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

CALIFORNIA STATE UNIVERSITY, LOS ANGELES

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