

# PROGRAMS OF INSTRUCTION

A.A.—Associate of Arts

A.S.—Associate of Science

A.A.S.—Associate of Applied Science

A.G.S.—Associate of General Studies

\*Indicates programs that are also offered online

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Music Emphasis	A.A.	34	Microsoft Certified Systems Administrator (MCSA) Certificate		55
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Customer Service	Certificate	48	<i>Tracks: Finance, Banking And Mortgage, Banking Insurance</i>		
Direct Marketing	Certificate	48	Financial Services		64
Human Resource Management*	Certificate	48	<i>Tracks: Finance, Banking And Mortgage, Banking Insurance</i>		
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Management for Professional And Technical Employees*	Certificate	49	<b>Human Performance</b>		<b>A.A.S.</b>
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Sales Management*	Certificate	50	Mechanical Drafting		44
Sales Management II	Certificate	50	<b>Medical Laboratory Technology</b>		<b>A.A.S.</b>
Small Business Management*	Certificate	50	Clinical Assistant		70
Small Business Sales and Marketing*	Certificate	50	Phlebotomy		70
Supervision*	Certificate	50	Medical Office Technology		
Travel and Tourism*	Certificate	50	<b>Medical Assistant</b>		<b>A.A.S.</b>
Web Based Design/Marketing	Certificate	51	Medical Administrative Assistant*		71
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Computer Graphics	Certificate	73	<b>PN to RN Advanced</b>		<b>A.A.S.</b>
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Microsoft Certified System Engineer (MCSE)		55			
Cisco Certified Network Administrator (CCNA)		55			
Cisco Certified Network Professional (CCNP)		55			

Programs marked with an \* are also offered online.

# DEGREE REQUIREMENTS

## Customized Articulation Agreements

In addition to our transferable Associate of Arts and Associate of Science degrees, the College has established customized transfer articulation agreements for the following “normal” nontransferable programs. This allows students to transfer directly into four-year degree programs. Please meet with an advisor to ensure correct course selection to meet transfer agreement requirements.

CCCS articulation agreements can be found at <http://www.state.co.us/cche/academic/transfer/agreements/index.html>

## Associate of Arts Degree Core

Students completing any guaranteed Transfer Course are guaranteed acceptance of the course at any public four-year college or university in Colorado.

The new State Guaranteed Transfer Courses and the new Colorado Community College General Education requirements have been incorporated into the degree. Students who complete a 60 credit hour A.A. degree with appropriate course requirements and grades of “C” or better may be able to complete a Baccalaureate degree in 60 additional credits after transferring to a four-year public institution. Consult your ACC Advisor about Colorado’s 60 + 60 plans.

NOTE: This guarantee excludes majors in Education, Business, Engineering and Nursing.

## General Education Core

### I. Communications (9 credit hours)

ENG 121	English Composition I . . . . .	3
ENG 122	English Composition II. . . . .	3
SPE 115	Public Speaking OR	
SPE 125	Interpersonal Communication. . . . .	3

### II. Art and Humanities (9 credit hours)

Select three courses with no more than two courses from any one category:

#### Art

ART 110	Art Appreciation . . . . .	3
ART 111	Art History I . . . . .	3
ART 112	Art History II . . . . .	3
MUS 120	Music Appreciation. . . . .	3
MUS 121	Introduction to Music History I . . . . .	3
MUS 122	Introduction to Music History II. . . . .	3
THE 105	Introduction to Theatre Arts . . . . .	3
THE 211	Development of Theatre I. . . . .	3
THE 212	Development of Theatre II . . . . .	3

#### Literature and Humanities

HUM 121	Early Civilizations . . . . .	3
HUM 122	From Medieval to Modern . . . . .	3
HUM 123	The Modern World . . . . .	3
LIT 115	Intro to Literature . . . . .	3
LIT 201	Masterpieces of Literature I . . . . .	3
LIT 202	Masterpieces of Literature II. . . . .	3
LIT 205	Ethnic Literature. . . . .	3

