

BLUEGRASS COMMUNITY AND TECHNICAL COLLEGE

Information Technology Certificates

With options in Information Technology Fundamentals, A+ Certification, Computer Programming, Database Administration Basic and Enhanced, Web/Database Administration, Electronic Commerce, Information Security, Computer Support Specialist, Cisco Networking Basic, Enhanced, and Professional, Microsoft MCSA and MCSE, Web Administrator, and Web Site Developer

Information Technology Fundamentals

Academic Plan Code - 1101013039

Course Number	Course Title	Credit Hours
CIS 120	Program Design and Development	3
CIS 130	Microcomputer Applications OR	3
ET 107	Computer Applications for Technicians	(4)
ET 232	Computer Software Maintenance OR	3
CIS 110	Operating Systems Concepts	(3)
ET 234	Computer Hardware Maintenance	3
NIS 160	Networking Core Technologies OR	3
IT 120	Cisco Internetworking I	(4)
IT 170	Introduction to Database Design	3
IT 132	Web Page Development OR	3
IT 130	Web Site Design and Production	(4)
	Beginning Level Programming Language	3
	Total Credit Hours	24-27

A+ Certification

Academic Plan Code - 1101013049

Course Number	Course Title	Credit Hours
CIS 130	Microcomputer Applications OR	3
ET 107	Computer Applications for Technicians	(4)
ET 232	Computer Software Maintenance	3
ET 234	Computer Hardware Maintenance	3
	Total Credit Hours	9-10

Computer Programming

Academic Plan Code - 101013139

Course Number	Course Title	Credit Hours
CIS 120	Program Design and Development	3
CIS 220	Systems Analysis & Design	3
COE 199	Cooperative Education OR	3
CIS 280	Internship	(3)
ACC 201	Financial Accounting	3
	Beginning Level Programming Language	3
	Programming Languages (must include at least 6 credit hours above the beginning level)	12
	Management course (listed in option)	3
	Total Credit Hours	30

Database Administration—Basic

Academic Plan Code - 1101013089

(Certificate prerequisite: Moderate knowledge of industry-standard microcomputer operating systems, applications software, computer program design and development techniques, and familiarity with at least one programming language.)

Oracle Track

Course Number	Course Title	Credit Hours
IT 170	Introduction to Database Design	3
IT 147	SQL Programming	3
IT 270	Database Systems – Implementation and Management	3
IT 272	Oracle Database Fundamentals I	3
NIS 213	Administering Microsoft Windows Server OR	3
NIS 230	UNIX Administration	(3)
	Total Credit Hours	15

Database Administration--Enhanced

Academic Plan Code - 1101013109

Oracle Track

Course Number	Course Title	Credit Hours
IT 170	Introduction to Database Design	3
IT 147	SQL Programming	3
IT 270	Database Systems – Implementation and Management	3
IT 272	Oracle Database Fundamentals I	3
IT 274	Oracle Database Fundamentals II	3
IT 278	Oracle Performance Tuning	3
NIS 213	Administering Microsoft Windows Server OR	3
NIS 230	UNIX Administration	(3)
	Total Credit Hours	15

Microsoft Track

Course Number	Course Title	Credit Hours
IT 170	Introduction to Database Design	3
IT 147	SQL Programming	3
IT 270	Database Systems – Implementation and Management	3
NIS 246	Microsoft SQL Server System Administration	3
NIS 247	Microsoft SQL Server Implementation	3
NIS 248	Microsoft SQL Server Data Warehousing	3
NIS 213	Administering Microsoft Windows Server	3
	Total Credit Hours	21

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**Web/Database Administration
Oracle Track**

Course Number	Course Title	Credit Hours
IT 170	Introduction to Database Design	3
IT 147	SQL Programming	3
IT 272	Oracle Database Fundamentals I	3
BA/CIS 151	Introduction to Electronic Commerce	3
IT 132	Web Page Development OR	3
IT 130	Web Site Design and Production	(4)
IT 230	Advanced Web Page Development	3
IT 235	Data-Driven Web Design	3
IT 291	E-Commerce Practicum: Site Implementation	3
Programming Course (scripting language preferred)		3
Total Credit Hours		27-28

Microsoft Track

Course Number	Course Title	Credit Hours
IT 170	Introduction to Database Design	3
IT 147	SQL Programming	3
NIS 246	Microsoft SQL Server System Administration	3
BA/CIS 151	Introduction to Electronic Commerce	3
IT 132	Web Page Development OR	3
IT 130	Web Site Design and Production	(4)
IT 230	Advanced Web Page Development	3
IT 235	Data-Driven Web Design	3
IT 291	E-Commerce Practicum: Site Implementation	3
Programming Course (scripting language preferred)		3
Total Credit Hours		27-28

