

COLLEGE CREDIT CERTIFICATES

ATC • Advanced Technical Certificate

ATD • Applied Technology Diploma

CCC • College Credit Certificate



College Credit Certificates

A college credit certificate (CCC) may be awarded for programs of less than two years in selected technical areas leading to an associate in applied science degree. The CCC's are designed to prepare the student for entry into a particular field or to upgrade the skills of those already employed in the field.

Program Designations

ATC • Advanced Technical Certificate

ATD • Applied Technology Diploma

CCC • College Credit Certificate

ATC and ATD Certificates

ATC • Executive Fire Officer

ATC.FIRE.OFR (30 Credit Hours)

The Executive Fire Officer Technical Certificate is designed to develop the student's knowledge in the area of executive management of modern fire and rescue service systems. The curriculum will be centered on upper level management techniques, and current trends affecting the delivery of a fire and rescue service.

Admission Requirements

Possess a current Certificate of Compliance/Completion from the Florida State Bureau of Fire Standards. Hold an AS Degree in Fire Science Technology or AS Degree in Emergency Medical Services and have completed courses: FFP 1710, FFP 1810, FFP 2700, FFP 2740, FFP 2811 and FFP 2401.

Program Required Courses

FFP 2118	Interpersonal Management in Fire Science	3 cr.
FFP 2280	Management for EMS for Fire Science	3 cr.
FFP 2590	Management of Fire Prevention Programs	3 cr.
FFP 2701	Organization/Command Fire Science Operations	3 cr.
FFP 2720	Executive Fire Officer Leadership/Personnel Management	3 cr.
FFP 2741	Fire Service Course Development	3 cr.
FFP 2750	Financial Management in Fire Service	3 cr.
FFP 2790	Analysis of Fire Department Operations	3 cr.
FFP 2801	Incident Command for Disaster Management	3 cr.
FFP 2830	Incident Command/Major Fire Department Operations	3 cr.

ATC • Paralegal (Legal Assisting)

ATC.PLA (21 Credit Hours)

The Paralegal/Legal Assisting Advanced Technical Certificate is designed to enable students who already hold a bachelor's degree or higher to take paralegal courses at Hillsborough Community College and qualify to take the Certified Legal Assistant exam sponsored by the National Association for Legal Assistants. It further prepares those students for work of a legal nature in law offices, corporations or governmental agencies.

Program Required Courses

PLA 1003	Introduction to the Paralegal Profession	3 cr.
PLA 1271	Tort Law	3 cr.
PLA 1104	Writing and Research I	3 cr.
PLA 2114	Writing and Research II	3 cr.

Select 9 credit hours from the following:

PLA 1203	Litigation Procedures I	3 cr.
PLA 1433	Business Organizations	3 cr.
PLA 1600	Administration of Wills/Trusts/Probate	3 cr.
PLA 1611	Real Estate Law/Property Transactions I	3 cr.
PLA 1700	Legal Ethics and Professional Responsibility	3 cr.
PLA 2303	Criminal Litigation	3 cr.
PLA 2421	Contract Law	3 cr.
PLA 2460	Bankruptcy Law	3 cr.
PLA 2800	Family Law	3 cr.

NOTE: A grade of "C" or better must be attained for each course taken for this certificate.

ATD • Medical Records Transcription**ATD.OSS.MEDT (33 Credit Hours)**

This program teaches students how to transfer a doctor's verbal dictation to written form. The dictation is usually done on cassette tapes or through a digital voice system. The transcriptionist is responsible for producing professional, accurate documents of all medical reports into the requested printed or computer-based format to become part of a patient's medical records and editing the transcription for format, grammar, and proper medical terminology.

Program Required Courses

BSC	1085	Human Anatomy and Physiology I and BSC 1085 Human Anatomy and Physiology I Lab or HIM 1430 Principles of Disease with Anatomy I	4 cr.
CIS	1931	Microcomputer Concepts	3 cr.
HIM	1436	Principles of Disease with Anatomy II	4 cr.
HIM	1442	Pharmacology	2 cr.
HSC	1531	Medical Terminology	3 cr.
HSC	1641	Legal and Ethical Aspects in Health Care	1 cr.
OST	1110	Intermediate PC Typing	3 cr.
OST	1330	Skills for Transcription	3 cr.
OST	1741	Word Processing I	1 cr.
OST	2135	Medical Document Production on the PC	3 cr.
OST	2611	Medical Transcription I	3 cr.
OST	2612	Medical Transcription II	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Office Administration program.

**ATD • Pest Control Operations****ATD.PCO (24 Credit Hours)**

There is a growing need for available service industries such as pest control operation to satisfy the pest control needs of the general public and agricultural interests. An ATD in pest control operations will provide the training and skills needed to enter this field.

Program Required Courses

HOS	1010	Horticultural Science	3 cr.
IPM	1011	Plant Pests	3 cr.
IPM	1301	Application of Pesticides and Fertilizers	3 cr.
IPM	2302	Applied Materials Chemistry and Calculations	3 cr.
IPM	2634	Management of Diseases and Weeds	3 cr.
IPM	2253	Management of Insects and Nematodes	3 cr.
IPM	2551	Regulatory Environment of Pest Management	3 cr.
SOS	1102	Soils and Fertilizers	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Landscape and Horticulture Technology program.

College Credit Certificates

CCC • Accounting Applications

CCC.ACG.APPS (30 Credit Hours)

This program will prepare students for employment as an accounting clerk, a junior accountant or an accounting assistant.

Program Required Courses

ACG 2021	Financial Accounting	3 cr.
ACG 2071	Managerial Accounting	3 cr.
ACG 2100	Intermediate Accounting I	3 cr.
ACG 2110	Intermediate Accounting II	3 cr.
ACG 2340	Cost Accounting I	3 cr.
ACG 2350	Cost Accounting II	3 cr.
CGS 1000	Introduction to Computers and Technology	3 cr.
COP 1000	Programming Logic	3 cr.
TAX 2000	Federal Tax Accounting I	3 cr.
TAX 2010	Federal Tax Accounting II	3 cr.

NOTE: Coursework may be applied to the two-year AAS degree Accounting Technology program.

CCC • Aquaculture Technology

CCC.AQUA (26 Credit Hours)

This program will prepare students for employment in the field of aquaculture technology and transfers into the associate in science degree program titled Aquaculture.

