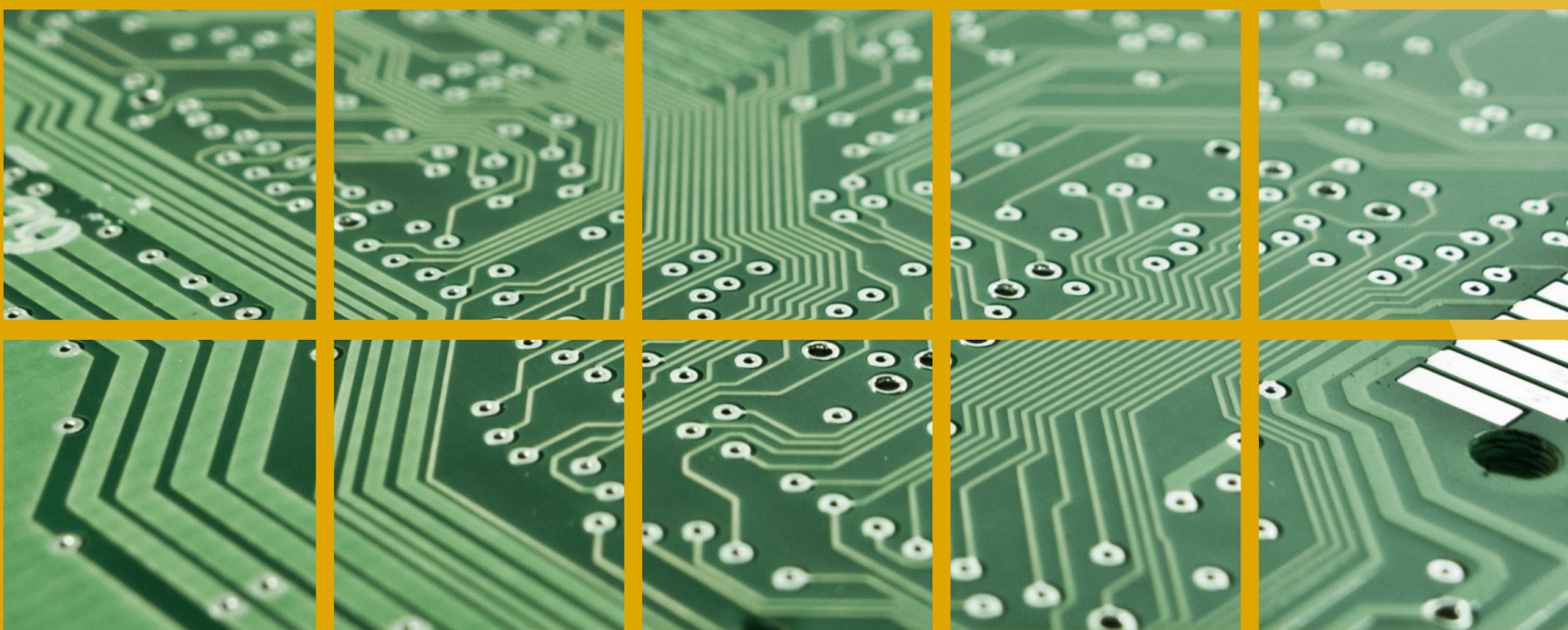
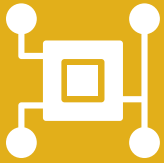


