | 3510 | Electromechanics | 4 | C | Offered fall only. |
| Credit hours subtotal: | | | 17 | | |

| Junior Spring Semester | | | Hrs | Min Grade | Notes |
|------------------------|------|--|-----------|-----------|----------------------|
| EE | 3330 | Electronics II | 4 | C | Offered spring only. |
| EE | 4075 | C++ with Numerical Methods for Engineers | 4 | ^ | Offered spring only. |
| EE | 4390 | Microprocessors | 3 | ^ | Offered spring only. |
| MOLB | 2021 | General Microbiology | 4 | C | |
| Credit hours subtotal: | | | 15 | | |

| Senior Fall Semester | | | Hrs | Min Grade | Notes |
|------------------------|------|--------------------------------|-----------|-----------|---|
| | | USP US & Wyoming Constitutions | 3 | | V |
| BE | 4810 | Bioinstrumentation | 3 | ^ | Offered fall semester only; can substitute EE 4330 (Electronic Systems Design). |
| EE | 3150 | Electromagnetics | 3 | C | Offered fall only. |
| EE | 4820 | Senior Design I | 2 | C | Offered fall only; must be taken before EE 4830. |
| | | Technical Elective **** | 3 | | |
| Credit hours subtotal: | | | 14 | | |

| Senior Spring Semester | | | Hrs | Min Grade | Notes |
|------------------------|------|--------------------------------------|-----------|-----------|--|
| BE | 4820 | Biodata Systems | 3 | ^ | Offered spring only; can substitute EE 4620 (Automatic Control Systems). |
| EE | 4220 | Probabilistic Signals and Systems | 3 | ^ | Offered spring only. |
| EE | 4830 | Senior Design II | 2 | ^ | C3; offered spring only; ideally taken in the final semester; must be taken after EE 4820. |
| MOLB | 3610 | Principles of Biochemistry | 4 | C | |
| | | Electrical Engineering Elective **** | 3 | ^ | |
| Credit hours subtotal: | | | 15 | | |

TOTAL CREDIT HOURS: 128

Electrical Engineering - Bioengineering Option Program Notes con't:

- **** **Electrical Engineering Elective:** Any non-required Electrical Engineering course.
Technical Elective: Any course in Engineering, Computer Science, or those marked as technical electives in the ECE Math/Science Elective List (found at www.uwyo.edu/electrical/undergraduate/)

Notes for Students Considering Medical School (pre-med) or Related Programs

- Students should be prepared that the total hours for the program may exceed 132 hours.
- Students interested in medical school or other professional schools (i.e. dental school, physical therapy school, etc.) should contact the Preprofessional Health Advising Office in the College of Health Sciences early for appropriate advising.
- Students should be prepared for the following changes to the curriculum, at a minimum:
 - Substitute CHEM 1030 (General Chemistry II) for CHEM 2300 (Introductory Organic Chemistry).
 - Add CHEM 2420 (Organic Chemistry I), CHEM 2440 (Organic Chemistry II), MOLB 4100 (Inorganic Chemistry Lab) and MOLB 4110 (Introductory Inorganic Chemistry). ZOO 3115 (Human Systems Physiology) is also recommended.