Program Required Courses

FAS 1012C	Aquacultural Organisms	3 cr.
FAS 1401L	Aquacultural Laboratory Techniques	3 cr.
FAS 1404C	Aquacultural Field Techniques	3 cr.
FAS 2240C	Aquacultural Nutritional Techniques	3 cr.
FAS 2253	Aquaculture Disease Processes	3 cr.
FAS 2253L	Aquaculture Disease Processes Laboratory	1 cr.
FAS 2263C	Aquacultural Reproductive Techniques	3 cr.
FAS 2353C	Aquacultural Management Practices	3 cr.
ZOO 1450	Ichthyology	3 cr.
ZOO 1450L	Ichthyology Laboratory	1 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Aquaculture program.

CCC • AutoCad Foundations

CCC.ADCT.CAD (15 Credit Hours)

This certificate provides students with the AutoCAD skills needed to assist architects and construction engineers in planning, designing and detailing. Computer design techniques are emphasized in the certificate.

Program Required Courses

ARC 2461	Materials and Methods I	3 cr.
BCN 1250	Introduction to Graphic Technology	3 cr.
BCN 2272	Blueprint Reading	3 cr.
TAR 2053	Introduction to Computer Aided Design and Drafting	3 cr.
TAR 2054	Intermediate Computer Aided Design and Drafting	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Architectural Design and Technology program.

CCC • Broadcast Production

CCC.RTV (24 Credit Hours)

This certificate allows students to obtain basic training for a specific entry-level job in broadcast production.

Program Required Courses

RTV 1245	Electronic Field Production	3 cr.
RTV 2000	Introduction to Broadcasting	3 cr.
RTV 1941	Radio/TV Internship	3 cr.
RTV 2201	Broadcasting Techniques	3 cr.
RTV 2242	Advanced Television Studio Production	3 cr.
RTV 2246	Advanced Electronic Field Production	3 cr.
RTV 2270	Radio Production and Programming	3 cr.
RTV 2300	Broadcast News	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Digital Television and Media Production program.

CCC • Business Management

CCC.BUS.MAN (24 Credit Hours)

Program Required Courses

ACG 2021	Financial Accounting	3 cr.
ACG 2071	Managerial Accounting	3 cr.
BUL 1241	Business Law I	3 cr.
GEB 1011	Introduction to Business	3 cr.
MAN 1021	Principles of Management	3 cr.
MAR 1011	Principles of Marketing	3 cr.
SPC 1600	Public Speaking	3 cr.

Select 3 credit hours from the following:

BUL 2242	Business Law II	3 cr.
ECO 2013	Principles of Macroeconomics	3 cr.
CGS 1000	Introduction to Computers and Technology	3 cr.
STA 2014	Descriptive and Inferential Statistics or STA 2023 Elementary Statistics	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Business Administration program.

CCC • Business Operations

CCC.BUS.OPER (18 Credit Hours)

Program Required Courses

ACG 2021	Financial Accounting	3 cr.
BUL 1241	Business Law I	3 cr.
GEB 1011	Introduction to Business	3 cr.
MAN 1021	Principles of Management	3 cr.
MAR 1011	Principles of Marketing	3 cr.
SPC 1600	Public Speaking	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Business Administration program.

CCC • Business Specialist

CCC.BUS.SPEC (12 Credit Hours)

Program Required Courses

ACG 2021	Financial Accounting	3 cr.
GEB 1011	Introduction to Business	3 cr.
MAN 1021	Principles of Management	3 cr.
SPC 1600	Public Speaking	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Business Administration program.

CCC • Cable Installation

CCC.CET.CABLE (12 Credit Hours)

This certificate is designed to prepare students for employment as a cable installer, cable tester, or cable technician.

Program Required Courses

CET 1556C	Structured Cabling	3 cr.
CGS 1550	Introduction to Networking	3 cr.
EET 1036C	Basic AC and DC	3 cr.
EET 1083C	Electronics Orientation	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Electronics Engineering Technology program.

CCC • Cisco CCNA

CCC.NST.CCNA (12 Credit Hours)

This certificate is designed to prepare students for employment as telecommunications system engineers, telecommunications specialists, network support technicians, network system specialists, and field support engineers as it relates to Cisco-based networks that includes local area and wide area network routers and switches.

Program Required Courses

CET 1600	Cisco Network Fundamentals	3 cr.
CET 1610	Cisco Router Technology	3 cr.
CET 2615	Cisco Advanced Router Technology	3 cr.
CET 2620	Cisco Wide-Area Networking Technologies	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Computer Engineering Technology program.



CCC • Computer Programming

CCC.COP.OPT1 (33 Credit Hours)

This program prepares students for jobs in the field of computer programmer aide, junior programmer, senior programmer, data manager, programmer analyst, and mid-range computer specialist.

Program Required Courses

CGS 1000	Introduction to Computers and Technology	3 cr.
CGS 2301	Management Information Systems	3 cr.
CIS 2321	Systems Analysis	3 cr.
COP 1000	Programming Logic	3 cr.

Select 21 credit hours from the following:

COP 1120	COBOL, Beginning	3 cr.
COP 1220	Programming in C	3 cr.
COP 1820	Visual BASIC, Beginning	3 cr.
COP 1821	Visual BASIC, Advanced	3 cr.
COP 2121	COBOL, Intermediate	3 cr.
COP 2224	Programming in C++	3 cr.
COP 2360	Programming in C#	3 cr.
COP 2800	JAVA Programming	3 cr.
COP 2805	JAVA, Advanced	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Computer Programming program.

CCC • Computer Programming Specialist

CCC.PROG.SPEC (18 Credit Hours)

Program Required Courses

CGS 1000	Introduction to Computers and Technology	3 cr.
CIS 2321	Systems Analysis	3 cr.
COP 1000	Programming Logic	3 cr.

Select 9 credit hours from the following:

COP 1120	COBOL, Beginning	3 cr.
COP 1220	Programming in C	3 cr.
COP 1820	Visual BASIC, Beginning	3 cr.
COP 2360	Programming in C#	3 cr.
COP 2800	JAVA Programming	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Computer Programming program.