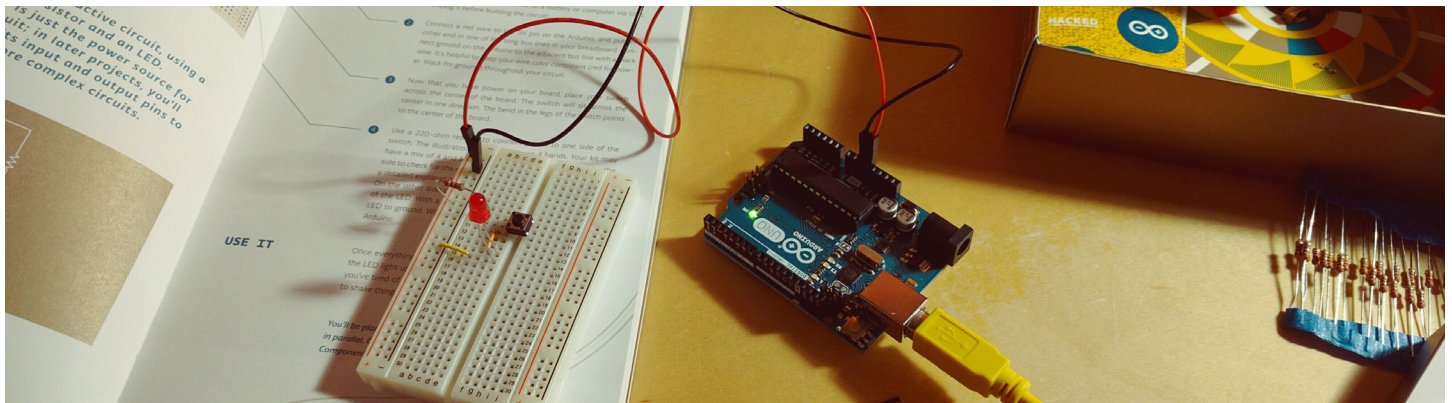
# ELECTRONICS TECHNOLOGY

POLICY GUIDE





# WELCOME



## Paul F. Ryan

Mercer County Career Center  
776 Greenville Road  
Mercer, Pennsylvania 16137  
Phone: 724-662-3000 Ext. 1165  
Fax: 724-662-1025  
pryan@mercercoc.org

## PROGRAM DESCRIPTION

Electronics Technology is a program that provides students with the ability to apply basic electronic principles and technical skills to the production, calibration, estimation, testing, assembling, installation and maintenance of electronic equipment. Emphasis is on passive components and solid-state devices; digital circuits; optoelectronic devices; operational amplifiers; audio and RF amplifiers; oscillators; power supplies; and AM, FM and PCM modulators. Knowledge is acquired through theoretical instruction, experimentation and hands-on activities.

## CORE CURRICULUM

Passive components  
Solid-state devices  
Digital circuits  
Optoelectronic devices  
Operational amplifiers  
Audio and RF amplifiers  
Oscillators  
Power supplies  
AM, FM and PCM modulators

## Pennsylvania Skills Certificate/College Credit

Students who score Advanced or Competent on the NOCTI end of program assessment have the ability to take advantage of articulation agreements currently in place with post-secondary institutions. Articulation Agreements are in place with Pittsburgh Technical College, Precision Manufacturing Institute and Saint Francis.

Graduates that complete the program are equipped with the knowledge, understanding and the skills essential for entry-level employment in the following:

- Biomedical Technology
- Robotics
- Avionics
- Communications
- Industrial Electronics
- Digital Processing

## Industry Certifications

Certified Electronics Technician CET  
<http://www.eta-i.org/electronics.html#CETa>

ACT National Career Readiness Certificate  
[www.act.org/certificate/](http://www.act.org/certificate/)

## PARENT CONTACT INFORMATION

Parent/Guardian/Student: Please read the following policies, these cover what each student is responsible for, to complete the Electronics Technology program. Please complete and sign **both front and back** and return this page to verify that you have read, understand and agree to abide by these policies. Please keep the rest of the pages, they are for your reference.

If you have any questions please contact Mr. Ryan at 724-662-3000 ext. 1165 or [pryan@mercercoc.org](mailto:pryan@mercercoc.org).

Parent/Guardian Signature: \_\_\_\_\_

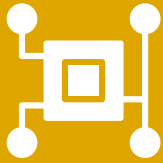
Parent/Guardian Print Name: \_\_\_\_\_

Contact Phone Number: \_\_\_\_\_

Contact Email: \_\_\_\_\_

Student Signature: \_\_\_\_\_

Student Print Name: \_\_\_\_\_



# WELCOME

## ELECTRONICS TECHNOLOGY STUDENT CONTRACT

As I prepare for a career in the Electronics Technology field I realize rules, policies and specific procedures must be followed to ensure a safe and productive environment.

I have read and understand all shop policies. I understand any infractions will result in immediate reprimand, such as a verbal warning, loss of STRIVE points, writing assignment, office referral, a call home or in severe cases removal from the Electronics Technology program.

I also understand to succeed in a rewarding Electronics Technology career I must meet specific classroom expectations, this includes: being respectful to others, completing all of the required assignments on my own and participating in class discussions.

I further understand that my actions may affect future job recommendations in the Electronics Technology field.

YES

I can follow all procedures and rules and meet all expectations and will remain in the Electronics Technology program.

