



UNIVERSITY OF ALASKA ANCHORAGE

Office of Academic Affairs
3211 Providence Drive
Anchorage, AK 99508-4614

April 1, 2009

To: Dr. Dan Julius, Vice President Academic Affairs and Research
UA Systemwide Academic Council

From: Mike Driscoll, UAA Provost

Subject: Changes to AAS, Telecommunications, Electronics, and Computer Technology in the
UAA Community and Technical College

The UAA Community and Technical College (CTC) proposes to revise the existing AAS, Telecommunications, Electronics, and Computer Technology (TECT), which currently has two tracks, by splitting it into two degrees:

- AAS, Computer and Networking Technology (CNT), and
- AAS, Electronic Technology (ET).

Neither of these two programs are new. Both programs are currently tracks within of the existing AAS, Telecommunications, Electronics, and Computer Technology.

The proposed action was prompted by a special program review which suggested that low enrollments in the ET track was the result of students being unable to find the program under the current name. It is expected that this action will make the program more visible and increase enrollment.

As a part of this action, CTC is also proposing to delete the existing Telecommunications and Electronics Systems Undergraduate Certificate and add an Occupational Endorsement Certificate in Electronics Technology.

The prospectus for the two AAS degrees are attached along with a proposal to delete the Electronic Systems Undergraduate Certificate.

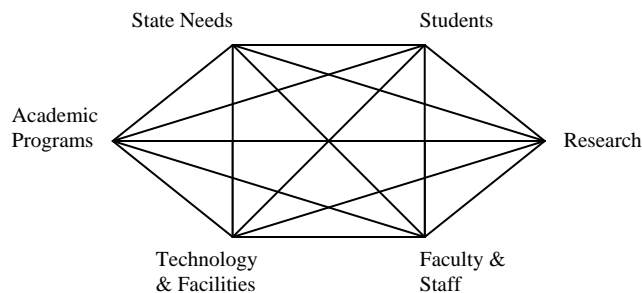
University of Alaska New Program Approval

MAU: University of Alaska Anchorage

College: Community and Technical College

**Title: Associate of Applied Science, Computer and
Networking Technology**

Target admission date: Fall 2009



Description of the CNT AAS:

This AAS provides entry-level skills and career education to meet the demand for well-trained technicians in the computer electronics and networking industries.

Relation to the academic mission of the university and the MAU:

This program advances the mission of the UAA Community and Technical College and responds to the needs of both students and industry.

The Computer and Networking Technology (CNT) program is not a new program, but is currently part of the Telecommunications, Electronics, and Computer Technology (TECT) program. The Electronics Technology program experienced low enrollments due to students being unable to find the program under the current name, which resulted in program admission being suspended while a special review was conducted. In fall 2008, Provost Driscoll directed the program be continued and separated from the Computer and Networking Technology program.

The following curriculum actions are proposed:

- Rename the Telecommunications, Electronics, and Computer Technology (TECT) Telecommunications and Electronics Systems (TES) track to Electronics Technology and create a separate catalog copy.
- Rename the Telecommunications, Electronics, and Computer Technology (TECT) Computers and Networking Technology Track to Computer and Networking Technology and remove the TES information.
- Delete the Telecommunications and Electronics Systems undergraduate certificate.
- Add an occupational endorsement certificate in Electronics Technology.
- Update the Electronics Technology AAS.

These curriculum actions were coordinated with Kenai Peninsula College (KPC) to ensure they would benefit Process Technology program students. KPC and UAA agreed to the current course changes and to sharing responsibility for additional course updates over the next few semesters. An advisory board has been established and has validated the attached program changes.

State and Local Needs Met:

The CNT track of the TECT AAS was created in 2001 and was updated in 2003 and again in 2006.

The enrollments and graduation rates have been strong through out its availability. Most CNT students looking for employment find an IT position before the end of their second year. The program provides employers with skilled IT employees. According to the Department of Labor and Workforce Development, network systems and data communications occupations should increase by 46% over the next ten years.

Student opportunities:

With the degree being separated from the TECT program, students will be able to find the degree more easily in the UAA catalog. Most of the students in the CNT Undergraduate Certificate program have stated that they signed up for the certificate because they didn't see a CNT AAS program on the form.

Enrollment projections:

Over the past four years the student credit hour production for the Anchorage CNT courses have averaged 1321 SCHRS per year. That production is expected to continue or increase over the next few years.

Research Opportunities:

This AAS program will not lead to funded research or have an emphasis on research.

Fiscal Implications:

The degree name change from TECT AAS CNT Track to AAS in CNT will have no effect on the program budget or incremental impact, directly or indirectly, on other units nor on campus facilities, equipment and technologies. The following table shows the current expenses for the program. Note that table does not show the tuition revenue of approximately \$186,000 generated by the 1321 SCHRS per year generated by this program.