CCC • Credit Union Management

CCC.FS.CU.MAN (24 Credit Hours)

These courses equate with the Certified Credit Union Executive (CCUE) program which is sponsored by the Credit Union National Association, Inc. (CUNA) for dual credit. Graduates may realize employment in financial services occupations such as bookkeeper, accounting clerk, teller, teller supervisor, assistant branch manager, junior consumer loan officer, member's services representative, and financial sales representative.



Program Required Courses

ACG 2021	Introduction to Financial Accounting	3 cr.
ACG 2071	Managerial Accounting	3 cr.
BRC 1301	Introduction to Credit Unions	3 cr.
BRC 1321	Principles of Credit and Collections	3 cr.
BUL 1241	Business Law I	3 cr.
MAN 1021	Principles of Management	3 cr.
MAN 2761	Strategic Business Management and Leadership	3 cr.
MAR 1011	Principles of Marketing	3 cr.

CCC • Credit Union Operations

CCC.FS.CU.OPER (18 Credit Hours)

These courses equate with the Certified Credit Union Executive (CCUE) program which is sponsored by the Credit Union National Association, Inc. (CUNA) for dual credit. Graduates may realize employment in financial services occupations such as bookkeeper, accounting clerk, teller, teller supervisor, assistant branch manager, junior consumer loan officer, member's services representative, and financial sales representative.

Program Required Courses

ACG 2021	Introduction to Financial Accounting	3 cr.
BRC 1301	Introduction to Credit Unions	3 cr.
BRC 1321	Principles of Credit and Collections	3 cr.
BUL 1241	Business Law I	3 cr.
MAN 1021	Principles of Management	3 cr.
MAR 1011	Principles of Marketing	3 cr.

CCC • Credit Union Specialist**CCC.FS.CU.SPEC (12 Credit Hours)**

These courses equate with the Certified Credit Union Executive (CCUE) program which is sponsored by the Credit Union National Association, Inc (CUNA) for dual credit. Graduates may realize employment in financial services occupations such as bookkeeper, accounting clerk, teller, teller supervisor, assistant branch manager, junior consumer loan officer, member's services representative, and financial sales representative.

Program Required Courses

BRC 1301	Introduction to Credit Unions	3 cr.
BRC 1321	Principles of Credit and Collections	3 cr.
MAN 1021	Principles of Management	3 cr.
MAR 1011	Principles of Marketing	3 cr.

CCC • Crime Scene**CCC.CS (28 Credit Hours)****Program Required Courses**

CCJ 1020	Introduction to Criminal Justice	3 cr.
CJE 1640	Introduction to Criminalistics	3 cr.
CJE 1642C	Introduction to Crime Scene Technology	3 cr.
CJE 1643C	Advanced Crime Scene Technology	3 cr.
CJE 2671C	Latent Fingerprint Development	2 cr.
CJE 2672C	Fingerprint Classification	2 cr.
CJE 2673C	Forensic Photography	3 cr.
CJL 2130	Criminal Evidence & Procedure	3 cr.
CJL 2610	Courtroom Presentation of Scientific Evidence	3 cr.
CJT 2100	Criminal Investigation	3 cr.

CCC • Digital Media/Multimedia Authoring**CCC.MMT.AUTH (12 Credit Hours)**

This certificate is designed to prepare students for initial employment as a digital media/multimedia author.

Program Required Courses

CGS 1577	Presentation Systems or COP 2823 Graphics Design for Multimedia/Internet	3 cr.
CGS 1871	Multimedia Authoring I	3 cr.
CGS 2874	Multimedia Authoring II	3 cr.
CGS 2877	Digital Animation Design	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Digital Media/Multimedia Technology program.

CCC • Digital Media/Multimedia Instructional Technology**CCC.MMT.IT (15 Credit Hours)**

This certificate prepares students for initial employment as an instructional developer, instructional media integrator, or instructional media specialist.

Program Required Courses

CGS 1000	Introduction to Computers and Technology	3 cr.
CGS 1577	Presentation Systems	3 cr.
CGS 2820	Web Authoring – HTML	3 cr.
CGS 2877	Digital Animation Design	3 cr.
COP 2823	Graphics Design for Multimedia/Internet	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Digital Media/Multimedia Technology program.

CCC • Digital Media/Multimedia Presentation**CCC.MMT.PRES (17 Credit Hours)**

The purpose of this certificate is to prepare students for initial employment as an audio/visual technician, audio technician, or lighting technician.

Program Required Courses

CGS 1520	Business Graphics I	1 cr.
CGS 1521	Introduction to Computers Drawing/Painting	1 cr.
CGS 1577	Presentation Systems	3 cr.
CGS 1871	Multimedia Authoring I	3 cr.
CGS 2874	Multimedia Authoring II	3 cr.

Choose two from the following:

CGS 2876	Digital Audio/Video Design	3 cr.
CGS 2877	Digital Animation Design	3 cr.
COP 2823	Graphics Design for Multimedia/Internet	3 cr.
COP 2826	Advanced Graphics Design for Multimedia/Internet	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Digital Media/Multimedia Technology program.

CCC • Digital Media/Multimedia Production

CCC.MMT.PROD (15 Credit Hours)

This certificate prepares students for initial employment as a videographers or video editors.

Program Required Courses

CGS 1577	Presentation Systems	3 cr.
CGS 1871	Multimedia Authoring I	3 cr.
COP 2823	Graphics Design for Multimedia/Internet	3 cr.
CGS 2876	Digital Audio/Video Design	3 cr.
CGS 2877	Digital Animation Design	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Digital Media/Multimedia Technology program.

CCC • Digital Media/Multimedia Video Production

CCC.MMT.VIDEO (12 Credit Hours)

This certificate prepares students for initial employment as a videographers or video editors.

Program Required Courses

CGS 1000	Introduction to Computers and Technology	3 cr.
CGS 2876	Digital Audio/Video Design	3 cr.
CGS 2877	Digital Animation Design	3 cr.
COP 2823	Graphics Design for Multimedia/Internet	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Digital Media/Multimedia Technology program.

CCC • Digital Media/Multimedia Web Production

CCC.MMT.WEB (15 Credit Hours)

This certificate is designed to prepare the student for initial employment as a web production assistant or web production artist.