Student Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Parent/Guardian Signature: \_\_\_\_\_ Date: \_\_\_\_\_

NO

I realize this class demands a high level of maturity and hard work. I would like to be removed from the Electronics Technology program.

Student Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Parent/Guardian Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## PROGRAM OUTLINE

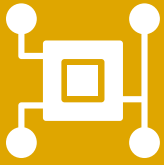
<b>A Orientation &amp; Safety</b>	<b>15 hours</b>
<b>B Foundations of Electronics</b>	<b>97 hours</b>
<b>C Electronic Circuits</b>	<b>97 hours</b>
<b>D Soldering, Prototyping &amp; Fabrication</b>	<b>48 hours</b>
<b>E AC Electronics</b>	<b>55 hours</b>
<b>F Measuring Instruments &amp; Test Equipment</b>	<b>25 hours</b>
<b>G Electronic Communications I</b>	<b>23 hours</b>
<b>H Digital Electronics</b>	<b>32 hours</b>
<b>I Electronic Circuits &amp; Devices</b>	<b>94 hours</b>
<b>J Electronic Communications II</b>	<b>36 hours</b>
<b>K Troubleshooting</b>	<b>16 hours</b>
<b>L Digital Circuits</b>	<b>80 hours</b>
<b>M Careers in Electronics</b>	<b>8 hours</b>
<b>N Nanotechnology</b>	<b>4 hours</b>
<b>O Electronic Concepts Review</b>	<b>90 hours</b>

### Advanced

Introduction to Robotics	108 hours
Remote Controlled Agile Robotics	140 hours
Programmable Agile Mobil Robotics	80 hours

## PROPOSED 9 WEEK UNIT PLANS

	1ST 9 WEEKS	2ND 9 WEEKS	3RD 9 WEEKS	4TH 9 WEEKS
<b>YEAR 1</b>	Orientation and Safety	Foundations of Electronics	Foundations of Electronics	Foundations of Electronics
	Foundations of Electronics	Electronic Circuits	Electronic Circuits	Electronic Circuits
	Soldering, Prototyping & Fabrication	Measuring Instruments & Test Equipment	Electronic Communications I	AC Electronics
	Measuring Instruments & Test Equipment			
<b>YEAR 2</b>	Basic Digital Electronics	Digital Circuits	Digital Circuits	Electronic Concepts Review
	Electric Communications II	Electronic Circuits & Devices	Electronic Circuits & Devices	
	Electronic Circuits & Devices	Nanotechnology	Troubleshooting	
	Careers in Electronics			



# MCCC POLICIES

## GRADING POLICY

Grading will be broken into three categories.

### Theory Grade:

(20 to 100 pts.)

- Worksheets
- Quizzes
- Tests

### Lab Grade:

(20 to 100 pts.)

- Job Sheet
- Competency Guide
- Learning Guide
- Projects

### STRIVE Grade:

(30 to 100 pts.)

# S

#### SAFETY

- Wear safety glasses
- Follow dress regulations
- Operate equipment appropriately

# T

#### TEAMWORK

- Completes assigned job
- Correctly cares for tools & equipment
- Keeps shop and work area clean

# R

#### RESPECT

- Respects others
- Uses proper language
- Uses technology correctly

# I

#### INSPIRED

- On-Time
- Dressed
- Cell Phone is put away

# V

#### VISION

- Positive Attitude
- On-Task
- Obeys class and school rules and safety guidelines

# E

#### EXCELLENCE

- Completes work on time
- Do your best work possible
- Meet benchmarks

## GRADE SCALE

**Mercer County Career Center only issues a percentage grade to the home school.**

%	GPA	%	GPA	%	GPA	%	GPA	%	GPA
100	4.0	80	2.3	60	0.3	40	0.0	20	0.0
99	4.0	79	2.2	59	0.2	39	0.0	19	0.0
98	3.9	78	2.1	58	0.1	38	0.0	18	0.0
97	3.9	77	2.0	57	0.0	37	0.0	17	0.0
96	3.8	76	1.9	56	0.0	36	0.0	16	0.0
95	3.8	75	1.8	55	0.0	35	0.0	15	0.0
94	3.7	74	1.7	54	0.0	34	0.0	14	0.0
93	3.6	73	1.6	53	0.0	33	0.0	13	0.0
92	3.5	72	1.5	52	0.0	32	0.0	12	0.0
91	3.4	71	1.4	51	0.0	31	0.0	11	0.0
90	3.3	70	1.3	50	0.0	30	0.0	10	0.0
89	3.2	69	1.2	49	0.0	29	0.0	9	0.0
88	3.1	68	1.1	48	0.0	28	0.0	8	0.0
87	3.0	67	1.0	47	0.0	27	0.0	7	0.0
86	2.9	66	0.9	46	0.0	26	0.0	6	0.0
85	2.8	65	0.8	45	0.0	25	0.0	5	0.0
84	2.7	64	0.7	44	0.0	24	0.0	4	0.0
83	2.6	63	0.6	43	0.0	23	0.0	3	0.0
82	2.5	62	0.5	42	0.0	22	0.0	2	0.0
81	2.4	61	0.4	41	0.0	21	0.0	1	0.0