EXPENSE CATEGORIES	Budget	Revision	Activity	Encumb	Adjust	Expense	Budget
Personal Services 1000	346,967	0	235,886		0	100,766	10,315
Travel 2000	0	0	0	0	0	0	0
Contractual Services 3000	6,541	0	2,594	0	0	3,947	0
Commodities 4000	17,010	0	7,887	0	0	9,123	0
Items for Resale 4500	0	0	0	0	0	0	0
Capital (Equipment) 5000	0	0	0	0	0	0	0
Student Aid 6000	0	0	0	0	0	0	0
Other 7000/8000	0	0	0	0	0	0	0
TOTAL EXPENDITURES	370,518	0	246,366	0	0	113,836	10,315

REVENUE CATEGORIES	Adjusted Budget	Budget Revision	YTD Activity	Revenue Adjust	Projected Revenue	(Over)/Under Budget
Tuition 9102-9108	0	0	0	0	0	0
Fees-Non-cr, Spec, Lab 9151-9161	23,465	0	17,920	0	1,250	4,295
State Appropriation 9210, 9212	0	0	0	0	0	0
Testing Fees 9602, 9605	0	0	0	0	0	0
Course/Use Fees 9610	0	0	0	0	0	0
Sales, Material Fees 9630-9795	0	0	0	0	0	0
Misc Revenue 9805	0	0	532	0	0	(532)
Indirect Cost Recovery 9810	0	0	0	0	0	0
Interdept Revenue 9904, 9910	0	0	0	0	0	0
TOTAL REVENUE	23,465	0	18,452	0	1,250	3,763

Faculty Matrix:

<i>Faculty Name, Highest Degree</i>	<i>Areas of expertise</i>	<i>Courses/Credits- Fall</i>	<i>Courses/Credits - Spring</i>	<i>Status</i>
Ray Noble	Computers Networking	CNT-A170, CNT-A170 CNT-A270 12 credits	CNT-A261, CNT-A270, CNT-A271, CNT-A271 14 credits	Associate Professor
Rex Plunkett	Computers Networking	CNT-A162, CNT-A162 CNT-A165, CNT-A262 CNT-A264 14 credits	CNT-A162, CNT-A165 CNT-A170, CNT-A280 CNT-A290 13 credits	Assistant Professor
Brian Williams	Computers Networking Electronics	CNT-A261, CNT-A261 CNT-A290, ET-A166 12 credits	CNT-A180, CNT-A270 CNT-A276, CNT-A282 CNT-A290 13 credits	Assistant Professor

Yearly Course Offering Plan:

Fall CNT A160 PC Operating Systems
 CNT A162 PC Building, Upgrading, and Architecture
 CNT A165 Customer Service Fundamentals
 CNT A170 Cisco Academy Network Fundamentals
 CNT A183 Local Area Networks
 CNT A240 Windows System Essentials
 CNT A241 Administrating and Supporting Windows Workstations and Server
 CNT A261 Cisco Academy Router Fundamentals
 CNT A262 Computer Technical Support
 CNT A264 Introduction to Information Security
 CNT A270 Cisco Academy Intermediate Switching and Routing
 CNT A272 Cisco Wireless Networking
 CNT A290 Selected Topics in Information Technology

Spring CNT A160 PC Operating Systems
 CNT A162 PC Building, Upgrading, and Architecture
 CNT A165 Customer Service Fundamentals
 CNT A170 Cisco Academy Network Fundamentals
 CNT A180 PC Interfacing, Peripherals, Storage, and A+
 CNT A183 Local Area Networks
 CNT A240 Windows System Essentials
 CNT A242 Windows Network Infrastructure Administration
 CNT A261 Cisco Academy Router Fundamentals
 CNT A270 Cisco Academy Intermediate Switching and Routing
 CNT A271 Cisco Academy WAN Management
 CNT A276 Independent Project
 CNT A280 Server Operating Systems
 CNT A282 Work Study
 CNT A290 Selected Topics in Information Technology

Summer	CNT A160 PC Operating Systems CNT A162 PC Building, Upgrading, and Architecture CNT A165 Customer Service Fundamentals CNT A290 Selected Topics in Information Technology
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Catalog Copy

COMPUTER and NETWORKING TECHNOLOGY

University Center (UC), Room 130, (907) 786-6423

<http://www.uaa.alaska.edu/ctc/computers/index.cfm>

The Computer and Networking Technology (CNT) program of the Computer and Electronics Technology Department (CET) provides entry-level skills and career education to meet the demand for well-trained technicians in the computer electronics and networking industries. The CNT program offers an Occupational Endorsement Certificate in Cisco Certified Network Associate (CCNA), and an Undergraduate Certificate in Computer and Networking Technology. An Associate of Applied Science degree in Computer and Networking Technology can be earned by completing additional required technical and general education courses.

Graduates from the CNT program can be employed as skilled technical workers in fields including networking, network administration, computer technical support, computer repair and a variety of other positions in information technology.