Program Required Courses

CGS 1555	Introduction to the Internet	3 cr.
CGS 2820	Web Authoring – HTML	3 cr.
CGS 2876	Digital Audio/Video Design	3 cr.
CGS 2877	Digital Animation Design	3 cr.
COP 2823	Graphics Design for Multimedia/Internet	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Digital Media/Multimedia Technology program.

CCC • Digital Video Production

CCC.DGTL.PROD (12 Credit Hours)

This certificate allows students to obtain basic training for a specific entry-level job in video production.

Program Required Courses

CGS 1871	Multimedia Authoring or GRA 111C, Graphic Design	3 cr.
RTV 1245	Electronic Field Production	3 cr.
RTV 2246	Advanced Electronic Field Production	3 cr.
VIC 1202	Film & TV Graphics	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Digital Television and Media Production program.

CCC • Drafting

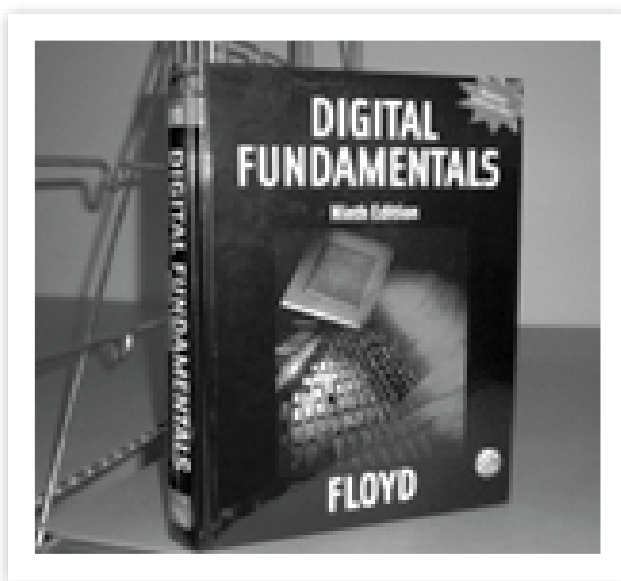
CCC.ADCT.DRAFT (24 Credit Hours)

This certificate provides the students with the practical skills necessary to accept the challenges of a construction drafting career. Successful certificate holders may find employment as a draftsman in architect's, engineer's, or contractor's offices; governmental agencies, corporate planning departments or other private industries.

Program Required Courses

ARC 2461	Materials and Methods I	3 cr.
BCN 1210	Construction Materials and Processes	3 cr.
BCN 1250	Introduction to Graphic Technology	3 cr.
BCN 2272	Blueprint Reading	3 cr.
TAR 1120	Architectural Drawing I	3 cr.
TAR 2053	Introduction to Computer Aided Design and Drafting	3 cr.
TAR 2054	Intermediate Computer Aided Design and Drafting	3 cr.
TAR 2055	Advanced Computer Aided Design and Drafting	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Architectural Design and Technology program.



CCC • Electronics Technician**CCC.EET (31 Credit Hours)**

This program prepares individuals for employment as electrical and electronics technicians, electronic engineering technicians, or in related occupations in electronics. This program includes the Florida core electronics competencies as identified in the electronics industry. Graduates of this program will be able to assemble, install, operate, maintain, troubleshoot and repair electronic equipment used in industry.

Program Required Courses

CET	1114C	Basic Digital Systems	3 cr.
CET	1172C	Computer Upgrading and Repair	3 cr.
CET	1174C	Advanced Computer Repair	3 cr.
CGS	1000	Introduction to Computers and Technology	3 cr.
EET	1036C	Basic AC and DC	3 cr.
EET	1037C	Circuit Analysis	3 cr.
EET	1083C	Electronics Orientation	3 cr.
EET	1141C	Solid State Devices	3 cr.
EET	1949	Electronics Internship	3 cr.
MTB	1327	Electronics Mathematics	4 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree in Electronics Engineering Technology

CCC • Food and Beverage Management**CCC.FOOD.BEV.MGT (31 Credit Hours)**

This certificate provides a program of study designed to prepare students for employment as supervisors and managers in the food and beverage sectors of the hospitality industry.

Program Required Courses

ACG	2021	Financial Accounting or APA 1111, Basic Accounting	3 cr.
FSS	1223	Food Production for Managers	4 cr.
FSS	1500	Food and Beverage Control	3 cr.
FSS	2120	Food Purchase and Storage	3 cr.
HFT	1000	Lodging Management	3 cr.
HFT	1410	Front Desk Procedure	3 cr.
HFT	2210	Management of Hospitality Personnel	3 cr.
HFT	2600	Hospitality Law	3 cr.
HFT	2750	Convention Management and Service	3 cr.
HFT	2840	Maitre d' and Dining Room Service	3 cr.

NOTE: Coursework may be applied to the two-year AS degree Hospitality and Tourism Management program.

CCC • Information Technology Analysis**CCC.CIS.ANA (27 Credit Hours)**

This certificate is designed to prepare students for employment as an applications system specialist, information systems specialist, technical support specialist, software tester or user support specialist.

Program Required Courses

CGS	1000	Introduction to Computers and Technology	3 cr.
CGS	2301	Management Information Systems	3 cr.
CGS	1550	Introduction to Networking	3 cr.
CGS	1555	Introduction to the Internet	3 cr.
CGS	1761	Computer Operating Systems	3 cr.
CET	1172C	Computer Upgrade and Repair	3 cr.
CET	1174C	Advanced Computer Repair	3 cr.
CIS	1931	Microcomputer Concepts	3 cr.
CIS	2321	Systems Analysis	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Computer Information Administrator program.

CCC • Information Technology Management**CCC.CIS.MAN (30 Credit Hours)**

This certificate prepares the student for employment as information technology specialists, data communications analysts, help desk specialists, network technicians, computer security specialists, network specialists, network managers, network systems technicians, network support specialists, microcomputer technicians, or network troubleshooters. The content prepares individuals to plan, install, configure, monitor, troubleshoot and manage computer networks in a LAN/WAN environment.

