

Associate in Science Degree

# Electrical and Computer Engineering Technology Pathway

Meta-Major: Science, Technology, Engineering & Mathematics  
Specialization: Laser & Photonics

Planning Your Degree Pathway

This document outlines the courses needed to complete your Associate in Science (A.S.) degree and prepare you for employment in a specialized career upon degree completion. These courses include general education requirements as well as courses specific to your field. Please connect with your Student Success Coach if you need introductory coursework, have earned college credit, industry certifications, have completed an articulated program at a technical college, or would like to modify when you take certain courses and/or how many courses you take in a term. A Student Success Coach can also provide guidance on how to transition or transfer to a bachelor’s degree program at Valencia or another Florida state college in case you decide to earn a bachelor’s degree in the

Additional Degree Requirements

- Introductory Coursework:** Admissions requirements and/or placement testing may require completion of preparatory courses.
- Civic Literacy:** Must satisfy with POS 2041, AMH 2010 or AMH 2020 (also satisfies Social Science Core) and Florida Civic Literacy Exam or appropriate scores on AP or CLEP exams.
- Grade Point Average (GPA):** Maintain 2.0 or higher for both Overall GPA and Valencia GPA
- Valencia Residency:** Complete at Valencia at least 25% of the college-level credits required for the degree

Sample Term-by-Term Plan | Part Time (6-9 credits) See reverse for General Education course options.

| Introductory Coursework                          |  | Credits | ←Start Here→ |  | Term 1                                        | Credits |
|--------------------------------------------------|--|---------|--------------|--|-----------------------------------------------|---------|
|                                                  |  |         |              |  | ENC 1101 Freshman Composition I*+             | 3       |
|                                                  |  |         |              |  | PHY 1020 Conceptual Physics or                | 3       |
|                                                  |  |         |              |  | CHM 1020 Chemistry In Everyday Life           |         |
| Term 2                                           |  | Credits |              |  | Term 3                                        | Credits |
| EET 1214C Intro to Engineering Technology        |  | 3       |              |  | ETS 2210C Principles of Photonics*            | 3       |
| MTB 1329 Math for Engineering Technology         |  | 3       |              |  | MAC 1105 College Algebra*+                    | 3       |
| Term 4                                           |  | Credits |              |  | Term 5                                        | Credits |
| EET 2036 – Principles of Electrical Circuits* or |  | 3       |              |  | EET 2141C Semiconductor Devices and Circuits* | 3       |
| EET 1025C Fundamentals of AC Circuits*           |  |         |              |  | CET 2123C Fundamentals of Microprocessors*    | 3       |
| CET 2114C Digital Systems*                       |  | 3       |              |  |                                               |         |
| Term 6                                           |  | Credits |              |  | Term 7                                        | Credits |
| ETS 2230C Introduction to Lasers*Δ               |  | 3       |              |  | EET 2365C Wireless & Data Communications*     | 3       |
| EET 2325C RF Communication*                      |  | 3       |              |  | Humanities Core                               | 3       |
| Term 8                                           |  | Credits |              |  | Term 9                                        | Credits |
| EET 2142C Integrated Circuits*Δ                  |  | 3       |              |  | ETS 2221C Intro to Electro-Optical Devices*Δ  | 3       |
| POS 2041 U. S. Government or                     |  | 3       |              |  | Program Elective                              | 3       |
| AMH 2020 U.S. History to 1877 or                 |  |         |              |  |                                               |         |
| AMH 2020 U.S. History 1877 to Present            |  |         |              |  |                                               |         |
|                                                  |  | Credits |              |  | Term 11                                       | Credits |
| Term 10                                          |  | Credits |              |  | Program Elective                              | 3       |
| ETS 2220C Introduction to Fiber Optics*Δ         |  | 3       |              |  | Program Elective                              | 3       |
| Program Elective                                 |  | 3       |              |  |                                               |         |
| Program Elective                                 |  | 2       |              |  |                                               |         |

Key: \* Course has a prerequisite + Course requires “C” grade or higher Δ Course not offered every term ask your coach

Pathway-Specific Information

- Higher level mathematics (MAC 1114 and higher) may be substituted for MTB1329, contact your Student Success Coach.
- This program is based on West Campus, most technical courses are taught only on that campus.
- This degree does not articulate into UCF’s B.S. Engineering degree, an Associates in Arts Degree [A.A.] is required for transfer

Program Electives

The Electives requirement may be satisfied with any course(s) offered in the A.S. Electrical and Computer Engineering Technology degree, not already used to satisfy program requirements.

Financial Aid Notice

Federal Financial Aid will only pay for courses for the required Associate in Science Degree. Work closely with your assigned Student Success Coach to verify the degree on your record and to develop a customized plan that includes the required classes each term.

