

# ELECTRONIC SYSTEMS TECHNOLOGY

## Overview

Electronic Systems Technology Associate of Applied Science Degree

Program Code 10-663-4

For more information: [wctc.edu/electronics](http://wctc.edu/electronics) (<http://www.wctc.edu/electronics/>)

Electricity powers our daily lives, and when there's an electrical issue, those trained in electronics possess the knowledge to identify the problem. In this program, focus on setting up, troubleshooting, repairing and programming of electronic devices/systems. Refine skills for specialized areas of electronics, such as industrial controls and automation, research and development, production and field service.

The minimum required course grades and program grade point average (GPA) for students under this catalog are:

- Core Courses = C
- General Studies Courses = C-
- Program GPA = 2.0

## Learning Outcomes

### Program Outcomes

1. Apply electronic theory to practice.
2. Operate test equipment.
3. Build electronic circuits and systems.
4. Evaluate the operation of electronic circuits or systems.
5. Communicate technical information.

## Critical Life Skills

To help our students prepare for success in a workplace and society that is **increasingly global, multi-cultural, and collaborative**, all students are given opportunities to develop and demonstrate Critical Life Skills, both in and out of the classroom. The following Critical Life Skills are learning outcomes for WCTC students.

- **Communication:** Demonstrate appropriate communication.
- **Critical Thinking/Problem Solving:** Demonstrate critical thinking skills to analyze situations and solve problems.
- **Relationships:** Demonstrate effective interpersonal skills.
- **Self-management:** Demonstrate responsible and respectful behavior.

## Required Courses

Listed below are the required courses for the program. To view the recommended sequence for taking courses click on the plan of study tab(s) above. Work with your Academic Advisor to design a program plan!

View your **Program Matrix** to find out when each course will be offered (term and time of day).

| Code   | Title                          | Credits                        |
|--|--------------------------------|--------------------------------|
| <b>Core Courses</b>  |                                |                                |
| 462-151  | Mechanical Power Trans 1       | 3                              |
| Approved Substitute: 462-350 OR 462-100  |                                |                                |
| 605-118  | Digital Electronics I          | 2                              |
| 605-129  | Elect Pwr Ctrl & Motors        | 3                              |
| 605-148  | Data Acquisition               | 3                              |
| 605-182  | Microcontrollers               | 3                              |
| 605-188  | PLC 1                          | 2                              |
| 605-187  | Electronic Data Communications | 3                              |
| 605-189  | PLC 2                          | 2                              |
| 605-198  | Power Electronics              | 3                              |
| 663-100  | Embedded Systems               | 3                              |
| 663-101  | Internship - Electronics       | 1                              |
| 663-102  | DC/AC Electronics              | 5                              |
| 663-103  | Electronics for Industry       | 4                              |
| 663-104  | Programming for Electronics    | 1                              |
| 663-105  | Electronics Troubleshooting    | 2                              |
| 663-106  | Electronic Fabrication I       | 1                              |
| Approved Substitute: 605-127   |                                |                                |
| 663-107  | Electronic Fabrication II      | 1                              |
| 664-165  | Fabrication-Automation Systems | 2                              |
| 890-108  | Employment Success             | 1                              |
| <b>General Studies</b>   |                                |                                |
| 801-136  | English Composition 1          | 3                              |
| Approved Substitute: 801-223   |                                |                                |
| 801-196  | Oral/Interpersonal Comm        | 3                              |
| Approved Substitute: 801-198   |                                |                                |
| 804-107  | College Mathematics            | 3                              |
| Approved Substitutes: 804-115 OR 804-116 OR 804-118 OR 804-195 OR 804-198 OR (804-304 AND 804-305) |                                |                                |
| 809-166  | Intro to Ethics: Theory & App  | 3                              |
| 809-199  | Psychology of Human Relations  | 3                              |
| Approved Substitute: 809-198   |                                |                                |
| <b>Total Credits</b>   |                                | <b>60</b>                      |
| <b>Full-time Plan</b>  |                                |                                |
| <b>First Year</b>  |                                |                                |
| <b>Fall Term 1</b>   |                                | <b>Credits</b>                 |
| 663-102  | DC/AC Electronics              | 5                              |
|  |                                | This course will run 16 weeks. |
| 663-106  | Electronic Fabrication I       | 1                              |
| 804-107  | College Mathematics            | 3                              |
|  |                                | <b>Credits</b>                 |
|  |                                | <b>9</b>                       |
| <b>Fall Term 2</b>   |                                |                                |
| 605-188  | PLC 1                          | 2                              |
| 663-107  | Electronic Fabrication II      | 1                              |
| 801-196  | Oral/Interpersonal Comm        | 3                              |
|  |                                | <b>Credits</b>                 |
|  |                                | <b>6</b>                       |
| <b>Winter Interim</b>  |                                |                                |
| 890-108  | Employment Success             | 1                              |
|  |                                | <b>Credits</b>                 |
|  |                                | <b>1</b>                       |

**Spring Term 1**

|                |                             |          |
|----------------|-----------------------------|----------|
| 663-103        | Electronics for Industry    | 4        |
| 663-104        | Programming for Electronics | 1        |
| 801-136        | English Composition 1       | 3        |
| <b>Credits</b> |                             | <b>8</b> |

**Spring Term 2**

|                |                          |          |
|----------------|--------------------------|----------|
| 462-151        | Mechanical Power Trans 1 | 3        |
| 605-118        | Digital Electronics I    | 2        |
| 605-189        | PLC 2                    | 2        |
| <b>Credits</b> |                          | <b>7</b> |

**Second Year****Summer Term**

|                |                          |          |
|----------------|--------------------------|----------|
| 663-101        | Internship - Electronics | 1        |
| <b>Credits</b> |                          | <b>1</b> |

**Fall Term 1**

|                |                                |          |
|----------------|--------------------------------|----------|
| 605-182        | Microcontrollers               | 3        |
| 664-165        | Fabrication-Automation Systems | 2        |
| 809-166        | Intro to Ethics: Theory & App  | 3        |
| <b>Credits</b> |                                | <b>8</b> |

**Fall Term 2**

|                |                   |          |
|----------------|-------------------|----------|
| 605-198        | Power Electronics | 3        |
| 663-100        | Embedded Systems  | 3        |
| <b>Credits</b> |                   | <b>6</b> |

**Spring Term 1**

|                |                                |          |
|----------------|--------------------------------|----------|
| 605-129        | Elect Pwr Ctrl & Motors        | 3        |
| 605-187        | Electronic Data Communications | 3        |
| <b>Credits</b> |                                | <b>6</b> |

**Spring Term 2**

|                |                               |          |
|----------------|-------------------------------|----------|
| 605-148        | Data Acquisition              | 3        |
| 663-105        | Electronics Troubleshooting   | 2        |
| 809-199        | Psychology of Human Relations | 3        |
| <b>Credits</b> |                               | <b>8</b> |

|                      |  |           |
|----------------------|--|-----------|
| <b>Total Credits</b> |  | <b>60</b> |
|----------------------|--|-----------|