Program Required Courses

CGS	1000	Introduction to Computers and Technology	3 cr.
CGS	1550	Introduction to Networking	3 cr.
CGS	1555	Introduction to the Internet	3 cr.
CGS	2301	Management Information Systems	3 cr.
CEN	1301	Microsoft Windows Server	3 cr.
CEN	1305	Microsoft Windows Implementing and Supporting a Network Infrastructure	3 cr.
CET	1172C	Computer Upgrade and Repair	3 cr.
CET	1174C	Advanced Computer Repair	3 cr.
CET	1556C	Structured Cabling	3 cr.

Select one server course from the following:

CEN	1306	Implementing and Supporting MS Exchange Server	3 cr.
CEN	1310	Implementing and Supporting MS Windows Site Server	3 cr.
CGS	2763	Unix Administration I	3 cr.
CGS	2825	Web Site Management	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Computer Information Administrator program.

CCC • Information Technology Support Specialist

CCC.CIS.SPEC (18 Credit Hours)

This certificate prepares students for employment as a microcomputer support specialist, help desk specialist, user support analyst, customer service representative, computer operator, computer repair technician, computer sales person, software tester or user support specialist.

Program Required Courses

CET 1172C	Computer Upgrade and Repair	3 cr.
CET 1174C	Advanced Computer Repair	3 cr.
CGS 1000	Introduction to Computers and Technology	3 cr.
CGS 1550	Introduction to Networking	3 cr.
CGS 1555	Introduction to the Internet	3 cr.
CIS 1931	Microcomputer Concepts	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Computer Information Administrator program.

CCC • Information Technology Technician

CCC.CIS.TECH (21 Credit Hours)

This certificate prepares students for employment as cabling specialists, information technology specialists, network control operators, data communications analysts, help desk specialists, network technicians, network systems technicians, network support specialists, or microcomputer specialists. The content prepares individuals to plan, install, configure, and monitor computer networks in a LAN/WAN environment.

Program Required Courses

CEN 1301	Microsoft Windows Server	3 cr.
CEN 1305	Microsoft Windows Implementing and Supporting a Network Infrastructure	3 cr.
CET 1172C	Computer Upgrade and Repair	3 cr.
CET 1556C	Structured Cabling	3 cr.
CGS 1000	Introduction to Computers and Technology	3 cr.
CGS 1550	Introduction to Networking	3 cr.
CGS 1555	Introduction to the Internet	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Computer Information Administrator program.

CCC • Internet Services Technology Web Development Specialist - Designer

CCC.WEB.OPT1 (35 Credit Hours)

This program prepares students for internet-related jobs such as web designer, site designer or internet architect, and transfers into the associate degree program titled Internet Services Technology – Option 1 – Web Designer.

Program Required Courses

CGS 1000	Introduction to Computers and Technology	3 cr.
CGS 1555	Introduction to the Internet	3 cr.
CGS 1577	Presentations Systems	3 cr.
CGS 1871	Multimedia Authoring I	3 cr.
CGS 2509	Introduction to Adobe Acrobat	1 cr.
CGS 2541	Database Design	3 cr.
CGS 2820	Web Authoring - HTML	3 cr.
CGS 2822	Web Site Creation	3 cr.
CGS 2876	Desktop Audio/Video Design/Animation	3 cr.
COP 2823	Graphics Design for Multimedia/Internet	3 cr.
COP 2826	Advanced Graphics Design	3 cr.
OST 1142	Keyboarding I	1 cr.
OST 1813	Desktop Publishing	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Internet Services Technology program.

CCC • Internet Services Technology Web Development Specialist - Developer

CCC.WEB.OPT2 (35 Credit Hours)

This program prepares students for internet-related jobs such as webmaster, web developer, site developer and internet programmer.

Program Required Courses

CGS 1000	Introduction to Computers and Technology	3 cr.
CGS 1555	Introduction to the Internet	3 cr.
CGS 1760	Introduction to Unix	3 cr.
CGS 1936	Perl and CGI	3 cr.
CGS 2509	Introduction to Adobe Acrobat	1 cr.
CGS 2541	Database Design	3 cr.
CGS 2545	Introduction to Web Databases	3 cr.
CGS 2820	Web Authoring - HTML	3 cr.
CGS 2822	Web Site Creation	3 cr.
COP 1000	Programming Logic	3 cr.
COP 2800	JAVA Programming	3 cr.
COP 2822	Scripting for the Web	3 cr.
OST 1142	Keyboarding I	1 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Internet Services Technology program.

CCC • Irrigation Technology

CCC.IRRIGATION (30 Credit Hours)

This certificate will prepare students for employment in positions such as irrigation technicians, irrigation installers, landscaping and groundskeeping personnel, lawn maintenance personnel, and sales and service personnel.

Program Required Courses

HOS 1010	Horticultural Science	3 cr.
LDE 1310	Irrigation/Water Management	3 cr.
ORH 1002	Water Resources and Land Use	3 cr.
ORH 1302	Irrigation System Installation	3 cr.
ORH 1304	Low Volume Irrigation Systems	3 cr.
ORH 1306	Computer Software for Irrigation Systems	3 cr.
ORH 1309	Irrigation Troubleshooting and Repair	3 cr.
ORH 1312	Residential Irrigation Design	3 cr.
ORH 1314	Commercial Irrigation Design	3 cr.
ORH 1936	Irrigation Seminar	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Landscape and Horticulture Technology program.

CCC • Landscape and Horticulture Professional

CCC.ORH.PROF (18 Credit Hours)

This certificate is primarily for individuals who are presently in the workforce in this field and those who want to prepare for the Florida Nurserymen and Growers Association certification for Landscape and Horticulture Professional. It is also applicable to those individuals not working in the field, but who need hands-on experience for employment in this area.

Program Required Courses

BOT 1000	Plant Physiology and Growth	3 cr.
IMP 1011	Plant Pests	3 cr.
ORH 1005C	Horticulture Field Skills	3 cr.
ORH 1510	Plant Identification	3 cr.
ORH 2251	Florida Horticulture Professional Preparation	3 cr.
SOS 1102	Soils and Fertilizers	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Landscape and Horticulture Technology program.

CCC • Landscape and Horticulture Specialist

CCC.ORH.SPEC (12 Credit Hours)

This certificate is for individuals presently working in the field who want to expand their knowledge, improve their skills or who want to change careers or become employed in the field.