Electronic Commerce

Academic Plan Code - 1101013129

Course Number	Course Title	Credit Hours
B&E 100	Introduction to Business and Economics OR	1
BA 160	Introduction to Business	(3)
BA 282	Principles of Marketing	3
ACC 201	Financial Accounting	3
BA/CIS 151	Introduction to Electronic Commerce	3
IT 130	Web Site Design and Production	4
IT 132	Web Page Development	3
IT 230	Advanced Web Page Development	3
IT 235	Data-Driven Web Design	3
IT 291	E-Commerce Practicum: Site Implementation	3

Programming Course (scripting language preferred)	3
Total Credit Hours	26-28

Information Security

Academic Plan Code - 1101013219

Course Number	Course Title	Credit Hours
IT 250	Introduction to Security	4
IT 252	Attacks and Exploits	4
IT 254	Firewalls and Perimeter Defense	4
Security Elective (listed in the option)		3
Total Credit Hours		15

Computer Support Specialist

Academic Plan Code - 1101013149

Course Number	Course Title	Credit Hours
CIS 130	Microcomputer Applications OR	3
ET 107	Computer Applications for Technicians	(4)
ET 232	Computer Software Maintenance OR	3
CIS 110	Operating Systems Concepts	(3)
ET 234	Computer Hardware Maintenance	3
CIS 230	Advanced Microcomputer Applications OR	3
OST 225	Introduction to Desktop Publishing	(3)
IT 237	Help Desk Service Skills and Tools	3
IT 210	Operating System Support	3
IT 215	Application Support	3
COE 199	Cooperative Education OR	3
CIS 280	Internship	(3)
Computer Support Elective (listed in the option)		6
Total Credit Hours		30-31

Cisco Networking—Basic

Academic Plan Code - 1101013049

Course Number	Course Title	Credit Hours
IT 120	Cisco Internetworking I	4
IT 122	Cisco Internetworking II	4
IT 220	Cisco Internetworking III	4
IT 222	Cisco Internetworking IV	4
Total Credit Hours		16

Cisco Networking—Enhanced

Academic Plan Code - 1101013069

Course Number	Course Title	Credit Hours
IT 120	Cisco Internetworking I	4
IT 122	Cisco Internetworking II	4
IT 220	Cisco Internetworking III	4
IT 222	Cisco Internetworking IV	4
NIS 213	Administering Microsoft Windows Server OR	3

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NIS 230	UNIX Administration	(3)
Electives (listed in the option)		6
Total Credit Hours		25

Cisco Networking—Professional
Academic Plan Code - 1101013189

Course Number	Course Title	Credit Hours
IT 280	Cisco CCNP 1—Advanced Routing	4
IT 282	Cisco CCNP 2—Remote Access	4
IT 284	Cisco CCNP 3—Multilayer Switching	4
IT 286	Cisco CCNP 4—Network Troubleshooting	4
Electives (listed in the option)		6
Total Credit Hours		22

Microsoft Networking—MCSA Track
Academic Plan Code - 1101013199

Course Number	Course Title	Credit Hours
NIS 160	Networking Core Technologies	3
NIS 211	Administering Microsoft Windows Professional	3
NIS 213	Administering Microsoft Windows Server	3
NIS 214	Supporting Windows Network Infrastructure	3
Electives (listed in the Network Administration Option—MCSA Track)		6
Total Credit Hours		15-18

Microsoft Networking—MCSE Track
Academic Plan Code - 1101013229

Course Number	Course Title	Credit Hours
NIS 160	Networking Core Technologies	3
NIS 211	Administering Microsoft Windows Professional	3
NIS 213	Administering Microsoft Windows Server	3
NIS 214	Supporting Windows Network Infrastructure	3
NIS 216	Implementing and Administering Microsoft Windows Director Services	3
NIS 244	Designing a Windows Networking Services Infrastructure	3
NIS 242	Designing a Windows Directory Services Infrastructure OR	3
NIS 245	Designing a Secure Windows Network	(3)
Electives (listed in the Network Administration Option—MCSE Track)		3
Total Credit Hours		24

Web Administrator

(Courses are listed by category and not necessarily in the order to be taken)

Academic Plan Code - 1101013159

Course Number	Course Title	Credit Hours
NIS 160	Networking Core Technologies	3
NIS 275	Internet Servers Administration	3
ET 232	Computer Software Maintenance OR	3
CIS 110	Operating Systems Concepts	(3)
ET 234	Computer Hardware Maintenance	3
IT 132	Web Page Development	3
NIS 150	Perl Programming I OR	3
NIS 152	Introduction to Javascript	(3)
Electives (listed in the option)		6
Total Credit Hours		24