Both the Anchorage and Matanuska-Susitna campuses offer the program and are collaborative sites for the Fairbanks-based, statewide Information Technology Specialist (ITS), which offers a certificate and an associate degree. Students should consult the CNT faculty for assistance with curriculum planning toward certifications such as A+, Net+, CCNA, ICSA Customer Service, Microsoft Certified Professional and other industry-recognized standards.

Occupational Endorsement Certificate in CCNA

Certificate Outcomes

At the completion of this certificate program students are able to demonstrate:

1. Proficiency in Cisco router installation and configuration in multi-protocol inter-networks using LAN and WAN switches.
2. Proficiency in Cisco switch and VLAN installation and configuration.
3. Competence in entry-level tasks of planning, design, installation, operation and troubleshooting Ethernet and TCP/IP networks.

Admission Requirements

See Occupational Endorsement Certificate admissions in Chapter 7 of this catalog.

Advising

Students should consult the CNT faculty for assistance with curriculum planning toward certifications.

Certificate Requirements

General University Requirements

See General University Requirements for Occupational Endorsement Certificates at the beginning of this chapter.

Major Requirements:

1. Complete the following courses:

CNT A170	Cisco Academy Network Fundamentals	4
CNT A261	Cisco Academy Router Fundamentals	4
CNT A270	Cisco Academy Switching and Intermediate Routing	4
CNT A271	Cisco Academy WAN Management	3
2. A total of 15 credits are required for the occupational endorsement certificate.

Undergraduate Certificate, Computer and Networking Technology

Certificate Description and Outcomes

This certificate program prepares students to install, configure, operate and repair networks used to connect computing and digital communications systems of various types. At the completion of the program students are able to demonstrate:

1. Proficiency in PC troubleshooting and repair.
2. Competence in entry-level tasks of planning, design, installation and troubleshooting Ethernet and TCP/IP networks.
3. Computer literacy in PC applications and operating systems.
4. Entry-level employability skills for computer and network technicians.
5. Job upgrade skills for technicians and professionals.
6. Good customer service skills.
7. Proficiency in Cisco router installation and configuration in multi-protocol inter-networks.
8. Proficiency in Cisco switch and VLAN installation and configuration.

Admission Requirements

See Undergraduate certificate admissions in Chapter 7 of this catalog

Advising

Students should consult the CNT faculty for assistance with curriculum planning toward certifications.

Certificate Requirements

General University Requirements

See General University Requirements for undergraduate certificates at the beginning of this chapter.

Major Requirements:

1. Complete the following requirements (29 credits):

CNT A160	PC Operating Systems	3
CNT A162	PC Building, Upgrading, and Architecture	3
CNT A165	Customer Service Fundamentals	1
CNT A170	Cisco Academy Network Fundamentals	4
CNT A180	PC Interfacing, Peripherals, Storage, and A+	4
CNT A183	Local Area Networks	3
CNT A261	Cisco Academy Router Fundamentals	4
CNT A270	Cisco Academy Switching and Intermediate Routing	4
CNT A271	Cisco Academy WAN Management	3

2. Complete 6 credits from the following courses: 6
 - CNT A262 Computer Technical Support (2)
 - CNT A264 Introduction to Information Security (3)
 - CNT A272 Cisco Wireless Networking (3)
 - CNT A290 Selected Topics in Information Technology (1-3)

3. Complete 5 credits from the following courses: 5
 - CNT A240 Windows System Essentials (2)
 - CNT A241 Administrating and Supporting Windows Workstations and Server (3)
 - CNT A280 Server Operating Systems (3)

4. Complete 3 credits form the following courses: 3
 - CIOS A101A Keyboarding A: Basic Keyboarding (1)
 - CIOS A113 Operating Systems: MS Windows (1)
 - CIOS A130A Word Processing I: MS Word (1)
 - CIOS A135A Spreadsheets I: MS Excel (1)
 - CIOS A146 Internet Concepts and Applications (2)
 - CIOS A150A Presentations: MS PowerPoint (2)
 - CIS A105 Introduction to Personal Computers and Application Software (3)
 - CIS A110 Computer Concepts in Business (3)
 - CNT A290 Selected Topics in Information Technology (1-3)

5. Complete 3 credits from the following courses: 3
 - PRPE A108 Introduction to College Writing (3)
 - ENGL A109 Introduction to Writing in Academic Contexts (3)

Or

Written communications GER

Note: ENGL A111 required for the AAS degree.

6. A total of 46 credits are required for the certificate.

Associate of Applied Science in Computers and Networking Technology Degree Description and Outcomes

This associate degree prepares students to install, configure, administer, operate and repair networks used to connect computing and digital communications systems of various types. At the completion of the program students are able to demonstrate:

1. Computer literacy in PC applications and operating systems.
2. Entry-level employability skills for computer and network technicians.
3. Proficiency in Cisco router installation and configuration in multi-protocol inter-networks.
4. Proficiency in Cisco switch and VLAN installation and configuration.
5. Competence in entry-level tasks of planning, design, installation, operation and troubleshooting Ethernet and TCP/IP networks.
6. Proficiency in PC troubleshooting and repair.
7. Competence in installation configuration and troubleshooting Microsoft operating systems.
8. Competence in configuring and maintaining network and computer system security.
9. Good customer service skills.
10. The ability to think critically and solve problems.