Program Required Courses

BOT 1000	Plant Physiology and Growth	3 cr.
ORH 1510	Plant Identification	3 cr.
ORH 2251	Florida Horticulture Professional Preparation	3 cr.
SOS 1102	Soils and Fertilizers	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Landscape and Horticulture Technology program.

CCC • Landscape and Horticulture Technician

CCC.ORH.TECH (30 Credit Hours)

This certificate is to prepare students for an AS/AAS degree in the Landscape and Horticulture program, for individuals presently working in the field or to prepare individuals for employment in this area.

Program Required Courses

BOT 1000	Plant Physiology and Growth	3 cr.
GCO 2230	Pumping and Irrigation Systems	3 cr.
IMP 1011	Plant Pests	3 cr.
ORH 1005C	Horticulture Field Skills	3 cr.
ORH 1016	Environmental Issues in Horticulture	3 cr.
ORH 1220	Turf and Landscape Maintenance	3 cr.
ORH 1510	Plant Identification	3 cr.
ORH 1830	Landscape Design	3 cr.
ORH 2251	Florida Horticulture Professional Preparation	3 cr.
SOS 1102	Soils and Fertilizers	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Landscape and Horticulture Technology program.

CCC • Microcomputer Repairer/ Installer

CCC.CET.REPAIR (15 Credit Hours)

This certificate is designed to prepare students for employment as computer engineering technicians in electronics/information technology.

Program Required Courses

CET 1114C	Basic Digital Systems	3 cr.
CET 1172C	Computer Upgrade and Repair	3 cr.
CET 1174C	Advanced Computer Repair	3 cr.
CGS 1550	Introduction to Networking	3 cr.
EET 1083C	Electronics Orientation	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Electronics Engineering Technology program.

CCC • Network Communication – LAN

CCC.NST.LAN (18 Credit Hours)

Program Required Courses

CET 1172C	Computer Upgrading and Repair	3 cr.
CET 1556C	Structured Cabling	3 cr.
CGS 1000	Introduction to Computers and Technology	3 cr.
CGS 1550	Introduction to Networking or CET 1600 Cisco Network Fundamentals	3 cr.
EET 1036C	Basic AC and DC	3 cr.
EET 2326C	Communications Systems I	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Network Administrator program.

CCC • Network Communication – WAN

CCC.NST.WAN (18 Credit Hours)

This certificate is designed to prepare students for employment as a WAN support specialist, network designer, WAN technician, network support technician, or field support engineer.

Program Required Courses

CET 1600	Cisco Network Fundamentals or CGS 1550, Introduction to Networking	3 cr.
CGS 1000	Introduction to Computers and Technology	3 cr.
CNT 2210	Wide Area Network Fundamentals	3 cr.
EET 1036C	Basic AC and DC	3 cr.
EET 1083C	Electronics Orientation	3 cr.
EET 2326C	Communications Systems I	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Network Administrator program.

CCC • Office Support – Option 1, Track 1, Office Support

CCC.OA.OS (12 Credit Hours)

Program Required Courses

CIS 1931	Microcomputer Concepts	3 cr.
OST 1100	Beginning PC Typing or OST 1110 Intermediate PC Typing	3 cr.
OST 2402	Office Procedures	3 cr.
SLS 1261	Personal Skills for Business	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Office Administration program.

CCC • Office Support – Option 1, Track 2, Office Software Applications Support

CCC.OA.OS.SAS (12 Credit Hours)

Program Required Courses

CAP 2816	Database Management II	1 cr.
CGS 2511	Spreadsheet Applications II	1 cr.
CIS 1931	Microcomputer Concepts	3 cr.
OST 1143	Keyboarding II	1 cr.
OST 1831	Introduction to Windows I	1 cr.
OST 2742	Word Processing II	1 cr.
OST 2743	Word Processing III	1 cr.
SLS 1261	Personal Skills for Business	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Office Administration program.

CCC • Office Support – Option 1, Track 3, Records Management Support

CCC.OA.OS.RMS (12 Credit Hours)

Program Required Courses

CIS 1931	Microcomputer Concepts	3 cr.
OST 1142	Keyboarding I B or OST 1143 Keyboarding II	1 cr.
OST 1345	Forms Design and Management	2 cr.
OST 1355	Records Information	3 cr.
SLS 1261	Personal Skills for Business	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Office Administration program.

**CCC • Office Specialist – Option 2,
Track 1, Office Specialist
CCC.OA.SPEC (18 Credit Hours)**

Program Required Courses

CIS 1931	Microcomputer Concepts	3 cr.
OST 1100	Beginning PC Typing or OST 1110 Intermediate PC Typing	3 cr.
OST 1355	Records Information	3 cr.
OST 2145	Data Entry	3 cr.
OST 2402	Office Procedures	3 cr.
SLS 1261	Personal Skills for Business	3 cr.

NOTE: Coursework may be applied to the two-year AS/
AAS degree Office Administration program.

**CCC • Office Specialist – Option 2,
Track 2, Office Software Applications
Specialist**

CCC.OA.SPEC.SAS (18 Credit Hours)

Program Required Courses

CAP 2816	Database Management II	1 cr.
CIS 1931	Microcomputer Concepts	3 cr.
CGS 1577	Presentation Systems	3 cr.
CGS 2511	Spreadsheet Applications II	1 cr.
OST 1143	Keyboarding II	1 cr.
OST 1813	Desktop Publishing	3 cr.
OST 1831	Introduction to Windows I	1 cr.
OST 2742	Word Processing II	1 cr.
OST 2743	Word Processing III	1 cr.
SLS 1261	Personal Skills for Business	3 cr.

NOTE: Coursework may be applied to the two-year AS/
AAS degree Office Administration program.

**CCC • Office Specialist – Option 2,
Track 3, Records Management
Specialist**

CCC.OA.SPEC.RMS (18 Credit Hours)

Program Required Courses

CGS 1554	Internet Basics	1 cr.
CIS 1931	Microcomputer Concepts	3 cr.
OST 1355	Records Information	3 cr.
OST 1345	Forms Design and Management	2 cr.
OST 2357	Electronics Records Management	3 cr.
OST 2402	Office Procedures	3 cr.
SLS 1261	Personal Skills for Business	3 cr.

NOTE: Coursework may be applied to the two-year AS/
AAS degree Office Administration program.

