Curriculum for B.S. Degree in Engineering Technology (120 units)

CALIFORNIA STATE UNIVERSITY, LOS ANGELES

Draft 08/26/2021

Lower Division General Education Requirements (27 units)

BLOCK A – Basic Subjects (9 units)	**1 course each A1, A2, A3**
A1: COMM 1100 or HNRS 1100	**Oral Communication (3)**
A2: ENGL 1005B or ENGL 1010	**Written Communication (3)**
A3: COMM1200/ENGL 1050/PHIL 1600/POLS 1555	**Critical Thinking and Composition (3)**
American Institutions (6 units)	
U.S. History	**1 course (3)**
U.S. Constitution	**1 course (3)**
BLOCK B – Natural Sciences & Mathematics/ Quantitative Reasoning (9 units)	**1 course from B2 or B3**
B1 – Physical	**Met in major with PHYS 1560/1570 (3)**
B2 – Biological	**1 course (3)**
B3 – Interdisciplinary Physical /Biological	**Not applicable if B2 course taken**
B4 – Mathematics/Quantitative Reasoning	**Met in Major with Math 2110 (4)**
BLOCK C – Arts and Humanities (6 units)	**1 course each C1 and C2 (6)**
BLOCK D – Social Sciences (3 units)	**Met in major with ME/CE/EE 3000**
BLOCK E – Lifelong Understanding and Self-Development (3 units)	**Met in major with ENGR 1500 (3)**
BLOCK F – Ethnic Studies (3 units)	**1 course (3)**

Lower Division Core Courses (34 units)

CHEM 1000	Molecules Matters (3) *Prerequisites: None*
ENGR 1500	Introduction to Engineer and Technology (3) *Prerequisites: None*
ETEC 1000	Introduction to Automotive Mechanisms (3) *Prerequisites: None*
ETEC 1020	Industrial Safety (3) *Prerequisites: None*
ETEC 1100	Introduction to Design Application (3) *Prerequisites: None*
ETEC 1200	Practical Electronics (3) *Prerequisites: PHYS 1560 and PHYS 1570 both with minimum C-*
ETEC 1600	Introduction to Metalworking (3) *Prerequisites: ETEC 1020*
ETEC 2070	Engineering Tech. Materials (3) *Prerequisites: CHEM 1000 or CHEM 1040 with min C-*
MATH 2110	Calculus I (4) *Prerequisites: MATH 1040 or (MATH 1081 or MATH 1082 and MATH 1083) with min C*
PHYS 1560	Physics for the 21st Century (2) *Corequisites: PHYS 1570*
PHYS 1570	Physics for the 21st Century Lab (1) *Prerequisite/Corequisite: 1560*
TECH 1300	Introduction to Graphics Communication (3) *Prerequisites: None*

Upper Division Core Courses (26 units)

ETEC 3600	Lean Manufacturing (3) *Prerequisites: PHYS 1560/1570, MATH 2110 all with a minimum C-; and ETEC 1600.*
ETEC 3700	Sustainable Engineering and Transportation (3) *Prerequisites: MATH 2110, PHYS 1560, and PHYS 1570 All with a minimum grade of C-.*
ETEC 4210	Internetworking Technology (3) *Prerequisites: ETEC 1200*
ETEC 4880	Fluid Power (3) *Prerequisites: MATH 2110, PHYS 1560, and PHYS 1570 all with minimum grade C-.*
ETEC 4890	Industrial Training Methods (2) *Prerequisites: ETEC 3600, ETEC 3700*
ETEC 4950	Engineering Technology Senior Project I (3) *Prerequisites: ETEC 3600, ETEC 3700, Senior Standing*
ETEC 4951	Engineering Technology Senior Project II (3) *Prerequisites: ETEC 4950 with grade C or better.*
TECH 3300	Graphic Communication Processes and Materials (3) *Prerequisites: Junior Standing.*
TECH 4000	Written Communication Skills for Technology (3) *Prerequisites: Completion of GE A2*

Related Core Courses (9 units)

ACCT 2100	Principles of Financial Accounting (3) *Prerequisites: None*
ECON 3060	Statistics for Business Analysis and Decision Making (3) *Prerequisites: GE 4 basic subject.*
ME/CE/EE 3000	Economics for Engineers (3) *Prerequisites: Junior or Senior Standing.*

Elective Courses (15 units): *Students must choose five courses from any combination of Categories below.*

Category 1: Elective Courses in Manufacturing System & Processes

ETEC 3130	Product Design and Development (3) *Prerequisites: ETEC 1100*
ETEC 3150	Project Design and Document Control (3) *Prerequisites: ETEC 3130*
ETEC 3820	Metrology and Statistical Process Control (3) *Prerequisites: MATH 2110, and ETEC 1600*
ETEC 4600	Advanced Manufacturing Processes (3) *Prerequisites: MATH 2110, and ETEC 3600*
ETEC 4620	Digital Manufacturing (3) *Prerequisites: ETEC 1100, ETEC 3600*
ETEC 4660	Additive Manufacturing (3) *Prerequisites: ETEC 1100 / Corequisite: ETEC 3600*
ETEC 4670	Emerging Manufacturing Technologies (3) *Prerequisites: ETEC 1100 / Corequisite: ETEC 3600*

Category 2: Sustainable Energy and Transportation Technologies

ETEC 4700	Electric and Hybrid Vehicles (3) *Prerequisites: ETEC 3700 or with consent of instructor*
ETEC 4710	Engine Design and Performance (3) *Prerequisites: ETEC 3700 or with consent of instructor*
ETEC 4720	Photovoltaic Applications (3) *Prerequisites: ETEC 3700 or with consent of instructor*
ETEC 4740	Fuel Cell Applications and Hydrogen Infrastructure (3) *Prerequisites: ETEC 3700 or with consent of instructor*
ETEC 4760	Measurement, Instrumentation and Control (3) *Prerequisites: ETEC 3700*
ETEC 4780	Emerging Sustainable Technologies (3) *Prerequisites: ETEC 3700 or with consent of instructor*

Category 3: Management

MGMT 3060	Operations Management (3) *Prerequisites: None*
MGMT 4505	Project Management (3) *Prerequisites: None*

Elective Courses (3 units): *Students must take any 3 unit additional elective course to make the total units to 120.*

General Education Upper Division Theme (6 units)

UPPER DIVISION GE B – NATURAL SCIENCES AND QUANTITATIVE REASONING (3 units)	**Met with ECON 3060 (3)**
UPPER DIVISION GE C – ARTS AND HUMANITIES (3 units)	**1 course (3)**
UPPER DIVISION GE D – SOCIAL SCIENCES (3 units)	**1 course (3)**

Notes:

- GE requirements must add up to at least 48 semester units. (39 Lower Division, 9 Upper Division units).
- An Introduction to Higher Education course (IHE) is required of all first-time freshman.
- A minimum C- grade in A1, A2, A3, and B4 classes is required. This does not apply to meeting prerequisite for courses that require these courses to be completed with a grade of C or better.
- A minimum C grade average in general education is required of all students following the Fall 2016 or later catalog.
- Civic Learning/Community Engagement Requirement (6 semester units). Three semester units will be fulfilled by completing the IHE course. One (cl) course must be completed at the upper division general education level. These courses are designated as (cl) after the course listing.
- Diversity Requirement (6 semester units). Students must complete one race/ethnicity (re) course and one diversity(d) course or another race/ethnicity (re) course. These courses are designated as (re) and (d) after the course listing.
- Writing Intensive Requirement (3 semester units). Students must complete one writing intensive (wi) course in their major. These courses are designated as (wi) after the course listing