

Business, Management, Marketing & Technology Career Pathway

This pathway includes careers related to all aspects of business including accounting, business administration, finance, information processing and marketing. These may include advertising, entrepreneurship, sales, computer/information systems, human resources, office administration, economic and management and retailing.

Degrees/Certificates

- **Accounting/Finance**
- **Business Administration**
- **Business Skills**
- **Management**
- **Marketing**
- **Computer Programming Specialist**
- **Microcomputer Applications Specialist**
- **Microsoft Office User Specialist**
- **Networking Specialist**
- **Office Automation Specialist**

Transfer Programs

The first two years of a student's college education usually consists of general education courses, introductory courses in a major and/or program of study, and selected electives. See an academic advisor for a transfer guidesheet to the college/university of your choice. The guidesheet identifies JCC courses that transfer in your program of study. Refer to Pages 37-39 for additional information on transfer and MACRAO. *Sample curricula for a few popular transfer programs are included.*

- **Associate in Arts - Business**
- **AAS: Accounting or Business Administration to Siena Heights University**
- **Transfer -- Computer Science**

Accounting/Finance Associate in Applied Science

Accountants and auditors prepare, analyze and verify financial reports and taxes and monitor information systems that furnish this information to managers in business, industry and government.

The Accounting/Finance major prepares students for initial employment and develops competencies for those already in the field. Students develop skills in the posting and recording of financial data, use of computers, preparation of financial statements and reports, interpretation of financial information, and develop effective supervisory and communicative techniques and skills.

Typical job opportunities and places of employment are: junior accountant with public accounting firms, banks and other financial institutions, educational institutions and other profit and not-for-profit organizations.

Minimum credits: 63
 Minimum cumulative GPA: 2.0
 Minimum JCC credits: 12
 MACRAO agreement: No

GENERAL EDUCATION (17 credits)

ENGLISH (3 credits)
 ENG 131 Writing Experience3

MATHEMATICS (3 credits)
 MTH 120 Beginning Algebra or higher3

SCIENCE (4 credits)
 Choose one of the following:
 BIO 131 General Biology4
 CEM 121 Chemistry of Life4
 CEM 131 General Chemistry4
 CEM 151 General Inorganic Chemistry4
 GEL 160 Introduction to Geology4
 NSC 131 Contemporary Science4

PHY 131	Our Physical World	4
PHY 151	Astronomy	4

SOCIAL SCIENCE (3 credits)

Choose one of the following:

ECN 231	Macroeconomics	3
ECN 232	Microeconomics	3

HUMANITIES (3 credits)

Choose one of the following:

ART 112	Art History: Renaissance-Present	3
ENG 236	Women in a Changing Society	3
ENG 246	Short Story and Novels	3
ENG 247	Poetry and Drama	3
ENG 249	African American Literature	3
ENG 252	Shakespeare	3
ENG 255	American Literature 19th Century	3
ENG 256	American Literature 20th Century	3
ENG 257	World Literature I	3
HUM 131	Cultural Connections	3
MUS 131	Understanding Music	3
PHL 231	Introduction to Philosophy	3
PHL 232	Logic	3
THR 116	Introduction to Theatre	3

HEALTH/PHYSICAL FITNESS (1 credit)

Choose one of the following:

HPF 160	Wellness	1
HPF 168	Weight Training & Conditioning	2
HPF 221	Jazz Techniques	3
HPF 277	Stress Management	2
HPF 278	Stress Management for Parents	2

BUSINESS CORE REQUIREMENTS (22 credits)

ACC 231	Principles of Accounting I	4
BUS 101	Principles of Marketing	3
BUS 131	Introduction to Business	3
BUS 135	Business Law I	3
BUS 234	Principles of Management	3
ENG 232	Technical and Business Writing	3
ITE 101	Information Technology Education	3

ACCOUNTING PROGRAM REQUIREMENTS (24 credits)

ACC 115	Payroll Accounting*	2
ACC 145	Business Tax Accounting*	3
ACC 232	Principles of Accounting II	4
ACC 234	Managerial Accounting*	4
ACC 240	Intermediate Accounting*	4
ACC 245	Internship	3
FIN 100	Introduction to Wall Street	1
FIN 210	Principles of Finance*	3

*Courses with an asterisk typically are offered once a year at varying JCC campus sites.

Accounting/Finance Certificate

This 30-hour program prepares students for bookkeeping and related occupations. Job opportunities exist for audit clerks, general accounting clerks, credit card clerks in hotels and restaurants, general ledger bookkeepers and many more. Learn to keep accounting records and compile reports using computers and calculators; prepare payrolls, tax reports; compute, type, and mail monthly statements, keep general ledgers, and perform many other accounting functions.

Minimum credits: 30
 Minimum cumulative GPA: 2.0
 Minimum JCC credits: 12
 MACRAO agreement: No

GENERAL EDUCATION REQUIREMENTS (9 credits)

ENG 131	Writing Experience	3
ENG 232	Technical & Business Writing	3
MTH 120	Beginning Algebra or higher mathematics course	3

ACCOUNTING/FINANCE REQUIREMENTS (20 credits)

ACC 115	Payroll Accounting	2
ACC 231	Principles of Accounting I	4
ACC 232	Principles of Accounting II	4
FIN 100	Introduction to Wall Street	1
FIN 210	Principles of Finance	3
ITE 101	Information Technology Education	3
ITE 130	Microsoft Excel	3

ELECTIVES

Select electives from classes in ACC, BUS, ECN, FIN, or ITE so that the certificate equals 30 credits.

Business Administration Associate in Applied Science

This is a broad-based program of business studies. This program allows the student to customize a program of study that meets the specific employment and/or transfer needs of the student.