Web Site Developer

Academic Plan Code - 1101013169

Course Number	Course Title	Credit Hours
CIS 120	Program Design and Development	3
IT 130	Web Site Design and Production	4
IT 132	Web Page Development	3
IT 170	Introduction to Database Design	3
IT 230	Advanced Web Page Development	3
IT 235	Data-Driven Web Design	3
Programming Languages		9
Electives (listed in the option)		6
Total Credit Hours		34

Beginning Level Programming Language Courses:

- CIS 143 COBOL Programming (3)
- IT 147 SQL Programming (3)
- CIS 148 Visual BASIC I (3)
- CIS 149 Java Programming I (3)
- CIS 155 C/C++ Programming I (3)
- CS 115 Introduction to Computer Programming (3)
- NIS 150 Perl Programming I* (3)
- NIS 152 Introduction to Javascript*

*Suggested for Electronic Commerce certificate

Intermediate Level Programming Language Courses:

- CIS 232 Programming for Windows Environment (3)
- CIS 143 COBOL Applications (3)
- CIS 252 C/C++ Programming II (3)
- CIS 262 C/C++ Programming III (3)
- CIS 248 Visual BASIC II: Desktop Applications (3)
- CIS 249 Java Programming II (3)
- CIS 250 Java Game Development I (4)
- CS 215 Introduction to Program Design, Abstraction, and Problem Solving (4)

Advanced Level Programming Language Courses:

- CIS 258 Visual BASIC III: Distributed Applications (3)
- CIS 259 Java Programming III (3)
- CIS 260 Java Game Development II (4)

Management Courses for Computer Programming Option

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BA 200	Small Business Management (3)
BA 274	Human Resource Management (3)
BA 287	Supervisory Management (3)
BA 288	Personal and Organizational Leadership (3)
MFG 256	Production Management (3)
OST 275	Office Management (3)
QMS 101	Introduction to Quality Systems (3)
QMS 201	Customer Service Improvement Skills (3)

Technical Electives for Computer Support Specialist Option

ACC 201	Financial Accounting (3)
BA 287	Supervisory Management (3)
BA 288	Personal and Organizational Leadership
OST 275	Office Management
IT 130	Web Site Design and Production (3)
IT 230	Advanced Web Page Development (3)
IT 147	SQL Programming
NIS 213	Administering Microsoft Windows Server
NIS 230	UNIX Administration
IT 235	Data-Driven Web Design
CIS 230	Advanced Microcomputer Applications* (3)
OST 225	Introduction to Desktop Publishing* (3)
IT 180	IT Project Management (3)

Other technical courses as approved by program coordinator

Technical Electives for Network Administration Option

COE 199	Cooperative Education (1-6)
NIS 270	Network Hardware Installation and Troubleshooting (3)
NIS 290	Selected Topics in NIS Technology (1-4)
NIS 295	Independent Problems in NIS (1-4)
CIS 280	Internship (3)
CMS 105	Multimedia Production and Applications I (3)
ET 102	Blueprint Reading (2)
ET 112	Digital Logic Circuits (4) OR
ENGT 220	Digital II (2) AND
ENGT 221	Digital II Lab (1)
ET 256	Microprocessor Fundamentals
NIS 246	Microsoft SQL Server System Administration (3)
NIS 247	Microsoft SQL Server Implementation (3)
IT 270	Database Systems – Implementation & Mgt (3)
NIS 262	Microsoft Internet Security and Acceleration Server (ISA) (3)
NIS 264	Implementing and Managing Microsoft Exchange Server (3)

Any course from another approved Networking Option Track
Other technical courses as approved by program coordinator

Technical Electives for MCSA Track:

NIS 216	Implementing and Administering Microsoft Windows Directory Services (3)
NIS 246	Microsoft SQL Server System Administration (3)
NIS 245	Designing a Secure Windows Network (3)
NIS 262	Microsoft Internet Security and Acceleration Server (ISA) (3)
NIS 264	Implementing and Managing Microsoft Exchange Server (3)
IT 210	Operation Systems Support* (3) AND
IT 215	Applications Support * (3)

*must be completed together to count as a single elective

Technical Electives for MCSE Track:

NIS 242	Designing a Windows Directory Services Infrastructure* (3)
NIS 245	Designing a Secure Windows Network* (3)
NIS 246	Microsoft SQL Server System Administration (3)
NIS 262	Microsoft Internet Security and Acceleration Server (ISA) (3)
NIS 264	Implementing and Managing Microsoft Exchange Server (3)
IT 250	Introduction to Security
IT 215	Applications Support * (3)

*must be different than the course chosen above

Technical Electives for Web Development and Administration Option

NIS 211	Administering Microsoft Windows Professional (3)
NIS 213	Administering Microsoft Windows Server (3)
IT 147	SQL Programming (3)
NIS 246	Microsoft SQL Server System Administration (3)
IT 240	XML (3)
IT 236	Active Server Pages (3)
IT 134	Macromedia Flash (3)
IT 270	Database Systems—Implementation & Management (3)