Computer and Electronics Technology

Associate of Applied Science

Specializations:

- Computer Systems
- Electronic Controls
- Semiconductor Manufacturing

Purpose: The Computer and Electronics Technology major is designed to prepare students to enter into the large variety of positions available in electronics careers. Electronic careers consist of assisting and supporting industry and small businesses in the design, development, testing, and repair of electronic systems and equipment. In order to provide the flexibility required by the large variety of positions available in electronics related industries, the core curriculum provides a solid foundation in math and general electronics. The three specializations provide more in-depth training in their respective areas. The Computer Systems specialization emphasizes computer hardware and networking technology as they relate to computer systems design and hardware troubleshooting, including distributed computing environments. The Electronic Controls specialization emphasizes industrial control processes and automated industrial manufacturing technology. The Semiconductor Manufacturing specialization emphasizes the processes and equipment needed for semiconductor manufacturing. Practical laboratory experiences are used to reinforce theory and to provide training for maintenance, troubleshooting, and repair of electronic systems.

Occupational Objectives: This program will provide graduates with the skills and specialized knowledge needed for employment as highly trained electronics technicians in most areas of electronics and related industries.

Admission Requirements: General college curricular admission

Program Notes: In addition to the general college curricular admission requirements, applicants will (a) have completed placement testing and (b) have met with their advisor to establish a planned course of study prior to being allowed to register for courses.

Satisfactory completion of the following high school units or their equivalent, at a minimum, is strongly recommended: four units of English, one unit of laboratory science (preferably physical science), one unit of social studies, and two units of mathematics (two units of algebra or one unit of algebra and one unit of geometry).

Students are urged to begin their program of study in the fall semester since many courses are sequential and offered only once a year.

The purpose of the Associate of Applied Science (AAS) degree curriculum is to prepare students for immediate employment upon graduation. Four-year college and university transfer opportunities for Associate of Applied Science degrees, if existing, are usually very specific in nature. Students may, however, substitute some courses in the AAS degree curriculum with courses that generally transfer to senior institutions. Students should consult their advisor at the earliest possible date for further guidance and are advised to get assurances in writing in advance from the institution to which they wish to transfer.

Computer Competency Requirement: Students in this program will meet the college's computer competency requirement by passing the computer competency exam, administered in the testing centers on each campus, or by completing ITE 115, Introduction to Computer Applications and Concepts, or CSC 155, Computer Concepts and Applications, or equivalent. Students not passing the computer competency exam may retake the exam only once.

CURRICULUM				
COURSE	**TITLE**	**LEC. HRS.**	**LAB. HRS.**	**CRS. CRE.**
ENG 111	College Composition I	3	0	3
ETR 113	DC and AC Fundamentals I	3	3	4
MTH 115	Technical Mathematics I	3	0	3
EGR 105	Introduction to Problem Solving in Technology	0	3	1
___ ___[1]	Personal Wellness Elective	0-2	0-4	2
SDV 100	College Success Skills	1	0	1
	TOTAL	10-12	6-10	14
EGR 216	Computer Methods in Engineering and Technology	2	2	3
ETR 114	DC and AC Fundamentals II	3	3	4
ETR 203	Electronic Devices I	3	3	4
ENG 112	College Composition II	3	0	3
MTH 116	Technical Mathematics II	3	0	3

ETR 204	Electronic Devices II	3	3	4
ETR 273	Computer Electronics I	3	3	4
	TOTAL	6	6	8

CURRICULUM **Computer Systems Specialization**				
COURSE	**TITLE**	**LEC. HRS.**	**LAB. HRS.**	**CRS. CRE.**
___ ___[1]	Social/Behavioral Science Elective	3	0	3
PHY 201[2]	General College Physics I	3	3	4
ETR 226	Principles of Computer Systems I	3	3	4
ETR 274	Computer Electronics II	3	3	4
	TOTAL	12	9	15
ETR 227	Principles of Computer Systems II	3	3	4
ETR 225	Data Communications	3	3	4
___ ___[3]	Technical Elective	3	3	4
___ ___[1]	Humanities/Fine Arts Elective	3	0	3
	TOTAL	12	9	15
Total Minimum Credits for AAS Degree in Computer and Electronics Technology, Computer Systems Specialization				**69**

CURRICULUM **Electronic Controls Specialization**				
COURSE	**TITLE**	**LEC. HRS.**	**LAB. HRS.**	**CRS. CRE.**
___ ___[1]	Social/Behavioral Science Elective	3	0	3
PHY 201[2]	General College Physics I	3	3	4
ETR 221	Electronic Controls I	3	3	4
ETR 274	Computer Electronics II	3	3	4
	TOTAL	12	9	15
ELE 239	Programmable Controllers	2	2	3
ETR 222	Electronic Controls II	3	3	4

___ ___[3]	Technical Elective	3	3	4
___ ___[1]	Humanities/Fine Arts Elective	3	0	3
	TOTAL	11	8	14
Total Minimum Credits for AAS Degree in Computer and Electronics Technology, Electronic Controls Specialization				**68**

CURRICULUM
Semiconductor Manufacturing Specialization

COURSE	TITLE	LEC. HRS.	LAB. HRS.	CRS. CRE.
___ ___[1]	Social/Behavioral Science Elective	3	0	3
PHY 121[2]	Principles of Physics I	3	3	4
CHM 101	General Chemistry I	3	3	4
ETR 274	Computer Electronics II	3	3	4
	TOTAL	12	9	15
ETR 239	Semiconductor Manufacturing and Process Technology	3	3	4
ETR 253	Semiconductor Manufacturing Equipment Technology I	3	3	4
___ ___[4]	Technical Elective	3	3	4
___ ___[1]	Humanities/Fine Arts Elective	3	0	3
	TOTAL	12	9	15
Total Minimum Credits for AAS Degree in Computer and Electronics Technology, Semiconductor Manufacturing Specialization				**69**

[1] A list of approved general education electives (humanities/fine arts, social/behavioral sciences, mathematics, science, and wellness) is provided in the General Education section of the catalog under Curriculum Planning and Design.
[2] Students considering transfer to a four-year institution offering a BS degree in Engineering Technology should also consider taking PHY 202.
[3] A list of approved technical electives is available from the school office.
[4] The semiconductor manufacturing industry prefers applicants to have a course in statistical process control. A list of approved electives is available from the school office.