Minimum credits: 60
 Minimum cumulative GPA: 2.0
 Minimum JCC credits: 12
 MACRAO agreement: No

GENERAL EDUCATION REQUIREMENTS (17 credits)

ENGLISH (3 credits)

ENG 131	Writing Experience	3
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MATHEMATICS (3 credits)

MTH 112	Business Math	3
or MTH 120	Beginning Algebra	4

SCIENCE (4 credits)

Choose one of the following:

BIO 131	General Biology	4
CEM 121	Chemistry of Life	4
CEM 131	General Chemistry	4
CEM 151	General Inorganic Chemistry	4
GEL 160	Introduction to Geology	4
NSC 131	Contemporary Science	4
PHY 131	Our Physical World	4
PHY 151	Astronomy	4

SOCIAL SCIENCE (3 credits)

Choose one of the following:

ECN 231	Macroeconomics	3
ECN 232	Microeconomics	3

HUMANITIES (3 credits)

Choose one of the following:

ART 112	Art History: Renaissance-Present	3
ENG 236	Women in a Changing Society	3
ENG 246	Short Story and Novels	3
ENG 247	Poetry and Drama	3
ENG 249	African American Literature	3
ENG 252	Shakespeare	3
ENG 255	American Literature 19th Century	3
ENG 256	American Literature 20th Century	3
ENG 257	World Literature I	3
HUM 131	Cultural Connections	3
MUS 131	Understanding Music	3
PHL 231	Introduction to Philosophy	3
PHL 232	Logic	3
THR 116	Introduction to Theatre	3

HEALTH/PHYSICAL FITNESS (1 credit)

Choose one of the following:

HPF 160	Wellness	1
HPF 168	Weight Training & Conditioning	2
HPF 221	Jazz Techniques	3
HPF 277	Stress Management	2
HPF 278	Stress Management for Parents	2

BUSINESS CORE REQUIREMENTS (22 credits)

Choose from the following:

ACC 216	Financial Accounting Concepts	4
or ACC 231	Principles of Accounting I	4
BUS 101	Principles of Marketing	3
BUS 131	Introduction to Business	3
BUS 135	Business Law I	3
BUS 234	Principles of Management	3
ENG 232	Business and Technical Writing	3
ITE 101	Information Technology Education	3

ELECTIVES (21 credits)

Choose from the following:

ACC 115	Payroll Accounting*	2
ACC 211	General Accounting	4
ACC 145	Business Tax Accounting*	3
ACC 232	Principles of Accounting II	4
ACC 234	Managerial Accounting*	4
ACC 240	Intermediate Accounting*	4
BUS 105	Customer Service*	3
BUS 132	Advertising & Promotion*	3
BUS 145	Business Law II*	3
BUS 150	Leadership	3

BUS 155	Human Relations in Business	3
BUS 200	E-Commerce*	3
BUS 223	Human Resource Management*	3
BUS 233	Sales*	3
BUS 235	Retailing*	3
BUS 236	Small Business Management*	3
BUS 243	Business Problems & Solutions*	3
BUS 245	Internship	3
ECN 231	Macroeconomics	3
ECN 232	Microeconomics	3
FIN 100	Introduction to Wall Street	1
FIN 101	Personal Finance*	3
FIN 102	Introduction to Wall Street II*	1

*Courses with an asterisk typically are offered once a year at varying JCC campus sites.

Business Administration Certificate

The Business Administration Certificate will develop your awareness in all of the functional aspects of the business world where you can use your ability to get along with people, develop your leadership potential, and use your oral and written communication skills. Jobs may be found in insurance companies, hospitals and health-care facilities, educational institutions, transportation and distribution centers, government agencies and manufacturing firms in a variety of departments. This program also consists of the foundational courses you need should you want to pursue degree in the future.

Minimum credits: 30
Minimum cumulative GPA: 2.0
Minimum JCC credits: 12
MACRAO agreement: No

GENERAL EDUCATION REQUIREMENTS (9 credits)

ENG 131	Writing Experience	3
ENG 232	Technical & Business Writing	3
MTH 112	Business Math or MTH 120 or higher	3

BUSINESS ADMINISTRATION REQUIREMENTS

(19 credits)

ACC 216	Financial Accounting Concepts or	
ACC 231	Principles of Accounting	4
BUS 101	Principles of Marketing	3
BUS 131	Introduction to Business	3
BUS 135	Business Law I	3
BUS 234	Principles of Management	3
ITE 101	Information Technology Education	3

ELECTIVES

Select electives from classes in ACC, BUS, ECN, FIN, or ITE so that the certificate equals 30 credits.

Business Skills Certificates

ADVANCED CERTIFICATE- MANAGEMENT (16 credits)

This certificate prepares students for management, leadership, and supervisory positions in any business or industry. It is designed for students who already possess an A.A., A.A.S., B.A., or B.S. degree or 10 years work experience. Students acquire skills in leadership, human behavior, problem solving and critical thinking. Students learn to effectively manage human resources and develop solutions to complex management problems.

BUS 150	Leadership	3
BUS 223	Human Resource Management	3
BUS 243	Business Problems and Solutions	3
PSY 140	Intro to Psychology	4
PSY 151/ SOC 152	Social Psychology	3

CERTIFICATE OF COMPLETION – E-COMMERCE (16 credits)

This program is designed to study the blending of business and technology using the Internet to achieve an organization's mission. Students will study and apply uses of hardware, software, and communication as tools of the Internet and develop business strategies integrating these tools.

BUS 132	Advertising and Promotion	3
BUS 200	E-Commerce	3
ITE 101	Information Technology Education	3
ITE 042	Microsoft Front Page	1
ITE 273	Graphic Imaging	3
ITE 275	Web Page Design	3

CERTIFICATE OF COMPLETION – ENTREPRENEURSHIP (17 credits)

Do you have what it takes to own your own business? Discover that, as well as sources of financing, forms of legal ownership, niche marketing, and most importantly, how to avoid business failure.