Admission Requirements

See Associate Degree Admission Requirements in Chapter 7 of this catalog.

Advising

Students should consult the CNT faculty for assistance with curriculum planning toward degree.

General University Requirements

Complete the General University Requirements for Associate of Applied Science Degrees listed at the beginning of this chapter. (15 Credits)

General Course Requirements

Complete the General Course Requirements for AAS degrees listed at the beginning of this chapter.

Major Requirements

Associate of Applied Science in Computer and Networking Technology (52 credits)

1. Complete the following requirements (29 credits):

CNT A160	PC Operating System	3
CNT A162	PC Building, Upgrading, and Architecture	3
CNT A165	Customer Service Fundamentals	1
CNT A170	Cisco Academy Network Fundamentals	4
CNT A180	PC Interfacing, Peripherals, Storage, and A+	4
CNT A183	Local Area Networks	3
CNT A261	Cisco Academy Router Fundamentals	4
CNT A270	Cisco Academy Intermediate Switching and Routing	4
CNT A271	Cisco Academy WAN Management	3

2. Complete 9 credits from the following courses: 9

CNT A262	Computer Technical Support (2)	
CNT A264	Introduction to Information Security (3)	
CNT A272	Cisco Wireless Networking (3)	
CNT A276	Independent Project (3)	
CNT A282	Work Study (3)	
CNT A290	Selected Topics in Information Technology (1-3)	

3. Complete 8 credits from the following courses: 8

CNT A240	Windows System Essentials (2)	
CNT A241	Administrating and Supporting Windows Workstations and Server (3)	
CNT A242	Windows Network Infrastructure Administration (3)	
CNT A280	Server Operating Systems (3)	

4. Complete 3 credits from the following courses: 3

CIS A185	Introduction to Programming Business Applications (3)	
CS A101	Introduction to Computer Science (3)	
CS A109	Computer Programming (Languages Vary) (3)	
CS A110	Java Programming (3)	
CS A111	Visual Basic.NET Programming (3)	

5. Complete 3 credits from the following courses: 3

CIOS A101A	Keyboarding A: Basic Keyboarding (1)	
CIOS A113	Operating Systems: MS Windows (1)	

CIOA A125A	Electronic Communications I: MS Outlook (1)
CIOA A130A	Word Processing I: MS Word (1)
CIOA A135A	Spreadsheets I: MS Excel (1)
CIOA A146	Internet Concepts and Applications (2)
CIOA A150A	Presentations: MS PowerPoint (2)
CIS A105	Introduction to Personal Computers and Application Software (3)
CIS A110	Computer Concepts in Business (3)
CNT A290	Selected Topics in Information Technology (1-3)

6. A total of 67 credits is required for the degree.

FACULTY

Ray Noble, Associate Professor, afon@uaa.alaska.edu

Rex Plunkett, Assistant Professor, afgr@uaa.alaska.edu

Brian Williams, Assistant Professor, afbkwl@uaa.alaska.edu

Course Descriptions

CNT A160 PC Operating Systems

3 credits

Develops basic understanding of command line, desktop, and server operating systems. Includes computer programming, architecture, and hardware necessary to understand the operating system interactions.

CNT A162 PC Building, Upgrading, and Architecture

3 credits

Describes how to evaluate, install, and troubleshoot available software and hardware computer equipment. Covers basic hardware associated with microcomputer operation including, but not limited to, motherboards, CPUs, chipsets, memory, buses, expansion slots and resource allocations. Also demonstrates and practices PC disassembly, assembly, software installations, safety and maintenance.

CNT A165 Customer Service Fundamentals

1 credit

Introduces basic customer service principles, including relationships, perceptions, telephone techniques, quality, ethics, record keeping, interpersonal relationships, and teamwork.

CNT A170 Cisco Academy Network Fundamentals

4 credits

Covers networking fundamentals and develops basic skills in designing, installing and troubleshooting local area networks. Topics include cabling, cabling closets, Ethernet technologies, management devices, protocols, sub-netting, network device selection, installation and troubleshooting.

CNT A180 PC Interfacing, Peripherals, Storage, and A+

4 credits

Covers PC peripheral devices, auxiliary storage devices and the interfaces used to connect them to the personal computer. Also covers the fundamentals topics necessary to prepare for the Core Hardware portion of the CompTIA A+ Certification.

CNT A183 Local Area Networks

3 credits

Presents the fundamentals of Local Area Networking, including topologies, protocols, computer and delivery hardware, Ethernet, network operating systems, LAN assessment, and other related software. Covers the fundamental networking topics necessary to prepare for the CompTIA Net+ Exam.