**CCC • Office Specialist – Option 2,
Track 4, Medical Office Specialist
CCC.OA.SPEC.MED (18 Credit Hours)**

Program Required Courses

CIS 1931	Microcomputer Concepts	3 cr.
HSC 1531	Medical Terminology	3 cr.
OST 1100	Beginning PC Typing or OST 1110 Intermediate PC Typing	3 cr.
OST 2145	Data Entry	3 cr.
OST 2402	Office Procedures	3 cr.
SLS 1261	Personal Skills for Business	3 cr.

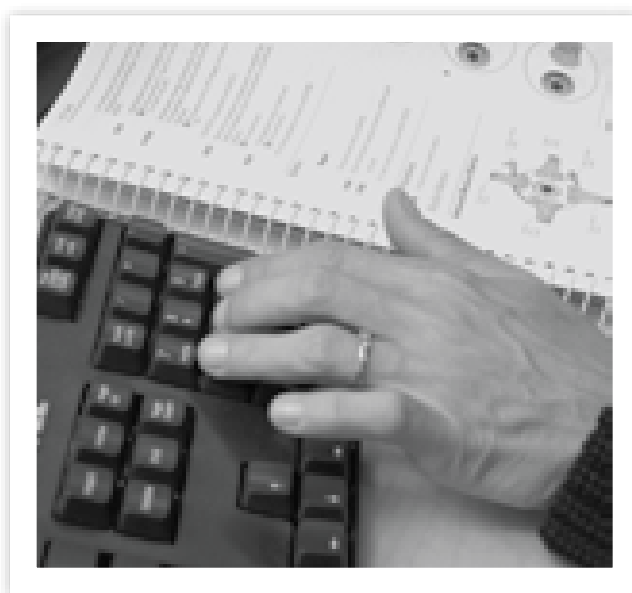
NOTE: Coursework may be applied to the two-year AS/
AAS degree Office Administration program.

**CCC • Office Management – Option 3,
Track 1, Office Management
CCC.OA.OFM (27 Credit Hours)**

Program Required Courses

APA 1111	Basic Accounting	3 cr.
CIS 1931	Microcomputer Concepts	3 cr.
OST 1110	Intermediate PC Typing	3 cr.
OST 1330	Skills for Transcription	3 cr.
OST 1335	Business Communications	3 cr.
OST 1741	Word Processing I	1 cr.
OST 2357	Electronic Records Management	3 cr.
OST 2402	Office Procedures	3 cr.
OST 2742	Word Processing II	1 cr.
OST 2743	Word Processing III	1 cr.
SLS 1261	Personal Skills for Business	3 cr.

NOTE: Coursework may be applied to the two-year AS/
AAS degree Office Administration program.



CCC • Office Management – Option 3, Track 2, Software Applications Management

CCC.OA.SAM (27 Credit Hours)

Program Required Courses

CAP 2816	Database Management II	1 cr.
CGS 1510	Spreadsheet Applications I	1 cr.
CGS 1520	Business Graphics I	1 cr.
CGS 1540	Database Management I	1 cr.
CGS 2511	Spreadsheet Applications II	1 cr.
CIS 1931	Microcomputer Concepts	3 cr.
OST 1110	Intermediate PC Typing	3 cr.
OST 1345	Forms Design and Management	2 cr.
OST 1382	International Office Protocol	1 cr.
OST 1741	Word Processing I	1 cr.
OST 1813	Desktop Publishing	3 cr.
OST 1831	Introduction to Windows I	1 cr.
OST 2722	Advanced Word Processing	3 cr.
OST 2742	Word Processing II	1 cr.
OST 2743	Word Processing III	1 cr.
SLS 1261	Personal Skills for Business	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Office Administration program.

CCC • Office Management – Option 3, Track 3, Records Management

CCC.RECS (27 Credit Hours)

Program Required Courses

CAP 2816	Database Management II	1 cr.
CGS 1510	Spreadsheets I	1 cr.
CGS 1540	Database Management I	1 cr.
CIS 1931	Microcomputer Concepts	3 cr.
OST 1142	Keyboarding I or OST 1143, Keyboarding II	1 cr.
OST 1335	Business Communications	3 cr.
OST 1345	Forms Design and Management	2 cr.
OST 1355	Records Information	3 cr.
OST 1382	International Office Protocol	1 cr.
OST 1741	Word Processing I or OST 2742, Word Processing II	1 cr.
OST 2357	Electronic Records Management	3 cr.
OST 2402	Office Procedures	3 cr.
SLS 1261	Personal Skills for Business	3 cr.
	Specified Elective*	1 cr.

*Select specified elective from the AAS degree Office Management Specialization select list.

NOTE: Coursework may be applied to the two-year AS/AAS degree Office Administration program.

CCC • Office Management – Option 3, Track 4, Human Resource Management

CCC.OSS.HRS (27 Credit Hours)

This program teaches students the process of accomplishing administrative support functions for human resources managers in the areas of employee benefits, recruitment and staffing, training and development, salary and compensation, employee relations, and safety and worker's compensation.

Students are prepared for such positions as human resource assistant, employment interviewer, labor relations assistant, and human resource specialist.

Program Required Courses

BUL 1241	Business Law	3 cr.
CIS 1931	Microcomputer Concepts	3 cr.
GEB 1011	Introduction to Business	3 cr.
MNA 1320	Human Resources Recruitment, Interviewing, and Selection	3 cr.
MNA 1325	Human Resources Statistical Analysis, Compensation and Benefits	3 cr.
OST 1335	Business Communications	3 cr.
OST 2501	Office Administration	3 cr.
OST 2357	Electronic Records Management	3 cr.
SLS 1261	Personal Skills for Business	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Office Administration program.

CCC • Medical Office Management – Option 4

CCC.MED.MAN (34 Credit Hours)

Prepares individuals to support management by expediting and facilitating the maintenance and production of correspondence and records; to transcribe recordings, telecommunicate, maintain office budget, prepare correspondence and resolutions; to file and maintain documents; and to assist in the administration of policy.

