

# High Technology Studies

Holland code family: Thinkers

## About the Program

The High Technology Studies four-term certificate program is designed to expand technical knowledge across a range of technical career areas. Students may specialize in a number of technology areas such as welding, manufacturing, machining, computer aided drafting, electronics, and/or computer science by selecting the appropriate technical electives.

## Program Learning Outcomes

The curriculum in RCC courses is derived from a set of identified learning outcomes that are relevant to the discipline. Program learning outcomes for electronics technology programs are:

Identify and solve real-world problems through the application of electronics theory and concepts.

Calibrate, test, and repair analog and digital circuitry using industry standard test equipment.

Organize, interpret, and use technical information and documentation.

Communicate effectively across a variety of audiences: technicians, engineers, management and customers.

Function collaboratively as a member of a team to achieve specified and measurable results.

Demonstrate flexibility, adaptability, and time management skills commensurate with industry productivity needs.

Demonstrate the ability to adhere to personal and industry safety standards.

Demonstrate life-long learning towards professional growth.

Negotiate and abide by the terms of agreement that define their employment.

## 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 through the Placement Process. 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 the Enrollment Services Office 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.

## Prerequisites

Course No.	Course Title	Credits
CS/CIS	Approved 3-4 credit Computer Science or Computer Information Science class, CS120/CIS120 or above, or documented computer proficiency within the past ten years. <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

### Total Prerequisite Credits

**0-16**

## General Education Courses

Course No.	Course Title	Credits
<b>Mathematics</b>		
(Additional math classes may be required as prerequisites to some technical electives.)		
MTH63	Applied Algebra I or MTH60 Fundamentals of Algebra I or higher level math	4-5

## Communication (one course required)

BT113	Business English I
BT114	Business English II



WR115	Introduction to Expository Writing	
WR121	English Composition I	3-4

## Health/First Aid

HE112	Emergency First Aid	1
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## Human Relations

BT101	Human Relations in Organizations or PSY101 Psychology of Human Relations	3
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## Total General Education Credits

**11-13**

## Technology Area Credits (a minimum of 39 credits required)

Course No.	Course Title	Credits
AM120	Auto Maintenance and Trades Practices with lab	6
CIS	Any computer applications course, CS/CIS125 or above (CIS125s strongly recommended)	variable
DDM191	Advanced Animation I	3
DDM226	Advanced 3D Graphics Design (Maya)	3
DS111	Basic Electricity for Diesel Technicians I with lab	7
DS120	Diesel Trades Practices with lab	5
DS260	Hydraulic Systems for Heavy Equipment	3
EET101	Introduction to Electronics	3
EET104	Fundamentals of 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
EET120	Renewable Energy Systems (RES) Site Analysis and Design	4
EET121	North American Board of Certified Energy Practitioners (NABCEP) Entry-level Preparation	2
EET125	Electronics Fundamentals I (DC)	6
EET126	Electronics Fundamentals II (AC)	6
EET127	Exploring the Raspberry Pi	3
EET129	Introduction to Embedded Systems	3
EET130	Digital Fundamentals I	6
EET131	Digital Fundamentals II	6
EET132	Digital Fundamentals III	5
EET140	Solid State Fundamentals	6
EET240	Microcontrollers I	5
MEC130	Hydraulics I	3
MET101	Mechanical Drafting	3
MET104	Applied Shop Practices	3

MET105/WLD104	Blueprint Reading - Mechanical	3
MET121	CAD I: Mechanical (SolidWorks)	3
MET122	CAD II: Mechanical (SolidWorks)	3
MET123	CAD III: Mechanical (SolidWorks)	3
MET160	Materials and Metallurgy	3
MFG101	Introduction to Manufacturing	3
MFG121	Manufacturing Processes I	4
MFG122	Manufacturing Processes II	4
MFG123	Manufacturing Processes III	4
MFG140	CNC Controls	2
MFG220	Research and Development Prototyping	4
MFG230	Statistics and Quality Control	3
MFG241	CNC Programming – Mill	4
MFG242	CAM I: Mastercam	4
MFG243	CAM II: Mastercam	4
MFG244	CNC Programming – Lathe	3
MFG255	Computer Integrated Manufacturing	4
MTH65	Fundamentals of Algebra II	4
WLD101	Welding Fundamentals I	3
WLD102	Welding Fundamentals II	3
WLD111	Technology of Industrial Welding I	6
WLD112	Technology of Industrial Welding II	6
WLD113	Technology of Industrial Welding III	6
WLD211	Technology of Industrial Welding IV	6
WLD212	Technology of Industrial Welding V	6
WLD213	Technology of Industrial Welding VI	6
WLD250	Selected Topics in Welding	variable
<b>Total Technology Area Credits</b>		<b>39</b>
<b>TOTAL PROGRAM CREDITS</b>		<b>50-52</b>

<sup>1</sup> Required for graduation.

For more information contact the Electronics Technology Department:

Grants Pass or Medford ..... 541-245-7809  
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Web address ..... [www.roguecc.edu/electronics](http://www.roguecc.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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