ACC 130	QuickBooks	2
BUS 101	Marketing	3
BUS 132	Advertising & Promotion	3
BUS 200	E-Commerce	3
BUS 233	Sales	3
BUS 236	Small Business Management	3

CERTIFICATE OF COMPLETION – FINANCIAL SERVICES (14 credits)

This certificate prepares students for work in the banking and financial services industries. Job opportunities could include introductory positions with banks (teller or customer service representative), trust offices, pension and retirement planning firms, personal financial planning groups and investment brokerage houses (clerk or customer service representative.) Students acquire skills in customer relations and financial problem solving. Students learn about financial markets and economic issues.

BUS 105	Customer Service	3
BUS 155	Human Relations	3
ECN 232	Microeconomics	3
FIN 100	Intro to Wall Street	1
FIN 101	Personal Finance	3
FIN 102	Wall Street 2	1

Management Certificate

Minimum credits: 30
Minimum cumulative GPA: 2.0
Minimum JCC credits: 12
MACRAO agreement: No

GENERAL EDUCATION REQUIREMENTS (9 credits)

ENG 131	Writing Experience	3
ENG 232	Technical & Business Writing	3
MTH 112	Business Math	3
or MTH 120*	Beginning Algebra	4

MANAGEMENT REQUIREMENTS (16 credits)

ACC 216	General Accounting	4
or ACC 231*	Principles of Accounting I	4
BUS 131	Introduction to Business	3
BUS 150	Leadership	3
BUS 155	Human Relations	3
BUS 234	Business Management	3

ELECTIVES

Select electives from classes in ACC, BUS, ITE, ECN, FIN, SPH so that the certificate equals 30 credits.

*MTH 120 or equivalent is a requirement for ACC 231.

Marketing Certificate

Individuals considering a marketing career should be good listeners, enjoy current events and look forward to the business challenges that come with changing cultural habits. Also important are the abilities to think creatively, communicate effectively, and manage time wisely to meet deadlines.

Minimum credits: 30
Minimum cumulative GPA: 2.0
Minimum JCC credits: 12
MACRAO agreement: No

GENERAL EDUCATION REQUIREMENTS (9 credits)

ENG 131	Writing Experience	3
ENG 232	Technical & Business Writing	3
MTH 112	Business Math	3
or MTH 120 or higher		

MARKETING REQUIREMENTS (18 credits)

BUS 101	Principles of Marketing	3
BUS 132	Advertising & Promotion	3
BUS 155	Human Relations	3
BUS 200	E-Commerce	3
BUS 233	Sales	3
BUS 235	Retailing	3

ELECTIVES

Select electives from classes in ACC, BUS, ECN, FIN, or ITE so that the certificate equals 30 credits.

Computer Programming Specialist

Associate in Applied Science

Programmers write the detailed sets of instructions computers understand and act on. Emphasis is placed on computer information systems, programming language, concepts and designs, logic and theory. Job opportunities may include applications programmer, assistant statistician, computer operator, information office systems manager, operations scheduler, systems analyst or programmer.

Minimum credits: 60

Minimum cumulative GPA: 2.0

Minimum JCC credits: 12

MACRAO agreement: No

GENERAL EDUCATION REQUIREMENTS (18 credits)

ENGLISH (3 credits)

ENG 131	Writing Experience	3
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MATHEMATICS (4 credits)

MTH 131	Intermediate Algebra	4
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SCIENCE (4 credits)

Choose one of the following:

BIO 131	General Biology	4
CEM 121	Chemistry of Life	4
CEM 131	General Chemistry	4
CEM 151	General Inorganic Chemistry	4
GEL 160	Introduction to Geology	4
NSC 131	Contemporary Science	4
PHY 131	Conceptual Physics	4
PHY 151	Astronomy	4

SOCIAL SCIENCE (3 credits)

ECN 231	Macroeconomics	3
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HUMANITIES (3 credits)

Choose one of the following:

ART 112	Art History: Renaissance - Present	3
ENG 210	Introduction to Film	3
ENG 236	Women in a Changing Society	3
ENG 246	Short Story & Novel	3
ENG 247	Poetry and Drama	3
ENG 249	African American Literature	3
ENG 252	Shakespeare	3

ENG 255	American Literature 19th Century	3
ENG 256	American Literature 20th Century	3
ENG 257	World Literature I	3
HUM 131	Cultural Connections	3
MUS 130	Survey of Non-Western Music	3
MUS 131	Understanding Music	3
PHL 231	Introduction to Philosophy	3
PHL 232	Logic	3
THR 116	Introduction to Theatre	3

HEALTH/PHYSICAL FITNESS (1 credit)

Choose one of the following:

HPF 160	Wellness	1
HPF 168	Weight Training & Conditioning	2
HPF 221	Jazz Techniques	3
HPF 277	Stress Management	2
HPF 278	Stress Management for Parents	2

RELATED REQUIREMENTS (16 credits)

ACC 211	General Accounting	4
or ACC 231	Principles of Accounting	4
BUS 101	Marketing	3
or BUS 131	Introduction to Business	3
ENG 232	Technical & Business Writing	3
ITE 101	Information Technology Education	3

Choose 3 credits from the following:

BUS 150	Leadership	3
BUS 234	Business Management	3
BUS 236	Small Business Management	3
BUS 243	Management Problems	3

INFORMATION TECHNOLOGY EDUCATION REQUIREMENTS

(26 credits)

ITE 108	Business Prog: Logic & Theory	3
ITE 111	Systems Concepts and Design	3
ITE 112	Information Systems	3

Choose 6 credits from the following:

EET 110	PC Theory and Service	2
ITE 083	Windows Workshop	1
ITE 127	Comprehensive MS ACCESS	3
ITE 220	Networking Technologies	3
ITE 221	Networking Administration	3
MTH 133	Intro to Probability and Statistics	3

TAKE 2 CREDITS IN OPERATING SYSTEMS:

ITE 047	Operating Systems: UNIX	1
ITE 067	MS-DOS Workshop	1

TAKE 6 CREDITS FROM ONE OF THE FOLLOWING GROUPS:

BASIC

ITE 117	Computer Programming-BASIC	3
ITE 134	Computer Programming -Visual Basic	3
ITE 135	Advanced Visual Basic	3

PROGRAMMING in C++

ITE 182	Programming in C++	3
ITE 183	Programming in Visual C++	3

PROGRAMMING In JAVA

ITE 150	JAVA Programming	4
ITE 151	Advanced JAVA Programming	3

CHOOSE 3 CREDITS OF PROGRAMMING LANGUAGE NOT TAKEN ABOVE:

ITE 117	Computer Programming – BASIC	..... 3
ITE 134	Computer Programming – Visual Basic	... 3
ITE 150	JAVA Programming	..... 4
ITE 182	Programming in C++	..... 3

NOTE: A course may not count for more than one requirement.

Computer Programming Specialist Certificate

Minimum credits: 38
 Minimum cumulative GPA: 2.0
 Minimum JCC credits: 12
 MACRAO agreement: No

INFORMATION TECHNOLOGY EDUCATION

REQUIREMENTS (38 credits)

ITE 101	Intro to Information Technology	..... 3
ITE 108	Business Programming: Logic & Theory	... 3
ITE 111	Systems Concepts and Design	..... 3
ITE 112	Information Systems	..... 3

CHOOSE 3 CREDITS FROM THE FOLLOWING:

EET 110	PC Theory and Service	..... 2
ITE 127	Comprehensive MS ACCESS	..... 3
ITE 220	Networking Technologies	..... 3
ITE 221	NetWare Administration	..... 3
MTH 133	Introduction to Probability & Statistics	..... 3
ITE 083	Windows Workshop	..... 1

CHOOSE 2 CREDITS IN OPERATING SYSTEMS:

ITE 047	Operating Systems: UNIX	..... 1
ITE 049	Windows NT	..... 1
ITE 067	MS-DOS Workshop	..... 1

TAKE ALL OF THE FOLLOWING:

ENG 131	Writing Experience	..... 3
ENG 232	Technical & Business Writing	..... 3
MTH 120	Beginning Algebra	..... 4
or MTH 112	Business Math	..... 3
	or higher level mathematics course	

CHOOSE 3 CREDITS OF THE FOLLOWING:

ACC 211	General Accounting	..... 4
or ACC 231	Principles of Accounting	..... 4
BUS 101	Marketing	..... 3
or BUS 131	Introduction to Business	..... 3

CHOOSE 6 CREDITS FROM ONE OF THE FOLLOWING GROUPS:

BASIC

ITE 117	Computer Programming - BASIC	..... 3
ITE 134	Visual BASIC	..... 3
ITE 135	Advanced Visual BASIC	..... 3

PROGRAMMING IN C++

ITE 182	Programming in C++	..... 3
ITE 183	Programming in Visual C++	..... 3

PROGRAMMING IN JAVA

ITE 150	JAVA Programming	..... 4
ITE 151	Advanced JAVA Programming	..... 3

Choose 3 credits of Programming Language not taken above:

ITE 117	Computer Programming - BASIC	..... 3
ITE 134	Visual BASIC	..... 3
ITE 150	JAVA Programming	..... 4
ITE 182	Programming in C++	..... 3

NOTE: A course may not count for more than one requirement.

Microcomputer Applications Specialist Associate in Applied Science

Students completing this certificate are prepared to assume a variety of positions in an automated office setting. The program recognizes the increasingly important role of the microcomputer in modern business and is designed to assist students develop skills in the use of microcomputer applications.

Depending upon the curriculum students choose, career choices may include applications specialist, information office manager, end user support technician, information systems associate, personal computer (PC) coordinator, or software specialist.

Minimum credits: 61
 Minimum cumulative GPA: 2.0
 Minimum JCC credits: 12
 MACRAO agreement: No

GENERAL EDUCATION REQUIREMENTS (17 credits)

ENGLISH (3 credits)

ENG 131	Writing Experience 3
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MATHEMATICS (3 credits)

MTH 120	Beginning Algebra 3
	or higher mathematics course 3

SCIENCE (4 credits)

Choose one of the following:

BIO 131	General Biology	..... 4
CEM 121	Chemistry of Life	..... 4
CEM 131	General Chemistry	..... 4
CEM 151	General Inorganic Chemistry	..... 4
GEL 160	Introduction to Geology	..... 4
NSC 131	Contemporary Science	..... 4
PHY 131	Conceptual Physics 4
PHY 151	Astronomy 4

SOCIAL SCIENCE (3 credits)

ECN 231	Macroeconomics 3
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BUSINESS MANAGEMENT MARKETING AND TECHNOLOGY

HUMANITIES (3 credits)

Choose one of the following:

ART 112	Art History: Renaissance - Present	.3
ENG 236	Women in a Changing Society	.3
ENG 246	Short Story & Novel	.3
ENG 247	Poetry and Drama	.3
ENG 249	African American Literature	.3
ENG 252	Shakespeare	.3
ENG 255	American Literature - 19th Century	.3
ENG 256	American Literature - 20th Century	.3
ENG 257	World Literature I	.3
HUM 131	Cultural Connections	.3
MUS 131	Understanding Music	.3
PHL 231	Introduction to Philosophy	.3
PHL 232	Logic	.3
THR 116	Introduction to Theatre	.3

HEALTH / PHYSICAL FITNESS (1 credit)

Choose one of the following:

HPF 160	Wellness	.1
HPF 168	Weight Training & Conditioning	.2
HPF 221	Jazz Techniques	.3
HPF 277	Stress Management	.2
HPF 278	Stress Management for Parents	.2

RELATED REQUIREMENTS (16 credits)

ACC 211	General Accounting	.4
or ACC 231	Principles of Accounting	.4
BUS 101	Marketing	.3
or BUS 131	Introduction to Business	.3
ENG 232	Technical & Business Writing	.3
ITE 101	Information Technology Education	.3

CHOOSE 3 CREDITS FROM THE FOLLOWING:

BUS 150	Leadership	.3
BUS 155	Human Resources Business	.3
BUS 234	Business Management	.3
BUS 236	Small Business Management	.3
BUS 243	Business Problems and Solutions	.3

INFORMATION TECHNOLOGY EDUCATION REQUIREMENTS (28 credits)

ITE 047	Operating System - UNIX	.1
ITE 050	Internet	.1
ITE 067	MS DOS Workshop	.1
ITE 083	Windows Workshop	.1
ITE 092	PowerPoint Workshop	.1
ITE 112	Information Systems	.3
ITE 127	MS Access Comprehensive	.3
ITE 130	Microsoft Excel	.3
ITE 134	Visual BASIC	.3
ITE 171	Desktop Publishing	.3
ITE 186	Microsoft Word	.3
ITE 221	Netware Administration	.3
EET 110	PC Theory and Service	.2

Suggested Course Sequence For Microcomputer Applications Specialist Two-Year Associate Degree

First Year, Fall Semester (15 credits)

ENG 131, MTH 120 or higher, ITE 101, ITE 186, ITE 067, EET 110

First Year, Winter Semester (16 credits)

ITE 130, ECN 231, ITE 112, BUS 101 or BUS 131, ITE 171, ITE 047

First Year, Spring Semester (1 credit)

Health/Physical Fitness course

Second Year, Fall Semester (14 credits)

ENG 232, ACC 211 or ACC 231, BUS 150 or BUS 155 or BUS 234 or BUS 236 or BUS 243, ITE 221, ITE 050

Second Year, Winter Semester (15 credits)

ITE 127, Science course, ITE 083, Humanities course, ITE 092, ITE 134

Microcomputer Application Specialist Certificate

Minimum credits: 41

Minimum cumulative GPA: 2.0

Minimum JCC credits: 12

MACRAO agreement: No

INFORMATION TECHNOLOGY REQUIREMENTS

(38 credits)

ITE 047	Operating System – UNIX	.1
ITE 050	Internet	.1
ITE 067	MS DOS Workshop	.1
ITE 083	Windows Workshop	.1
ITE 092	PowerPoint Workshop	.1
ITE 101	Information Technology Education	.3
ITE 112	Information Systems	.3
ITE 127	MS Access Comprehensive	.3
ITE 130	Microsoft Excel	.3
ITE 134	Visual BASIC	.3
ITE 171	Desktop Publishing	.3
ITE 186	Microsoft Word	.3
ITE 221	Netware Administration	.3
ENG 131	Writing Experience	.3
ENG 232	Technical & Business Writing	.3
MTH 120	Beginning Algebra or higher	.3

PLUS One course from the following: (3-4 credits)

ACC 211	General Accounting	.4
ACC 231	Principles of Accounting	.4
BUS 101	Marketing	.3
BUS 131	Introduction to Business	.3
BUS 150	Leadership	.3
BUS 155	Human Resources Business	.3

Suggested Course Sequence For Microcomputer Applications Specialist One-Year Certificate Degree

Fall Semester (17 credits)

ENG 131, ITE 050, ITE 083, ITE 101, ITE 130, ITE 134, ITE 186

Winter Semester (12 credits)

ITE 047, ITE 067, ITE 112, ITE 127, ITE 092, ITE 171

Spring Semester (3 credits)

MTH 120 or higher

Second Fall Semester (9-10 credits)

ACC 211 or ACC 231 or BUS 101 or BUS 131 or BUS 150 or BUS 155, ENG 232, ITE 221

Microsoft Office User Specialist Certificate

Students completing this certificate are prepared to assume a variety of positions in an automated office setting. The program recognizes the increasingly important role of the personal computer in modern business and is designed to assist students develop skills in the use of word/information processing, database development and management, spreadsheets and graphing, personal management, project management, and electronic presentations.

The Microsoft Office User Specialist program provides a framework for measuring student proficiency with Microsoft Office applications. It provides an industry-recognized standard for measuring an individual's mastery of "Office" applications. The courses at Jackson Community College for this program are geared toward the "Expert" level. The successful completion of Microsoft Office sponsored exams are in addition to the successful completion of JCC's courses for credit. For specific information on Microsoft Certification, students will need to talk with the program advisor.

Students completing the program could be hired as secretaries, office managers, administrative assistants, and stenographers.

Minimum credits: 38
Minimum cumulative GPA: 2.0
Minimum JCC credits: 12
MACRAO agreement: No

GENERAL EDUCATION REQUIREMENTS (6 credits)

ENG 131 Writing Experience 3
MTH 120 Beginning Algebra 4
or MTH 133 Intro to Probability & Statistics 3

RELATED CORE REQUIREMENTS (10 credits)

ACC 211 General Accounting 4
or ACC 231 Principles of Accounting I 4
BUS 150 Leadership 3
or BUS 155 Human Relations in Business 3
ITE 101 Information Technology Education 3

MICROSOFT OFFICE SPECIALIST REQUIREMENTS (19 credits)

ITE 042 MS FrontPage Workshop 1
ITE 043 Microsoft Outlook Workshop 1
ITE 092 Microsoft PowerPoint Workshop 1
ITE 127 Microsoft Access: Comprehensive 3
ITE 129 Office Administrative Systems 4
ITE 130 Microsoft Excel 3
ITE 186 Microsoft Word 3
ENG 232 Technical & Business Writing 3