## GRADE REPORTING

A student grade report will be given to a student whose grade drops below 70%.

A parent/guardian will receive notification if a student's grade drops below 70%. (Phone call, Grade Report Sent Home)

A referral to the Student Support Team will be made if a student's grade drops below 70%.

## REPORT CARDS

Grades are reported to the home schools at the end of MCCC's quarters. Home schools



report the MCCC program grade on their report card. MCCC does not issue a report card.

## **PASSING AND CREDIT**

Students must follow their home school's grading scale to ensure they receive credit. MCCC does not issue credit towards student graduation. Credit is issued by the home school.

## **MCCC PASSING**

To stay enrolled in a MCCC program and to earn a MCCC Certificate, MCCC recognizes 65% as passing.

## **MAKE-UP WORK**

IF A STUDENT IS ABSENT AN EXCUSE MUST BE GIVEN TO THE OFFICE WITH IN 3 DAYS OF YOUR RETURN TO SCHOOL (Please see the Student Handbook for attendance policies). If a student is absent he/she will receive a "0" for a STRIVE grade. The procedures for making up work include:

- Upon return to school it is the students' responsibility to ask the instructor for make-up work. This is to be done between 8:00 a.m. and 8:45 a.m. or 12:00 p.m. and 12:45 p.m.
- The student must complete the assignment and hand it in to the instructor on or before the due date. The student is allowed 1 day to make up assignments.
- The student will then be given credit for the assignment. Unexcused absences cannot be made up.

## **DAILY HOUSEKEEPING**

To fulfill Electronics Technology requirements, students will be assigned a daily housekeeping job. The student will be responsible for completing their duties correctly. Their performance will be evaluated as a weekly STRIVE grade as well as overall task completion credit.

## **FOLLOWING INSTRUCTIONS**

Throughout the semester students will receive various verbal and written instructions. To fulfill Electronics Technology requirements the student will be evaluated on their ability to follow these instructions. This will be graded as part of their STRIVE grade.

**"OUR MISSION  
IS TO EQUIP  
STUDENTS WITH  
MARKETABLE  
SKILLS  
THROUGH  
EFFECTIVE  
CAREER AND  
TECHNICAL  
EDUCATION"**





# MCCC POLICIES

## STUDENT OF THE SEMESTER

The criterion for selecting the “Student of the Semester” is as follows:

- Attendance
- Attitude
- Grades
- Work Ethic
- STRIVE

## STANDARDS OF DRESS

As a SAFETY REQUIREMENT, proper clothing is required in order to participate in shop activities. If a student forgets his/her proper clothing or if the clothing possesses a safety hazard they will receive a “0” for the day as part of his/her STRIVE grade. The student will additionally be given an alternative assignment. The student will not be allowed to return to the shop until the assignment is complete to the satisfaction of the instructor.

Proper clothing consists of their uniform and safety glasses. Students who wear unacceptable clothing will be given a “0” as part of their STRIVE grade for the day.

## WORKFORCE PROJECTS

Student projects are designed to simulate a real world employee working in the field of electronics. Students will receive a Work Skills Grade Evaluation based on the students ability to work as an employee. It is expected that all students conduct themselves in a respectful and professional manner at all times.

## STUDENT CODE OF CONDUCT

No student has the right to interfere with the education of fellow students. It is the responsibility of each student to respect the rights of teachers, students, administrators and all others who are involved in the educational process. It is expected that students conduct themselves in a respectful and professional manner at all times.