**Communication (4 courses)**[SLS 1122](#) – New Student Experience[ENC 1101](#) – Freshman Composition I\*+[ENC 1102](#) – Freshman Composition II\*+

Pick one:

[SPC 1608](#) – Fundamentals of Speech **or**[SPC 1017](#) – Interpersonal Communication**Humanities Core (Pick 1)**[ARH 1000](#) – Art Appreciation[HUM 1020](#) – Introduction to Humanities[LIT 1000](#) – Introduction to Literature[MUL 1010](#) – Music Appreciation\*+[PHI 2010](#) – Philosophy[THE 1000](#) – Introduction to Theater**Humanities Institutional (Pick 1)**[HUM 2220](#) – Humanities - Greek and Roman\*+[HUM 2223](#) – Medieval Humanities \*+[HUM 2232](#) – Humanities Renaissance and Baroque\*+[HUM 2234](#) – 18<sup>th</sup> and 19<sup>th</sup> Century Humanities \*+[HUM 2250](#) – 20<sup>th</sup> and 21<sup>st</sup> Century Humanities \*+[HUM 2310](#) – Mythology\*+[HUM 2403](#) – Middle Eastern Humanities\*+[HUM 2410](#) – Asian Humanities\*+[HUM 2454](#) – African-American Humanities\*+[HUM 2461](#) – Latin American Humanities\*+[REL 2300](#) – World Religions\*+[ARC 1701](#) – History of Architecture I\*+[ARH 2051](#) – Introduction to Art History II\*+[MUT 1111](#) – Music Theory I~[PHI 2600](#) – Ethics and Critical Thinking\*+**Math Core (Pick 1)**[MAC 1105](#) – College Algebra\*+[STA 2023](#) – Statistical Methods\*+[MGF1130](#) – Mathematical Thinking\*+[MAC 2311](#) – Calculus with Analytic Geometry I\*+**Math Institutional (Pick 1)***You may instead select a second course from "Math Core"*[MAC 1114](#) – College Trigonometry\*+[MAC 1140](#) – Precalculus Algebra\*+[MAC 2312](#) – Calculus with Analytic Geometry II\*+[MAC 2233](#) – Calculus for Business and Social Science\*+[MGF1131](#) – Mathematics in Context\*+**Key:**

\* Class has a prerequisite

+ Class requires "C" grade or higher

^ Course may require a specific grade for transfer institution

~ Must be paired with MUL 1010 to earn Humanities credit

**Bold** – Common Program Prerequisite (included in sample plan)**Social Sciences Core (Pick 1)**[POS 2041](#) – U.S. Government[AMH 2010](#) – United States History to 1877[AMH 2020](#) – U.S. History 1877 to Present[ANT 2000](#) – Introduction to Anthropology[ECO 2013](#) – Principles of Economics – Macro[PSY 2012](#) – General Psychology*-POS 2041, AMH 2010 or AMH 2020 can satisfy Civic Literacy***Social Sciences Institutional**[ANT 2410](#) – Cultural Anthropology\*+[ASL 2510](#) – Deaf Culture\*+[EUH 2000](#) – Ancient and Medieval Western Civilization\*+[EUH 2001](#) – Modern Western Civilization\*+[INR 2002](#) – International Politics\*+[POS 2112](#) – State and Local Government\*+[SYG 2000](#) – Introductory Sociology[SYG 2010](#) – Social Problems\*+[WOH 2012](#) – World History to 1500\*+[WOH 2022](#) – World History Since 1500\*+**Science Core (Pick at least 1)***You must complete a minimum of 6 credit hours of total science coursework. 3 credit hours must come from "Science Core."*[AST 1002](#) – Astronomy[BSC 1005](#) – Biological Science[BSC 1005L](#) – Lab in Applied Biology (1 credit)[BSC 1005C](#) – Biological Science Combined w/ Lab (4 credits)[BSC 1010C](#) – General Biology I (4 credits)[CHM 1020](#) – Chemistry in Everyday Life[CHM 1045C](#) – General Chemistry with Qualitative Analysis I \* (4 credits)[ESC 1000](#) – Earth Science[EVR 1001](#) – Introduction to Environmental Science[GLY 2010C](#) – Physical Geology (4 credits)[OCE 1001](#) – Introduction to Oceanography[PHY 1020](#) – Conceptual Physics\*[PHY 2048C](#) – General Physics with Calculus I\* (4 credits)[PHY 2053C](#) – College Physics I with Algebra and Trigonometry \* (4 credits)**Science Institutional (Pick 1)**[BOT 2010C](#) – Botany (4 credits)[BSC 1011C](#) – General Biology II\* (4 credits)[BSC 1020](#) – Human Biology[BSC 1020C](#) – Human Biology Combined (4 credits)[BSC 1026](#) – Biology of Human Sexuality[BSC 1421C](#) – Introduction to Biotechnology (4 credits)[BSC 2093C](#) – Human Anatomy and Physiology I\* (4 credits)[BSC 2094C](#) – Human Anatomy and Physiology II\* (4 credits)[CHM 1025C](#) – Introduction to General Chemistry\* (4 credits)[CHM 1046C](#) – General Chemistry with Qualitative Analysis II\* (4 credits)[GLY 2160](#) – Geology of National Parks[HUN 1201](#) – The Science of Nutrition\*[MET 1010](#) – Introduction to Meteorology[OCB 1000](#) – Introduction to Marine Biology[PHY 2049C](#) – General Physics with Calculus II\* (4 credits)[PHY 2054C](#) – College Physics II with Algebra and Trigonometry\* (4 credits)[MCB 2010C](#) – Microbiology\* (4 credits)**Career ready? Let's check!**☐ Resume and Cover Letter☐ Employment Readiness: <https://bit.ly/2Z41XBm>☐ Practice Interview and Job Shadowing☐ Internships: <https://valenciacollege.edu/students/internship/>