CHOOSE 3 CREDITS FROM THE FOLLOWING:

ITE 044 Microsoft Office Integration Workshop 1
ITE 050 Internet 1
ITE 067 DOS Workshop 1
ITE 083 Windows Workshop 1
ITE 134 Visual BASIC 3
ITE 171 Desktop Publishing 3
ITE 245 Internship 1-6
BUS 239 Project Management 3
SEC 132 Intermediate Keyboard/Typing 3

Sample Curriculum for Microsoft Office User Specialist Certificate

Fall Semester (17 credits)

ENG 131, MTH 120 or higher, ITE 101, ACC 211 or ACC 231, ITE 186

Winter Semester (15 credits)

ITE 129, ENG 232, ITE 043, ITE 092, ITE 127, ITE 130

Spring Semester (6 credits)

BUS 150 or BUS 155, 3 other credits

Networking Specialist Certificate

Networking involves the hardware, software and communication channels necessary to allow computers to talk to each other. Students will study various components of computer networking. After each Novell class, students can apply through Novell to take Novell certification testing in the specific topic area. Students who pass all seven exams are recognized as Certified Novell Engineers (CNE) or Microsoft Certified Systems Engineers (MCSE). Students who can complete ITE 221- NetWare Administration can sit for the appropriate exam and earn certification as a Certified Novell Administrator (CNA). Many organizations now use computer networks and need networking specialists to maintain their networks. Several other occupations may utilize networking skills, such as office assistants, accountants or managers.

Minimum credits: 35
Minimum cumulative GPA: 2.0
Minimum JCC credits: 12
MACRAO agreement: No

INFORMATION TECHNOLOGY EDUCATION

REQUIRED COURSES (12 credits)

MTH 131	Intermediate Algebra or higher level	. . . . .	.3
ENG 131	Writing Experience	. . . . .	.3
ENG 232	Technical & Business Writing	. . . . .	.3
ITE 101*	Information Technology Education	. . . . .	.3

* ITE 101 is a prerequisite for ITE 261; students with one year of information technology work experience may be eligible to substitute another elective for ITE 101.

CHOOSE EITHER OPTION 1 OR OPTION 2

OPTION 1 - INFORMATION TECHNOLOGY CORE

MICROSOFT OPTION (25 credits)

ITE 220	Networking Technologies (565)	. . . . .	.3
ITE 261	Windows 2000 Networking 1..	. . . . .	.3
ITE 262	Windows 2000 Networking 2...	. . . . .	.4
ITE 263	Windows 2000 Networking 3...	. . . . .	.3
ITE 264	Windows 2000 Networking 4...	. . . . .	.3
ITE 265	Designing a MS Windows 2000 Directory Services Infrastructure	. . . . .	.3
ITE 266	Designing a MS Windows 2000 Networking Services Infrastructure	. . . . .	.3
ITE 267	Designing a Secure Microsoft Windows 2000 Network	. . . . .	.3

OPTION 2 - INFORMATION TECHNOLOGY CORE

NOVELL OPTION (15 credits)

ITE 220	Networking Technologies (565)	. . . . .	.3
ITE 221	NetWare Administration (560)	. . . . .	.3
ITE 222	NetWare Adv. Administration (570)	. . . . .	.3
ITE 224	NDS Design and Implementation (575)	. . . . .	.2
ITE 225	NetWare Service and Support (580)	. . . . .	.3
ITE 227	TCPIP For Networking Professionals	. . . . .	.1

ITE ELECTIVES (5 Credits)

ITE 047	UNIX	. . . . .	.1
ITE 050	Internet	. . . . .	.1
ITE 067	MS-DOS	. . . . .	.1
ITE 108	Business Programming: Logic & Theory	. . . . .	.3
ITE 117	BASIC Programming	. . . . .	.3
ITE 134	Visual BASIC Programming	. . . . .	.3
ITE 150	JAVA Programming	. . . . .	.4
ITE 151	Adv. JAVA Programming	. . . . .	.3
ITE 182	Programming in C++	. . . . .	.3
ITE 183	Visual C++	. . . . .	.3

BUSINESS ELECTIVES (3 Credits)

ACC 231	Principles of Accounting	. . . . .	.4
BUS 101	Marketing	. . . . .	.3
BUS 131	Introduction to Business	. . . . .	.3

Sample Curriculum For Networking Specialist Certificate – Microsoft Option

Semester 1

ITE 101, ITE 220, ITE 261, ITE 262, ENG 131

Semester 2

ITE 263, ITE 264, ENG 232, MTH 131, Electives (2-3 credits)

Semester 3

ITE 265, ITE 266, ITE 267, Electives (5-6 credits)

Sample Curriculum For Networking Specialist Networking Specialist Certificate – Novell Option

Semester 1

ITE 101, ITE 220, ITE 221, ENG 131, Electives (3-4 credits) . .

Semester 2

ITE 222, ITE 224, ITE 225, ITE 227, ENG 232, MTH 131

Semester 3

Electives (4-5 credits)

Office Automation Specialist Associate in Applied Science

This program is for students desiring to obtain an Associate degree after obtaining a certificate in the Microsoft Office User Specialist program or who would like to graduate with training that provides a high degree of competency for career entry and/or advancement in the automated business world. Students will be able to develop a mastery of Microsoft Office applications and receive certification from the Microsoft Corporation upon passing the “Expert” and/or “Core” levels of certification. In addition, students will be able to create flyers, reports, spreadsheets with charts, databases, create electronic presentations, and have general office skills. Students completing this program could be hired for above entry-level positions such as administrative assistant or office manager.