CNT A240 Windows System Essentials

2 credits

Provides an introduction to networking concepts, features, and capabilities and their implementation within the Windows environment.

CNT A241 Administrating and Supporting Windows Workstations and Server**3 credits**

Presents concepts and skills necessary to install and configure Windows Server on stand-alone computers an on client computers that are part of a workgroup or domain.

CNT A242 Windows Network Infrastructure Administration**3 credits**

Provides students with the knowledge and skills to implement and manage the network infrastructure associated with a Windows domain.

CNT A261 Cisco Academy Router Fundamentals**4 credits**

Provides details of Cisco routers and router interfaces, including router configuration, software controls, user modes, IP addressing and routing protocols.

CNT A262 Computer Technical Support**2 credits**

Develops skills necessary for evaluating and implementing various technical support functions, including hardware and software needs assessments, training development, preventive maintenance, and effective communication and documentation.

CNT A264 Introduction to Information Security**3 credits**

Provides students with an understanding of the core concepts that relate to the practice of network security. This course will help prepare students for the CompTIA Security + exam.

CNT A270 Cisco Academy Intermediate Switching and Routing**4 credits**

Covers local area network management and provides skill development in managing traffic and network devices to ensure optimal throughput. Topics include router and switch configuration, advanced routing protocols, and identifying and resolving network congestion problems.

CNT A271 Cisco Academy WAN Management**3 credits**

Covers wide area networking services, design, and management. Topics include wide area network technology, devices, link options, frame encapsulation formats, designs, protocols and configurations.

CNT A272 Cisco Wireless Networking**3 credits**

Provides students with wireless networking fundamentals with focuses on the design, planning, implementation, operation and troubleshooting of wireless LANs. It also offers a comprehensive overview of wireless technologies and security.

CNT A276 Independent Project**3 credits**

Develops, implements, and completes a project based on a relevant technological issue. Student works closely with faculty to produce an end product and report.

CNT A280 Server Operating Systems**3 credits**

Develops Windows 2000 Server operating system basics. Topics will include installation, troubleshooting, creation and administration of users and resources and remote and internet accounts.

CNT A282 Work Study**3 credits**

Provides supervised workplace experience in industry settings. Integrates advanced level knowledge and practice to demonstrate skill competencies.

CNT A290 Selected Topics in Information Technology**1-3 credits**

Provides students with intermediate to advanced knowledge in Information Technology-related topics. Special Note: Prerequisites will vary with topic.

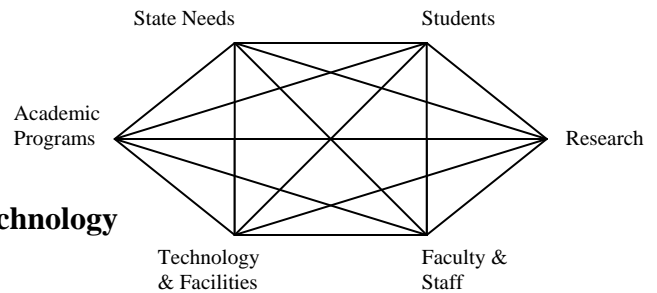
University of Alaska New Program Approval

MAU: University of Alaska Anchorage

College: Community and Technical College

Title: Associate of Applied Science, Electronics Technology

Target admission date: Fall 2009



Description of the ET AAS:

This AAS degree program expands the skills learned in the Electronics Technology Occupational Endorsement Certificate (OEC) to enable graduates to perform hands-on troubleshooting, maintenance, and repair of electronic systems and includes the computer and networking fundamentals required in today's market.

Relation to the academic mission of the university and the MAU:

This program advances the mission of the UAA Community and Technical College and responds to the needs of both students and industry.

The Electronics Technology (ET) program is currently part of the Telecommunications, Electronics, and Computer Technology (TECT) program. The ET program experienced low enrollments due to students being unable to find the program under the current name, which resulted in program admission being suspended while a special review was conducted. In fall 2008, Provost Driscoll directed the program be continued, separated from the Computer and Networking Technology program and rewritten with an occupational endorsement certificate and an AAS.

The following curriculum actions are proposed:

- Rename the Telecommunications, Electronics, and Computer Technology (TECT) Telecommunications and Electronics Systems (TES) track to Electronics Technology and create a separate catalog copy.
- Rename the Telecommunications, Electronics, and Computer Technology (TECT) Computers and Networking Technology Track to Computer and Networking Technology and remove the TES information.
- Delete the Telecommunications and Electronics Systems undergraduate certificate.
- Add an occupational endorsement certificate in Electronics Technology.
- Update the Electronics Technology AAS.

These curriculum actions were coordinated with Kenai Peninsula College (KPC) to ensure they would benefit Process Technology program students. KPC and UAA agreed to the current course changes and to sharing responsibility for additional course updates over the next few semesters. An advisory board has been established and has validated the attached program changes.

