COMPUTER ENGINEERING – AEROSPACE SYSTEMS CONCENTRATION CURRICULUM GUIDE
2025 - 2026

1. REQUIRED TOTAL CREDITS

Computer Engineering – Networks and Data Concentration: 126 credits

A minimum of 42 upper-division semester credits (300-400 level) are required of all students completing a bachelor's degree program at CSU. A minimum of 30 upper-division semester credits must be completed in residence at CSU as a major in the College of Engineering. Elective credits taken at the 500-level may be used to fulfill this requirement. Courses at the 600-level may not be used to fulfill undergraduate degree requirements per CSU Policy.

2. GRADE REQUIREMENTS

University – 2.00 Cumulative GPA

All-University Core Curriculum (AUCC) – 2.00 GPA

College of Engineering – 2.00 GPA in all required engineering, math, chemistry and physics courses.

ECE Courses – 2.00 GPA in all ECE courses

ECE Department – ECE prefix courses **required for the major or concentration** at the 100, 200 and 300 level must be passed with a minimum grade of C; grades below a C will require the student to retake the course. Students receiving a grade below C will not be allowed to take an ECE course for which that course is a prerequisite until such time as the minimum grade of C requirement is met. ECE courses designated as an elective are exempt from the C or higher minimum grade requirement.

All courses must be taken for a grade. The original grade and grades earned in repeated courses are used in calculating grade point averages unless a student exercises the CSU Repeat/Repair policy.

3. COURSE PREREQUISITES

All course prerequisites for 100-, 200-, 300-, 400-, and 500-level ECE courses must be completed with a C or higher. This includes all ECE, CS, PH and MATH prerequisite courses including CS150B, CS152, CS162, CS164, PH142, MATH160, MATH161, MATH261, and MATH340.

For courses taken outside of the ECE department, students must meet all grade minimums and prerequisites set by the department sponsoring the course.

Students are responsible for knowing and fulfilling the requirements for course prerequisites, co-requisites, and graduation. These requirements are listed on the ECE website, in the CSU General Catalog, on the Degree Progress Audit, and each semester's class schedule located in RAMweb.

4. COMPUTER ENGINEERING ELECTIVES – 0-3 credits

Choose from the list of courses found on the Computer Engineering – Aerospace Systems concentration Computer Engineering Elective list.

5. **TECHNICAL ELECTIVES** – 12-15 credits

Courses used to fulfill major and concentration requirements will not be counted as technical elective credits. Students are required to satisfy all course prerequisites and requirements. Choose from the list of courses found on the Computer Engineering – Aerospace Systems concentration Technical Elective list.

Alternative courses may be taken with prior written approval of the ECE Curriculum Committee. Students should contact their ECE academic advisor regarding the course waiver or substitution requirements. Students must submit the *Request for Waiver or Substitution of ECE Department Graduation Requirements* to their ECE academic advisor.

6. **ALL-UNIVERSITY CORE CURRICULUM (AUCC)**

All CSU students share a common learning experience and incorporate AUCC courses. The specific courses listed below are required for the ECE curriculum while satisfying AUCC requirements. In some cases, the credits exceed the AUCC minimum requirements for core curriculum credits.

All-University Core Curriculum	***Credit Requirement***	***ECE – REQUIRED AUCC Course***
Category 1 – Basic Competencies		
A	3	CO150 (Honors Program students substitute HONR193)
B	3	MATH160
C	3	Choose from list available in the General Catalog or Class Schedule
Category 2 – Advanced Writing	3	CO301B ***OR*** JTC300
Category 3 – Foundations & Perspectives		
A – Biological/Physical Sciences	7	CHEM111/112 ***AND*** PH141
B – Arts & Humanities	6	Choose from list available in the General Catalog or Class Schedule (maximum of 3 credits of intermediate foreign language)
C – Social/Behavioral Sciences	3	AREC202 or ECON202
D – Historical Perspectives	3	Choose from list available in the General Catalog or Class Schedule

7. **TRANSFER COURSEWORK**

Students who wish to seek transfer credit from another institution for an ECE course or major requirement should contact their ECE academic advisor. For ECE courses, ECE faculty who teach the course(s) for the proposed equivalency or substitution will evaluate course materials provided by the student (i.e. course syllabus, course description, and other documentation) to determine if equivalency or substitution is warranted. If the course is outside of the ECE department (CS, PH, MATH, etc.), the student must work with the department sponsoring the course to get the course materials evaluated.

Alternative courses may be taken with prior written approval of the ECE Curriculum Committee. Students should contact their ECE academic advisor regarding the course waiver or substitution

requirements. Students must submit the *Request for Waiver or Substitution of ECE Department Graduation Requirements* to their ECE academic advisor.

8. DEGREE PROGRESS AUDIT IN RAMweb:

The Degree Progress Audit provides each student with an individualized audit reflecting their progression through their degree program and serves as the graduation contract for all undergraduate students. A Degree Progress Audit verifies the completion of University Core Curriculum, program, minor, and concentration requirements. The audit provides a dynamic report showing all courses required for the degree and includes how all transfer and CSU courses count towards a student's degree. To access the Degree Progress Audit:

1. Log into RAMweb.
2. Select "Degree Progress Audit (DARS)" under the Academic Planning and Progress section.
3. Sign in with your NetID and NetPassword.
4. Always run a new audit to have the most accurate audit.

9. INTERNSHIPS & CO-OPS

The College of Engineering Co-op (Cooperative Education) Program allows students to further explore their chosen engineering discipline, build a powerful resume, develop a network of professional contacts, and help support their academic expenses.

For approved Co-ops, students work at least one year with the same employer over at least three (3) semesters. Upon completion of three (3) semesters of Co-op, students gain three (3) academic credits that can be used as technical electives and students are required to pay tuition for the credits.

Internships are not credit bearing and do not have an academic component. Students are encouraged to complete an internship experience, and a high percentage of ECE students choose to participate in at least one internship.

10. ACCELERATED MASTER'S PROGRAM – AMP (Accelerated B.S./M.S. or B.S./Ph.D.)

Exceptional undergraduate students may apply to the accelerated bachelor's/master's or bachelor's/doctoral degree programs. Students completing the Electrical Engineering concentration enrolled in AMP may double count a maximum of nine (9) 500-level credits with a grade of B or better toward both the bachelor/master or bachelor/Ph.D. degrees. For more information on application procedures/requirements and minimum GPA requirements, please see the Accelerated B.S./Master's (AMP) website.

11. EDUCATION ABROAD

Through Education Abroad, Engineering students at CSU have many opportunities to participate in international experiences, whether that's short-term or a semester. These programs can last a week to a year and include study, research, internships, service learning, and other opportunities.