Program Required Courses

APA 1111	Basic Accounting	3 cr.
CIS 1931	Microcomputer Concepts	3 cr.
HIM 2271C	Medical Billing and Insurance I	3 cr.
HIM 2272C	Medical Billing and Insurance II	3 cr.
HSC 1531	Medical Terminology	3 cr.
HSC 1641	Legal & Ethical Aspects in Health Care	1 cr.
OST 1110	Intermediate PC Typing	3 cr.
OST 1330	Skills for Transcription	3 cr.
OST 2357	Electronic Records Management	3 cr.
OST 2135	Medical Document Production on the PC	3 cr.
OST 2402	Office Procedures	3 cr.
OST 1335	Business Communications	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Office Administration program.

CCC • Office Administration Specialist – Option 5, Track 1

Medical Information Coder/Biller: Medical Coder

CCC.OSS.HIM (34 Credit Hours)

This program prepares students to be members of a health information service team. Coursework focuses on using a classification system to assign code numbers and letters to each symptom, diagnosis, disease, procedure, and operation on a patient's chart. A high degree of accuracy, critical thinking skills, a working knowledge of medical terminology, and skill development in coding and computer software are required. Career opportunities include hospital inpatient/outpatient coding specialist, reimbursement specialist, coding abstracting or insurance claim analyst, managed care coding specialist, procedural coding specialist, and physician's office or clinical coding specialist.

Program Required Courses

BSC	1085	Human Anatomy and Physiology I and BSC 1085L, Human Anatomy and Physiology I Lab or HIM 1430 Principles of Disease with Anatomy I	4 cr.
BSC	1086	Human Anatomy and Physiology II and BSC 1086L, Human Anatomy and Physiology II Lab or HIM 1436, Principles of Disease with Anatomy II	4 cr.
CIS	1931	Microcomputer Concepts	3 cr.
HIM	1000	Medical Record Content	1 cr.
HIM	1442	Pharmacology	2 cr.
HIM	2220	Basic ICD-9-CM Coding	1 cr.
HIM	2232	Intermediate ICD-9-CM Coding	3 cr.
HIM	2253	Basic CPT Coding	1 cr.
HIM	2254	Intermediate CPT Coding	3 cr.
HIM	2271C	Medical Billing and Insurance I	3 cr.
HIM	2283	Advanced Coding	3 cr.
HIM	2941	Clinical Coder Practicum	2 cr.
HSC	1531	Medical Terminology	3 cr.
HSC	1641	Legal and Ethical Aspects in Health Care	1 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Office Administration program.

CCC • Office Administration Specialist – Option 5, Track 2

Medical Information Coder/Biller: Medical Biller

CCC.OSS.MEDB (34 Credit Hours)

This program teaches students how to process insurance forms, assign basic medical codes, and operate databases and medical billing computer software. Coursework focuses on medical terminology and anatomy, and the use of ICD-9, Basic CPT codes, Medicare, and other government, private, self-insurance, and managed care plans. Students are prepared to work in hospitals, physicians' offices, health care facilities, and billing departments of medical facilities, or to set up a private billing service.

Program Required Courses

APA	1111	Basic Accounting	3 cr.
CIS	1931	Microcomputer Concepts	3 cr.
HIM	2220	Basic ICD-9-CM Coding	1 cr.
HIM	2253	Basic CPT Coding	1 cr.
HIM	2271C	Medical Billing and Insurance I	3 cr.
HIM	2272C	Medical Billing & Insurance II	3 cr.
HIM	2273	Billing Software	2 cr.
HIM	2940	Clinical Billing Practicum	2 cr.
HSC	1531	Medical Terminology	3 cr.
HSC	1641	Legal and Ethical Aspects in Health Care	1 cr.
OST	1100	Beginning PC Typing or OST 1110 Intermediate PC Typing	3 cr.
OST	1335	Business Communications	3 cr.
OST	2145	Data Entry	3 cr.
SLS	1261	Personal Skills for Business	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Office Administration program.

CCC • Television Production

CCC.TV.PROD (12 Credit Hours)

The purpose of this program is to provide basic training for a specific entry-level job in TV production.

Program Required Courses

RTV	1245	Electronic Field Production	3 cr.
RTV	2201	Broadcasting Techniques	3 cr.
RTV	2242	Advanced TV Studio Production	3 cr.
RTV	2246	Advanced Electronic Field Production	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Digital Television and Media Production.

CCC • Unix/Linux System Administration

CCC.NST.UNIXLINUX (18 Credit Hours)

The purpose of this program is to prepare students for employment as a Unix or Linux system administrator or to provide supplemental training for persons previously or currently employed in these occupations. The content prepares individuals to install information technology equipment, troubleshoot information technology equipment, and support information technology users.

Program Required Courses

CGS 1760	Introduction to UNIX	3 cr.
CGS 2763	Unix/Linux Administration I	3 cr.
CGS 2764	Unix/Linux Administration II	3 cr.
COP 2344	Shell Scripting	3 cr.
CTS 2311	Unix/Linux Security	3 cr.
CTS 2321	Unix/Linux Networking	3 cr.

CCC • Wireless Communications

CCC.NST.WIRE (18 Credit Hours)

This certificate is designed to prepare students for employment as a wireless installer, wireless technician, wireless field service technician, or to provide supplemental training to persons previously or currently employed in these occupations.

Program Required Courses

CGS 1000	Introduction to Computers and Technology	3 cr.
CGS 1550	Introduction to Networking	3 cr.
CNT 2510	Wireless Networking	3 cr.
EET 1036C	Basic AC and DC	3 cr.
EET 1083C	Electronics Orientation	3 cr.
EET 2326C	Communications Systems I	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Network Administrator program.

CCC • Video Editing and Post Production

CCC.VIDEO.PROD (24 Credit Hours)

This certificate is designed to prepare students for employment in a entry-level position in video editing and post production.

Program Required Courses

CGS 1871	Multimedia Authoring or GRA 1111C, Graphic Design	3 cr.
RTV 1941	Radio/TV Internship	3 cr.
RTV 2000	Introduction to Broadcasting	3 cr.
RTV 1245	Electronic Field Production	3 cr.
RTV 2201	Broadcasting Techniques	3 cr.
RTV 2242	Advanced Television Studio Production	3 cr.
RTV 2246	Advanced Electronic Field Production	3 cr.
VIC 1202	Film and TV Graphics	3 cr.

NOTE: Coursework may be applied to the two-year AS/AAS degree Digital Television and Media Production.