State and Local Needs Met:

According to the Alaska Department of Labor, demand for electrical/electronic technicians with an associate degree will increase 17% from 2004 to 2014, from 286 employed to 334. Of more immediate concern is the age of this portion of the workforce. In 2005, 46% of these technicians were over 45 and 26% were over 50. In addition, over 26% of these technicians were non-residents of Alaska.

There is a clear demand in the state for graduates from these ET programs; however, inefficiencies in these programs' enrollment management – recruitment/enrollment, retention, placement and follow-up – have not allowed the programs and graduates to fully connect with this need.

There is also an evident demand nationwide for electronics and telecommunications technicians holding post-secondary certificates and degrees. For example, the National Science Foundation (NSF)

is providing approximately 75 grants totaling \$46 million over the next three fiscal years under the Advanced Technological Education (ATE) initiative. These grants are geared to two-year colleges focused on educating technicians in highly technical career fields such as electronics and telecommunications.

Student opportunities:

With the degree being separated from the TECT program, students will be able to find the OEC and degree more easily in the UAA catalog. This program also enables students in the KPC Process Technology program to complete courses related to their program.

Enrollment projections:

Once admission to the program reopens and appropriate marketing materials are developed, program admissions are projected to be approximately 10 students per year. Many courses in this OEC are used by other programs such as Process Technology, so course enrollments are likely to be higher.

Research Opportunities:

This AAS program will not lead to funded research or have an emphasis on research.

Fiscal Implications:

There will not be an incremental increase in expenses as this program already existing as a track of an existing degree. Resources, technology, and facilities are already in place. Program expenses are expected to remain the same for at least the next three years; however, revenue is expected to increase as enrollments increase due to increased program visibility. The following table shows the current expenses for the program. Note that table does not show the tuition revenue or approximately \$41,000 generated by the 290 anticipated SCHRS per year generated by this program.

EXPENSE CATEGORIES		Adjusted Budget	Budget Revision	YTD Activity	YTD Encumb	Expense Adjust	Projected Expense	
Personal Services	1000	81,428	0	54,664		0	24,477	
Travel	2000	2,000	0	0	0	0	2,000	
Contractual Services	3000	1,918	0	1,979	0	0	(61)	
Commodities	4000	14,104	0	226	0	0	13,878	
Items for Resale	4500	0	0	0	0	0	0	
Capital (Equipment)	5000	0	0	0	0	0	0	
Student Aid	6000	0	0	0	0	0	0	
Other	7000/8000	0	0	0	0	0	0	
TOTAL EXPENDITURES		99,450	0	56,869	0	0	40,294	
REVENUE CATEGORIES		Adjusted Budget	Budget Revision	YTD Activity		Revenue Adjust	Projected Revenue	(Over)/Under Budget
Tuition	9102-9108	0	0	0		0	0	0
Fees-Non-cr, Spec, Lab	9151-9161	775	0	1,025		0	0	(250)
State Appropriation	9210, 9212	0	0	0		0	0	0
Testing Fees	9602, 9605	0	0	0		0	0	0
Course/Use Fees	9610	0	0	0		0	0	0
Sales, Material Fees	9630-9795	0	0	0		0	0	0
Misc Revenue	9805-9890	0	0	0		0	0	0
Indirect Cost Recovery	9810	0	0	0		0	0	0
Interdept Revenue	9904, 9910	0	0	0	0	0	0	
TOTAL REVENUE		775	0	1,025		0	0	(250)

Faculty Matrix:

<i>Faculty Name, Highest Degree</i>	<i>Areas of expertise</i>	<i>Courses/Credits- Fall</i>	<i>Courses/Credits - Spring</i>	<i>Status</i>
Mark Bothum, Associate of Electronics Engineering	Electronics, Laser	ET A160 3 cr. ET A161 1 cr. ET A162 3 cr. ET A163 1 cr. ET A166 2 cr. ET A181 4 cr.	ET A180 4 cr. ET A182 2 cr. ET A184 2 cr. ET A262 3 cr. ET A260 3 cr. ET A276 3 cr. ET A282 3 cr.	Assistant Professor

Catalog Copy

ELECTRONICS TECHNOLOGY

University Center (UC), Room 130, (907) 786-6423

<http://www.uaa.alaska.edu/ctc/computers/index.cfm>

As the electronic systems and equipment that power our world become more complex, the expertise of electronics and computer technologies specialists is increasingly vital. The Electronics Technology (ET) program provides entry-level skills and career education to meet the demand for well-trained technicians in the telecommunications and electronics industries. The program offers an Occupational Endorsement Certificate (OEC) in Electronics Technology and an Associate of Applied Science degree in Electronics Technology.

With careers in electronics and computer technology exceeding the average growth rate for new careers, opportunities are available in a wide variety of industries. ET program graduates can be employed as skilled technical workers in fields including communications, security, microchip manufacturing and electronic equipment repair in private industry as well as municipal, state and federal agencies.