Minimum credits: 63

Minimum cumulative GPA: 2.0

Minimum JCC credits: 12

MACRAO agreement: No

GENERAL EDUCATION REQUIREMENTS (17 credits)

ENGLISH (3 credits)

ENG 131 Writing Experience 3

MATHEMATICS (3 credits)

MTH 120 Beginning Algebra 3
or higher level mathematics course

SCIENCE (4 credits)

Choose one of the following:

BIO 131	General Biology	. . . . .	.4
CEM 121	Chemistry of Life	. . . . .	.4
CEM 131	General Chemistry	. . . . .	.4
CEM 151	General Inorganic Chemistry	. . . . .	.4
GEL 160	Introduction to Geology	. . . . .	.4
NSC 131	Contemporary Science	. . . . .	.4
PHY 131	Conceptual Physics	. . . . .	.4
PHY 151	Astronomy	. . . . .	.4

SOCIAL SCIENCE (3 credits)
 ECN 231 Macroeconomics 3

HUMANITIES (3 credits)
 Choose one of the following:
 ART 112 Art History: Renaissance to Present 3
 ENG 210 Introduction to Film 3
 ENG 236 Women in a Changing Society 3
 ENG 246 Short Story & Novel 3
 ENG 247 Poetry and Drama 3
 ENG 249 African American Literature 3
 ENG 252 Shakespeare 3
 ENG 255 American Literature 19th Century 3
 ENG 256 American Literature 20th Century 3
 ENG 257 World Literature I 3
 HUM 131 Cultural Connections 3
 MUS 131 Understanding Music 3
 PHL 231 Introduction to Philosophy 3
 PHL 232 Logic 3
 THR 116 Introduction to Theatre 3

HEALTH/PHYSICAL FITNESS (1 credit)
 Choose one of the following:
 HPF 160 Wellness 1
 HPF 168 Weight Training & Conditioning 2
 HPF 221 Jazz Techniques 3
 HPF 277 Stress Management 2
 HPF 278 Stress Management for Parents 2

RELATED REQUIREMENTS (19 Credits)
 ACC 211 General Accounting 4
 or ACC 231 Principles of Accounting I..... 4
 BUS 131 Intro to Business 3
 BUS 150 Leadership 3
 or BUS 155 Human Relations in Business 3
 ENG 232 Technical & Business Writing 3
 ITE 101 Information Technology Education 3
 ITE 171 Desktop Publishing 3

OFFICE AUTOMATION REQUIREMENTS
CHOOSE OPTION 1 OR OPTION 2

OPTION 1 (27 credits)
 ACC 130 Quick Books Pro 2
 BUS 239 Project Management 3
 ITE 042 Microsoft FrontPage Workshop 1
 ITE 043 Microsoft Outlook Workshop 1
 ITE 083 Windows Workshop 1
 ITE 113 MS Office Pro Integration 3
 ITE 114 Advanced MS Office 3
 ITE 129 Office Administrative Systems 4
 ITE 245 Internship 1-6
 SEC 132 Intermediate Keyboard/Typing 3

ELECTIVES
 Select from ITE classes to meet 63 credit degree requirement

OPTION 2 (27 credits)
 ACC 130 Quick Books Pro 2
 BUS 239 Project Management 3
 ITE 042 Microsoft FrontPage Workshop 1
 ITE 043 Microsoft Outlook Workshop 1
 ITE 083 Windows Workshop 1

ITE 092 Microsoft PowerPoint Workshop 1
 ITE 127 Microsoft Access Comprehensive 3
 ITE 129 Office Administrative Systems 4
 ITE 130 Microsoft Excel 3
 ITE 186 Microsoft Word 3
 ITE 245 Internship 1-6
 SEC 132 Intermediate Keyboard/Typing 3

ELECTIVES
 ITE 044 MS Office Integration 1
 ITE 050 Internet 1
 ITE 067 Microsoft-DOS Workshop 1
 ITE 117 Computer Programming: BASIC 3
 ITE 128 Multimedia Applications 3
 ITE 134 Visual BASIC 3
 ITE 221 Netware Administration 3

Sample Curriculum For Office Automation Specialist

OPTION 1

First Year, Fall Semester
 ITE 083, ENG 131, ITE 101, ITE 113, MTH 120 or higher,
 SEC 132

First Year, Winter Semester
 ACC 211 or ACC 231, BUS 131, BUS 150 or 155, ITE 042,
 ITE 043, ITE 114

First Year, Spring Semester
 HPF Course, Elective

Second Year, Fall Semester
 ITE 171, ACC 130, ENG 232, ECN 231, Science Course

Second Year, Winter Semester
 ITE 129, ITE 245, Humanities Course, Electives

Second Year, Spring Semester
 BUS 239

OPTION 2

First Year, Fall Semester
 083, ENG 131, ITE 101, ITE 186, MTH 120 or higher, SEC 132

First Year, Winter Semester
 ACC 211 or ACC 231, BUS 131, BUS 150 or BUS 155, ITE 042,
 ITE 043, ITE 130, ITE 092

First Year, Spring Semester
 HPF Course

Second Year, Fall Semester
 ACC 130, ECN 231, ENG 232, ITE 127

Second Year, Winter Semester
 Science course, Humanities Course, ITE 171,
 ITE 245, elective

Second Year, Spring Semester
 BUS 239

Transfer Programs

Associate in Arts - Business

Minimum credits: 60
 Minimum cumulative GPA: 2.0
 Minimum JCC credits: 12
 MACRAO Agreement: No

Completion of this degree will allow a student to transfer to those institutions currently subscribing to the MACRAO Transfer Agreement. It will not, however, ensure that the student will be admitted to the university's college of business since admission to the university and admission to the college of business are two separate processes. All students electing this degree are strongly encouraged to make an appointment with a transfer advisor in the business department no later than the second semester of the freshman year. Students should also contact their intending transfer institution for advising purposes. Sample curricula for a few popular programs are included.