## SCHOOL LOCKERS

School lockers are the property of the school and not the student. Students shall have no

expectation of privacy in their lockers. Lockers should be locked at all times. All students will be issued a school lock for use at the Career Center, locks are to be returned at the end of the school year. The instructor will be given a master key that will open all student locks. This system will provide access to lockers in an emergency situation quickly and easily without having to cut the lock and incur cost to the student. Students shall assume responsibility for maintaining the security of their lockers. The Mercer County Career Center is not responsible for the personal property of pupils. At the conclusion of the school year students should clean out their locker completely. Any remaining items will be discarded.

Lockers are the property of the school and remain under the direct control of the Mercer County Career Center at all times. In order to maintain a safe and healthy educational environment, lockers may be subject to search by school personnel without student permission at any time the Principal or Safety Coordinator has reasonable suspicion to believe that anything stored in the locker may be a threat to the health, safety, and welfare of other students or school personnel. The Mercer County Career Center reserves the right to enlist the services of trained dogs to search for drugs or weapons anywhere on school property including the parking lots and adjacent outdoor areas.

Students are to keep supplies and projects in the assigned lockers, not in the classroom or lab area of the classroom - locker must be locked.

## STUDENT RESPONSIBILITIES

It is the responsibility of the students to conform with the following:

- Be aware of all rules and regulations - Student behavior and conduct. See Student Handbook.
- Adhere to all safety rules and procedures – Use eye protection, remove jewelry, follow proper dress requirements. Disruptive or unsafe behavior will not be tolerated.
- Attend school daily, on time with all the necessary supplies - Students are to report immediately to class upon arrival to the Career Center. Students should start to work immediately upon arrival to class. Students leaving the classroom are to immediately board the bus in an orderly manner.



- Speak with good purpose - Refrain from the use of obscene language and off task topics.
- Represent this program in a fashion that brings credit - To the student, the shop and to the Mercer County Career Center. Disruptive behavior will not be tolerated. Check and read the posted announcements.
- Show respect for yourself and others - No student has the right to interfere with the education of others.
- It is the responsibility of each student to respect the rights of teachers, students, administrators and all others who are involved in the educational process. Students should express ideas and opinions in a respectful manner.

Students are required to have with them each day the following materials:

- Notebook
- Safety Glasses
- Pen or Pencil

## CELL PHONES/HEADPHONES

Cell phones may be used in class ONLY for REQUIRED work. Ask and see your instructor first before use. Cell phones, MP3 players or student computers should NOT be used for playing music, videos, texting or other social apps.

1st Offense – Referral to the Office

## FOOD AND DRINKS

As per the school policy, food and drinks will only be allowed in the classroom. There will be no food or drinks allowed in the shop area.

## SAFETY RULES AND REGULATIONS

Safety is a vital part of our educational programs. Safety regulations are strictly enforced in all areas of the school. To ensure the safety of every student, all students are required to successfully complete a safety program. Students are not permitted to work in their technical program without an Emergency Card on file. It is imperative that students realize these rules are to protect them and their classmates. Safety must be taken very seriously.

- All students must arrive on time and be prepared to work. A written excuse must be presented for all cases of tardiness and absenteeism.
- Everyone must wear appropriate shoes, tennis shoes/sneakers, flip flops are NOT permitted to be worn in the shop area.
- All students must wear approved safety glasses at all times in the shop area.
- All work clothing shall NOT have any holes, tears, or defects that the Instructor would believe to be unsafe.
- All bags are to be left in your assigned locker. (back packs, purses, etc.)
- No horseplay of any kind is permitted. No running in the shop, no throwing of any object, no touching of each other, etc.
- No one is permitted out of the Electronics Technology shop area without the Instructor's permission.
- Every student will clean-up their work area at the end of each session. The clean-up task must be completed to the Instructor's satisfaction.
- No one is permitted to use a tool or operate a piece of equipment unless he/she has received safety instructions and has permission from the Instructor.
- It is the student's responsibility to complete all assignments and turn them in to the Instructor when due. This includes all shop and classroom assignments.
- All students will participate in classroom assignments and shop assignments.
- Every student will use proper language. (No Swearing)
- No food or drinks are permitted in the Electronics Technology shop area.

## STUDENT EXPECTATIONS

Students who participate in the Electronics Technology Program at the Mercer County Career Center are expected to:

- Participate as a team member
- Work independently
- Demonstrate punctuality
- Demonstrate personal hygiene and grooming
- Show respect for property and others
- Follow all safety rules
- Demonstrate effective oral communication
- Adhere to attendance guidelines
- Demonstrate leadership qualities
- Display a positive work attitude