OCCUPATIONAL ENDORSEMENT CERTIFICATE, ELECTRONICS TECHNOLOGY

Provides fundamental skills required for entry into the electronics field.

CERTIFICATE OUTCOMES

At the completion of this certificate program students will demonstrate:

1. Proficiency in electronic theory, equipment maintenance and troubleshooting.
2. Proficiency in electronic communications and telecommunications.
3. Good customer service skills.

Admission Requirements

See Occupational Endorsement Certificate admissions in Chapter 7 of this catalog.

Advising

Students should consult ET faculty for assistance with course planning toward the OEC.

Certificate Requirements

General University Requirements

See General University Requirements for OECs at the beginning of this chapter.

Major Certificate Requirements:

1. Complete the following courses:

ET A160	DC Electrical Systems	3
ET A161	DC Lab	1
ET A162	AC Electrical Systems	3
ET A163	AC Lab	1
ET A166	Technical Calculations and Applications	2
ET A180	Semiconductor Devices	4
ET A181	Digital Electronics	4
ET A182	Applied Integrated Circuits	2
ET A184	Telecommunications	2
ET A260	Instrumentation and Control Processes	3
ET A262	Transmitters, Receivers and Advanced Communications	3
CNT A165	Customer Service Fundamentals	1
2. A total of 29 credits is required for this OEC.

ASSOCIATE OF APPLIED SCIENCE, ELECTRONICS TECHNOLOGY

The ET AAS degree program expands the skills learned in the OEC to enable graduates to perform hands-on troubleshooting, maintenance, and repair of electronic systems and includes the computer and networking fundamentals required in today's market.

DEGREE OUTCOMES

Upon completion of this program, students will demonstrate:

1. Proficiency in electronic theory, equipment maintenance and troubleshooting.
2. Proficiency in electronic communications and telecommunications.
3. Computer literacy in PC hardware, PC applications and operating systems.
4. Good customer service skills.

Admission Requirements

See Associate Degree Admission Requirements in Chapter 7 of this catalog.

Advising

Students should consult ET faculty for assistance with curriculum planning.

General University Requirements

Complete the General University Requirements for Associate of Applied Science Degrees listed at the beginning of this chapter.

General Course Requirements

Complete the General Course Requirements for Associate of Applied Science Degrees listed at the beginning of this chapter.

Major Degree Requirements

1. Complete the Occupational Endorsement Certificate in Electronics Technology 29
2. Complete the following six credits:

CNT A160	PC Operating systems	3
CNT A162	PC Building, Upgrading, and Architecture	3
3. Complete 7 credits from the following courses: 7

CNT A170	CISCO Academy Network Fundamentals (4)	
CNT A180	PC Interfacing, Peripherals, Storage, and A+ (4)	
CNT A183	Local Area Networks (3)	
ET A276	Independent Project (3)	
ET A282	Work Study (3)	
ET A290	Selected Topics in Electronics Technology (1-4)	
ET A350	Federal Licensing Preparation (4)	
4. Complete 3 credits from the following courses: 3

CIOS A101A	Keyboarding A: Basic Keyboarding (1)	
CIOS A113	Operating Systems: MS Windows (1)	
CIOS A125A	Electronic Communications I: MS Outlook (1)	
CIOS A130A	Word Processing I: MS Word (1)	
CIOS A135A	Spreadsheets I: MS Excel (1)	
CIOS A146	Internet Concepts and Applications (2)	
CIOS A150A	Presentations: MS PowerPoint (2)	
CIOS A262A	Professional Development (3)	
CIS A105	Introduction to Personal Computers and Application Software (3)	
CIS A110	Computer Concepts in Business (3)	
5. A total of 60 credits is required for the degree.

FACULTY

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Course Descriptions

ET A160 DC Electrical Systems

3 credits

Covers basic D.C. electrical concepts, definitions, laws and applications. Introduces passive electrical components, schematic symbols, wiring diagrams, power sources, and distribution systems.

ET A161 DC Lab**1 credit**

Presents methods of safe and accurate measurement of D.C. electrical quantities using basic electrical test equipment. Covers equipment connection, testing methods, and operation to observe electrical component characteristics to troubleshoot defective circuits. Power sources, distribution systems, schematic and wiring diagrams will also be covered.

ET A162 AC Electrical Systems**3 credits**

Examines theory and application of basic concepts, definitions and laws governing alternating current signal and power sources. Includes AC waveforms, sources, components, wiring diagrams, schematic symbols, and analysis of AC power distribution.

ET A163 AC Lab**1 credits**

Presents measurement of AC electrical quantities using basic electrical test equipment. Covers AC circuit troubleshooting through proper equipment connections, testing and operations. Power sources, distribution systems, schematic, and wiring diagrams will also be covered.

ET A166 Technical Calculations and Applications**2 credits**

Presents applied calculations for students in technical fields. Covers basic arithmetic, conversions, solving equations, logarithms, multinomial equations, graphs and applied basic concepts of geometry, trigonometry, and statistics.