NOTE: Only courses with a 2.0 or better will transfer to most four-year colleges and universities. If you want to complete the MACRAO Articulation Agreement, you will need to plan your courses carefully. Completion of the Associate in Arts - Business Transfer Degree does NOT guarantee the MACRAO designation.

GENERAL EDUCATION REQUIREMENTS (18 credits)

ENGLISH (3 credits)

ENG 131 Writing Experience 3

MATHEMATICS (4 credits)

Choose one of the following:

MTH 140 Precalculus 5
 MTH 151 Calculus I 4

SCIENCE (4 credits)

Choose one of the following:

BIO 131 General Biology 4
 BIO 132 Human Biology 4
 BIO 151 General Botany 4
 BIO 152 General Zoology 4
 BIO 155 Human Anatomy & Physiology 5

SOCIAL SCIENCE (3 credits)

ECN 231 Macroeconomics 3

HUMANITIES (3 credits)

Choose one of the following:

ART 111 Art History: Prehistoric to 1400 3
 ART 112 Art History: Renaissance to Present 3
 ENG 246 Short Story & Novel 3
 ENG 247 Poetry & Drama 3
 ENG 249 African-American Literature 3
 ENG 252 Shakespeare 3
 ENG 255 American Literature – 19th Century 3
 ENG 256 American Literature – 20th Century 3
 ENG 257 World Literature I 3
 ENG 261 Creative Writing I 3
 ENG 262 Creative Writing II 3
 HUM 131 Cultural Connections 3
 PHL 231 Introduction to Philosophy 3
 PHL 232 Logic 3
 THR 116 Introduction to Theatre 3

HEALTH AND FITNESS (1 credit)

Choose one of the following:

HPF 160 Wellness 1
 HPF 168 Weight Training & Conditioning 2
 HPF 221 Jazz Techniques 3
 HPF 268 Advanced Weight Training 2
 HPF 277 Stress Management 2
 HPF 278 Stress Management for Parents 2

BUSINESS CORE (17 credits)

ACC 231 Principles of Accounting I 4
 ACC 232 Principles of Accounting II 4
 ECN 232 Microeconomics 3

Choose two from the following:

BUS 101 Principles of Marketing 3
 BUS 131 Introduction to Business 3
 BUS 234 Principles of Management 3

MAJOR REQUIREMENTS: (19 credits)

HUMANITIES (6 credit hours)

Choose Two courses in Two different disciplines from the list above.

ENGLISH (3 credits)

ENG 132 Writing Experience 3

TECHNOLOGY (3 credits)

ITE 101 Information Technology Education 3

SOCIAL SCIENCE (3 credits)

Choose one course from the following:

ANT 131 Cultural Anthropology 3
 CRJ 111 Introduction to Criminal Justice 3
 CRJ 117 Criminology 3
 PLS 141 American National Government 3
 PSY 140 Introduction to Psychology 4
 PSY 152 Social Psychology 3
 PSY 245 Infancy Childhood 3
 PSY 251 Abnormal Psychology 3
 PSY 252 Developmental Psychology 3
 PSY 290 Human Sexuality 3
 GEO 131 Physical Geography 3
 GEO 132 World Religions 3
 SOC 117 Criminology 3
 SOC 152 Social Psychology 3
 SOC 231 Principles of Sociology 3
 SOC 235 Minority Groups in America 3
 SOC 236 Women in a Changing Society 3
 SOC 251 Modern Social Problems 3
 HIS 120 Ancient History 3
 HIS 131 Western Civilization to 1555 4
 HIS 132 Western Civilization 1555 to Present 4
 HIS 231 Development of the US through Civil War . . . 3
 HIS 232 Development of the US from the Civil War . . . 3

SCIENCE (4 credits)

Choose one of the following:

CEM 121 Chemistry of Life 4
 CEM 131 General Chemistry 4
 CEM 132 Organic and Biological Chemistry 4
 CEM 151 General Inorganic Chemistry 4
 CEM 152 Inorganic with Analysis 4
 NSC 131 Contemporary Science 4
 PHY 131 Our Physical World 4
 PHY 151 Astronomy 4
 PHY 231 College Physics I 4
 PHY 251 Modern University Physics I 5

PROGRAM REQUIREMENTS

The remaining hours should be chosen from any ACC, BUS, or FIN course that will transfer. The selection of these courses should be made only after consulting with the institution to which you intend to transfer and a transfer advisor in the business department.

Accounting or Business Administration Bachelor's Degree Option with Siena Heights University

Through an articulation agreement with Siena Heights University, graduates of JCC's two-year business programs can earn a bachelor of arts in accounting or a bachelor of arts in business. Students can work with JCC and Siena Heights staff members to select a completion program for their specific career goals. All the courses required to earn a bachelor's degree are available at Jackson Community College's main campus through the Siena Heights University degree-completion center.

Transfer -- Computer Science

Computer science majors can concentrate and think logically, and enjoy working with ideas and solving problems. They become computer programmers, systems analysts, systems programmers, and software engineers, have careers in telecommunications and computer operations, and hold positions in computer sales, design, and manufacturing. The requirements for this degree -- especially mathematics and science requirements -- vary considerably among transfer institutions. Please see an advisor for more information.

Sample Curriculum for Computer Science

First Year, Fall Semester

ENG 131, CPS 175, MTH 151, CEM 151, MACRAO Humanities course

First Year, Winter Semester

ENG 132, CPS 177, MTH 154, ECN 231, PHL 232

Second Year, Fall Semester

CPS 217, MTH 251, PHY 251, MACRAO Social Science course

Second Year, Winter Semester

MTH 254, MACRAO Social Science and Humanities courses