

ELECTRICAL ENGINEERING

Associate of Science degree



Program and Career Description:

Most careers in engineering require a bachelor's degree or higher so the Associate of Science in Electrical Engineering is designed for students wanting to complete the first two years of the bachelor's degree in a community college setting. Research, design, develop, test, or supervise the manufacturing and installation of electrical equipment, components, or systems for commercial, industrial, military, or scientific use. Please note that this pathway requires 67+ credit hours. Students will need to meet the requirements for MATH 1910 before their freshman fall semester.

How is the Job Market?

Check out www.jobs4tn.gov website for information about job descriptions, education requirements and abilities, and supply and demand for these careers. For additional information from a national perspective, go to Bureau of Labor Statistics, U. S. Department of Labor website at www.bls.gov. Visit the [Occupational Outlook Handbook](#) on this website. Salaries are not guaranteed.

Transfer Options

This program is a Tennessee Transfer Pathway (TTP) major. A student who completes the associates degree in this major is guaranteed that all required community college courses will be accepted in this major at the transfer institution. To see which four-year institutions offer this TTP major and guarantees a seamless transfer, visit the Tennessee Transfer Pathway website at www.tntransferpathway.org.

Transfer agreements exist between other private and non-TN public institutions. These agreements are available at www.columbiastate.edu/transfer-information.

Requirements for Graduation include:

- earning 25% of total program credits in residence at Columbia State.
- earn a cumulative GPA of 2.0 or higher.
- taking the Exit Exam.

For more information contact:

Dr. Ryan Badeau at

rbadeau@columbiastate.edu or 615.465.5752

or

Bobbie West at

bwest14@columbiastate.edu or 931.540.2703

or

**Science, Technology & Math Division Office at
931.540.2710 or stm@columbiastate.edu**

Student ID: _____
 Student Name: _____
 Adviser Name: _____

Catalog: 2020-2021 Catalog and Student Handbook
 Program: Electrical Engineering, A.S.
 Minimum Credits Required: _____

Electrical Engineering, A.S.

Major in Tennessee Transfer Pathway with Emphasis in Electrical Engineering (A.S.)

Sample Academic Plan - Total Credit Hours: 67+

Program Requirements - Students may be required to take additional Learning Support courses. Courses cannot be used more than once to satisfy program requirements.

First Year - Fall Semester - Credit Hours: 19

Course Name	Credits:	Term Taken	Grade	Gen Ed
ENGL 1010 - English Composition I	Credits: 3			
CISP 1010 - Computer Science I ***	Credits: 4			
MATH 1910 - Calculus I ****	Credits: 4			
¹ General Education - History Requirement	Credits: 3			
CHEM 1110 - General Chemistry I	Credits: 4			
COLS 101 - Columbia State College Success	Credits: 1			

First Year - Spring Semester - Credit Hours: 16

Course Name	Credits:	Term Taken	Grade	Gen Ed
ENGL 1020 - English Composition II	Credits: 3			
MATH 1920 - Calculus II	Credits: 4			
¹ General Education - History Requirement	Credits: 3			
² General Education - Humanities/Fine Arts Requirement	Credits: 3			
⁵ General Education - Social/Behavioral Science Requirement *	Credits: 3			

Second Year - Fall Semester - Credit Hours: 17

Course Name	Credits:	Term Taken	Grade	Gen Ed
COMM 2025 - Fundamentals of Communication OR COMM 2055 Argumentation and Debate	Credits: 3			
⁵ General Education - Social/Behavioral Science Requirement *	Credits: 3			
PHYS 2110 - Calculus-Based Physics I	Credits: 4			
MATH 2010 - Introduction to Linear Algebra **	Credits: 3			
MATH 2110 - Calculus III	Credits: 4			

Second Year - Spring Semester - Credit Hours: 17

Course Name	Credits:	Term Taken	Grade	Gen Ed
ENGR 2130 - Circuits I *****	Credits: 4			
MATH 2120 - Differential Equations	Credits: 3			
PHYS 2120 - Calculus-Based Physics II	Credits: 4			
² General Education - Humanities/Fine Arts Requirement	Credits: 3			
² General Education - Literature Requirement	Credits: 3			

General Education Requirements (Only When Option Noted Above)

¹**History Requirement** - Select from HIST 2010, HIST 2020, HIST 2030, HIST 2310, HIST 2320.

²**Humanities/Fine Arts Requirement** - Select from ART 1035, ART 2000, ART 2020, ENGL 2160, ENGL 2860, HUM 1010, HUM 1020, MUS 1030, PHIL 1030, PHIL 1040, PHIL 2200, THEA 1030. **Literature Options:** ENGL 2055, ENGL 2130, ENGL 2235, ENGL 2310, ENGL 2320.

³**Mathematics Requirement** - Select from MATH 1010, MATH 1130, MATH 1530, MATH 1630, MATH 1710, MATH 1720, MATH 1730, MATH 1830, MATH 1910.

⁴**Natural Sciences Requirement** - Select from ASTR 1030, BIOL 1010, BIOL 1020, BIOL 1080 (must pair with non-biology course except for BIOL 2010 or BIOL 2020), BIOL 1110, BIOL 1120, BIOL 2010, BIOL 2020, CHEM 1110, CHEM 1120, ESCI 1010, ESCI 1020, PHYS 2010, PHYS 2020, PHYS 2110, PSCI 1030.

⁵**Social/Behavioral Science Requirement** - Select from ANTH 1230, ANTH 1430, COMM 1010, ECON 2100, ECON 2200, GEOG 2010, PHED 2120, POLS 1010, POLS 1030, POLS 2025, POLS 2035, PSYC 1030, PSYC 2130, SOCI 1010, SOCI 1040, SOCI 2010.

Note(s):

*NOTE: Students transferring to U of Memphis or UT Martin should take ECON 2100 as one of the Social/Behavioral Science general education requirements.

NOTE: Courses in engineering technology do not fulfill any of the requirements for the Area of Emphasis in Electrical Engineering.

NOTE: Although it is possible to complete the B.S. Degree in Electrical Engineering in four semesters after earning the associates degree, students typically need five or six semesters to complete the requirements.

NOTE: The Electrical Engineering TTP also fulfills the preparatory coursework for: (1) the BS in Mechatronics at MTSU; (2) Computer Engineering BS at UT Knoxville; (3) Computer Engineering BS at TTU; (4) Electrical Engineering BS at TTU with a Concentration in Mechatronics.

**NOTE: Linear algebra should be completed prior to enrolling in Circuits I

***NOTE: UT Knoxville and TTU require 4 hours of programming.

****NOTE: U of Memphis also requires students to complete MATH 2050 Calculus-Based Probability and Statistics (TN eCampus course).

*****NOTE: Students transferring to TSU's BSEE program are encouraged to complete ENGR 1020, ENGR 1151, and Circuits II and Digital Logic Design courses during the summer prior to transferring to the University.

NOTE: Students should refer to the desired transfer institution to verify the requirements of the major and concentration.

Check www.tntransferpathway.org to see which four-year institutions offer this TTP major. Students should meet with their assigned advisor to determine courses required for the university chosen.

Students and advisors should run a degree audit from myChargerNet each semester to confirm classes are applicable to the program of study.

For more information contact:

Dr. Ryan Badeau at rbadeau@columbiastate.edu or 615.465.5752

Barbara West at bcowan2@columbiastate.edu or 931.540.2703

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