

# Microcontroller Systems Technician

Holland code family: Organizers

[www.roguecc.edu/Counseling/HollandCodes/test](http://www.roguecc.edu/Counseling/HollandCodes/test)

## About the Program

The Microcontroller Systems Technician four-term certificate is designed for students seeking entry-level positions servicing, upgrading, and repairing personal computer and microcontroller-based equipment. The coursework emphasizes electronics studies aimed at the hardware portion of the field as well as computer science courses involving operating systems, networking, and related software applications.

Technical courses involve lecture, lab work, and real-world experience in the lab using industry standard test equipment and practices. This program will help students gain skills for entry into one of today's most dynamic occupations. Typical occupations include those of PC/microcontroller support technicians, network specialists, microcomputer technicians, and field service technicians. Training also provides excellent positioning for lateral movement into areas such as technical sales or technical writing. Certificate courses are aligned for continuation into the Electronics Technology AAS degree and Computer and Embedded Systems Engineering Technology AS degree for transfer to Oregon Institute of Technology.

The U.S. Department of Education requires disclosure of specific information about career and technical certificate programs to prospective students. Data includes Standard Occupational Classification (SOC) codes, graduation rates, tuition and fees, typical costs for books and supplies, job placement rates for students completing the programs, and median loan debt incurred by students completing the programs. For more information visit <http://www.roguecc.edu/GainfulEmployment>.

## Entry Requirements

Students are required to complete the Placement Process to determine skill level and readiness in math, reading, and writing. As part of their training program, students must begin with the courses within their skill level as determined by the results of their placement assessment. In addition, students may also be required to enroll in classes that would increase their employability and success.

## Advanced Standing

Coursework from accredited colleges and universities will be accepted in accordance with college policies and the Electronics Technology Department chair's recommendation. In order to ensure that coursework is current, program courses over three years old must be reviewed and approved by the appropriate department chair before being accepted toward core requirements. Official transcripts must be filed with Enrollment Services and the Electronics Technology Department.

## Graduation Requirements

Students must complete all courses in this program with a grade of "C" or better to receive their certificates. Certain required courses are graded on a pass/no pass basis only. A grade of "P" for these courses indicates a student earned the equivalent of a "C" or better grade.

## What skills will you learn?

Visit <http://go.roguecc.edu/department/program-learning-outcomes>.

## What are the employment opportunities?

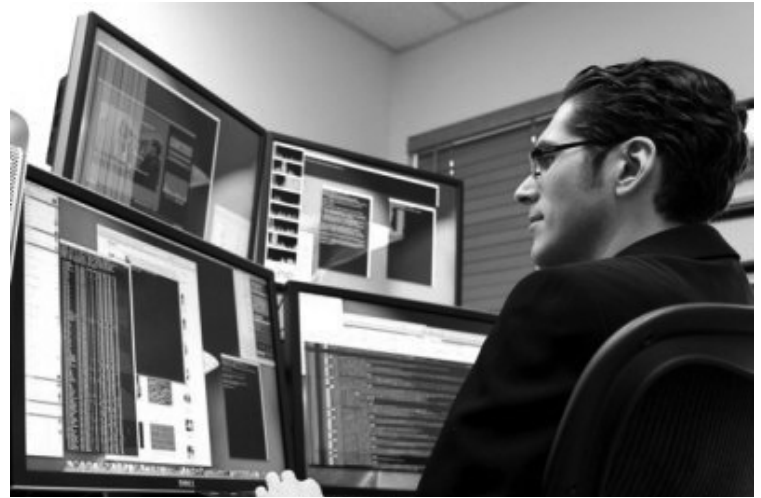
Visit <http://www.roguecc.edu/GainfulEmployment>.

## Prerequisites

Course No.	Course Title	Credits
CS__	Approved 3-4 credit computer science class, CS120 or above or documented computer proficiency <sup>1</sup>	0-4
MTH20	Pre-algebra or designated placement test score	0-4
RD90/WR90	College Reading/Fundamentals of Composition or WR91 Fundamentals of Academic Literacy (WR91 substitutes for both RD90 and WR90) or designated placement test score	0-8
<b>Total Prerequisite Credits</b>		<b>0-16</b>

## Required Courses

Course No.	Course Title	Credits
<b>First Term</b>		
EET129	Introduction to Embedded Systems	5
MTH63	Applied Technical Math/Applied Algebra I or MTH60 Fundamentals of Algebra I or higher level math	4-5
WR115	Introduction to Expository Writing or higher level composition	<del>3-4</del> 12-14



## Second Term

EET125	Electronics Fundamentals I	6
HE112	Emergency First Aid or approved health elective (see this catalog for approved list of electives)	1-3
PSY101	Psychology of Human Relations or BT101 Human Relations in Organizations	3
—	Approved program elective(s) <sup>2</sup>	<del>0-2</del> 10-14

## Third Term

CS227	PC Hardware Fundamentals and Repair	5
EET130	Digital Fundamentals I	6
EET127	Exploring the Raspberry Pi	<del>2</del> 14

## Fourth Term

CS140	Introduction to Operating Systems	4
EET131	Digital Fundamentals II	6
EET180	Cooperative Work Experience/Electronics or approved program elective(s) <sup>2</sup>	<del>4-6</del> 14-16

## TOTAL PROGRAM CREDITS

**50-58**

## Approved Program Electives

(one or more courses totaling a maximum of 4-8 credits required)

Course No.	Course Title	Credits
BT121	Digital Marketing and e-Commerce	3
	Any computer science course, CS125 or above	1-4
EET104	Introduction to Manufacturing Electronics	4
EET106	Electronic Assembly	3
EET112	Introduction to Mechatronics	3
EET113	Exploration of Alternative Energies	3
EET118	Introduction to Renewable Energy Systems	5
EET132	Digital Fundamentals III	5
EET150	PLC Motor Control	3
EET151	PLC Programming I	4
EET199	Selected Topics in Technology	1-5
EET240	Microcontrollers I	5
GS104	Physical Science with lab	4
MET101	Mechanical Drafting	3
MET121	CAD I: Mechanical (SolidWorks)	3
MET122	CAD II: Mechanical (SolidWorks)	3

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MET160	Materials and Metallurgy	3
MFG101	Introduction to Manufacturing	3
MFG121	Manufacturing Processes I	4
MFG210	AC/DC Electrical Systems for Manufacturing	3
MFG230	Statistics and Quality Control	3
MTH65	Fundamentals of Algebra II or higher level math (if not taken as a required course)	4
WR121	English Composition I	4
WR122	English Composition II	4
WR227	Technical Writing	4

<sup>1</sup> Required for graduation. Successful completion of CS120 or otherwise meeting the proficiency requirement within the last 10 years fulfills this requirement. Contact a computer science advisor to help determine placement.

<sup>2</sup> A maximum of 4-8 elective credits are required for graduation.

For more information contact the Electronics Technology Department:

Grants Pass or Medford ..... 541-245-7809  
Toll free in Oregon ..... 800-411-6508, Ext. 7809  
email ..... [electronics@rogucecc.edu](mailto:electronics@rogucecc.edu)  
Web address ..... [www.rogucecc.edu/electronics](http://www.rogucecc.edu/electronics)  
TTY ..... Oregon Telecom Relay Service, 711

This advising guide is for advising purposes only. Please see current college catalog for additional information on specific college policies and graduation requirements.

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