ET A180 Semiconductor Devices**4 credits**

Introduces semiconductor fundamentals and parameters. Covers semiconductor physics, diode and transistor characteristics and applications. Provides methods for analyzing and troubleshooting complex semiconductor circuitry. Component coverage includes specialty diodes, multi-layer control devices, bipolar transistors, JFETs, MOSFETs, and multistage coupling devices.

ET A181 Digital Electronics**4 credits**

Presents digital electronics concepts, logic families and applications. Provides methods for analyzing and troubleshooting complex digital circuitry. Topics will include binary numbers, digital logic gates, flip-flops, registers, counters, shift registers, logic interfacing, logic families, multivibrators, timers, analog and digital converters, memory devices and programmable logic devices.

ET A182 Applied Integrated Circuits**2 credits**

Presents the electrical characteristics and applications of the ideal operational amplifier. Topics include input and output characteristics, comparators, amplifiers, signal/function generation, active filtering and power supply regulation.

ET A184 Telecommunications**2 credits**

Presents and examines basic telecommunication and data communication concepts and equipment. Topics include history, transmission methodology, multiplexing, media, data conversion, A/D and D/A, protocols, interfacing, direction control, telecommunication equipment, switching systems, subscriber services, and distribution techniques.

ET A260 Instrumentation and Control Processes**3 credits**

Covers theory of measurement, control, and data acquisition. Includes instrumentation circuitry, mechanical control elements, computer control processes, sensors, transducers, IP interfacing and applications.

ET A262 Transmitters, Receivers and Advanced Communications **3 credits**

Explores the methods and techniques used in transmission and reception of AM, FM and SSB signals. Emphasizes antennas, transmission lines, signal propagation, transmitter and receiver circuitry, alignment and troubleshooting. Also examines communications technology including microwave, radar, satellite, mobile and cellular telephone, video, and other wireless systems.

ET A276 Independent Project**3 credits**

Develops, implements, and completes a project based on a relevant technological issue. Student works closely with faculty to produce an end project and report.

ET A282 Work Study**3 credits**

Provides supervised workplace experience in industry settings. Integrates advanced level knowledge and practices to demonstrate skill competencies.

ET A290**Selected Topics in Electronics Technology****1–4 credits**

Offers selected topics in electronics pertaining to state-of-the-art technology and trends. Course content is determined by current trends, new technologies, and student and employer needs. Special Note: Prerequisites may be imposed depending on topic.

ET A350**Federal Licensing Preparation****4 credits**

Analysis of avionics systems, marine communications, global marine distress safety systems, federal rules and regulations for operators and technicians. Synthesizes knowledge and skills in preparation for taking the federal communications commission (FCC) licensing exam.

Four-year course offering plan:

Note: All courses are offered every year.

Spring:

ET A180	Semiconductor Devices
ET A182	Applied ICs
ET A184	Telecommunications
ET A262	Transmitters, Receivers, and Advanced Communications
ET A260	Instrumentation and Control Processes
ET A276	Independent Project
ET A282	Work Study

Fall:

ET A160	D.C. Electrical Systems
ET A161	D.C. Lab
ET A162	A.C. Electrical Systems
ET A163	A.C. Lab
ET A166	Technical Calc & Applications
ET A181	Digital Devices
ET A290	Selected Topics in Electronics Technology

University of Alaska Board of Regents
Program Deletion Summary

MAU: University of Alaska Anchorage
College: Community and Technical College
Title: Undergraduate Certificate in Telecommunications and Electronics Technology
Target deletion date: Fall 2009

Rationale for deleting the program

The Electronics Technology program is currently part of the Telecommunications, Electronics, and Computer Technology program. Due to low enrollments and other factors a special review was ordered.

The review triggered the following proposed changes:

- Renamed the Telecommunications, Electronics, and Computer Technology (TECT) Telecommunications and Electronics Systems (TES) track to Electronics Technology, created a separate catalog copy and updated the AAS degree requirements.
- Added an Occupational Endorsement Certificate (OEC) in Electronics Technology.
- Renamed the Telecommunications, Electronics, and Computer Technology (TECT) Computers and Networking Technology Track to Computer and Networking Technology and removed the TES information.
- Because the 29-credit OEC is directly articulated with the 60-credit AAS, it is proposed that the Undergraduate Certificate in Telecommunications and Electronics Systems be deleted.

The ET program suffered from low enrollments due to students being unable to find the program under the current name. Coordination with Kenai Peninsula College (KPC) indicated a need to align ET courses for Process Technology students. KPC and UAA agreed to the current course changes and to sharing responsibility for additional course updates over the next few semesters. All active students currently admitted to the program are finishing the degree requirements and are being actively advised.

Concurrence of appropriate advisory councils

An advisory board was established for the two new programs. The board they concur with the proposed deletion of the undergraduate certificate.