LIT 211	Survey of American Lit I . . . . .	3
LIT 212	Survey of American Lit II. . . . .	3
LIT 221	Survey of British Lit I. . . . .	3
LIT 222	Survey of British Lit II . . . . .	3

### Ways of Thinking

PHI 111	Intro to Philosophy . . . . .	3
PHI 112	Ethics . . . . .	3
PHI 113	Logic. . . . .	3

### Foreign Language

FRE 211	French III . . . . .	3
FRE 212	French IV . . . . .	3
SPA 211	Spanish III. . . . .	3
SPA 212	Spanish IV. . . . .	3
JPN 211	Japanese III . . . . .	3
JPN 212	Japanese IV . . . . .	3

### III. Mathematics (3 credit hours)

MAT 120	Mathematics for Liberal Arts . . . . .	4
MAT 121	College Algebra . . . . .	4
MAT 122	College Trigonometry. . . . .	3
MAT 123	Finite Mathematics . . . . .	4
MAT 125	Survey of Calculus . . . . .	4
MAT 135	Introduction to Statistics. . . . .	3
MAT 201	Calculus I . . . . .	5
MAT 202	Calculus II. . . . .	5

### IV. Social and Behavioral Sciences (9 credit hours)

Select three courses, one of which must be history, with no more than two courses from any one category.

#### Economic and Political Systems

ECO 201	Principles of Macroeconomics . . . . .	3
ECO 202	Principles of Microeconomics . . . . .	3
POS 111	American Government . . . . .	3
POS 105	Introduction to Political Science. . . . .	3
POS 111	American Government . . . . .	3

#### Human Behavior and Social Systems

ANT 101	Cultural Anthropology . . . . .	3
ANT 111	Physical Anthropology . . . . .	3
PSY 101	General Psychology I . . . . .	3
PSY 102	General Psychology II . . . . .	3
PSY 235	Human Growth and Development . . . . .	3
SOC 101	Intro to Sociology I. . . . .	3
SOC 102	Intro to Sociology II . . . . .	3

#### Geography

GEO 105	World Regional Geography . . . . .	3
GEO 106	Human Geography . . . . .	3

#### History

HIS 101	Western Civilization I. . . . .	3
HIS 102	Western Civilization II . . . . .	3
HIS 201	U.S. History I . . . . .	3
HIS 202	U.S. History II. . . . .	3
HIS 247	Contemporary World History . . . . .	3

### V. Physical and Life Science (8 credit hours)

Select two courses. (Credits over 8 will be applied to the electives category.)

AST 101	Astronomy I . . . . .	4
AST 102	Astronomy II. . . . .	4
BIO 105	Science of Biology . . . . .	4
BIO 111	General College Biology I with Lab. . . . .	5
BIO 112	General College Biology II with Lab . . . . .	5

BIO	201	Human Anatomy and Physiology I . . . . .4
BIO	202	Human Anatomy and Physiology II . . . . .4
BIO	204	Microbiology . . . . .4
CHE	101	Introduction to Chemistry I with Lab . . . .5
CHE	102	Introduction to Chemistry II with Lab . . .5
CHE	111	General College Chemistry I with Lab . . .5
CHE	112	General College Chemistry II with Lab . .5
GEY	111	Physical Geology . . . . .4
GEY	121	Historical Geology . . . . .4
MET	150	General Meteorology . . . . .4
PHY	105	Conceptual Physics . . . . .4
PHY	111	Physics: Algebra-Based I with Lab . . . .5
PHY	112	Physics: Algebra-Based II with Lab . . . .5
PHY	211	Physics: Calculus-Based I with Lab . . . .5
PHY	212	Physics: Calculus-Based II with Lab . . . .5

**VI. Electives (22 credit hours)**

Courses from the following list must be selected to bring the total credit hours to 60. Please note that in some disciplines only certain courses apply.

ACC (121, 122 only), ANT, ASL (121, 122 only) AST, ART, BIO (100 or above), BUS (115, 216, 217 only), CHE, CIS (only the following: 115, 118), CSC (160, 161, 225, 230 only), ECO, ECE (101, 102, 111, 205, 220, 226, 285 only), EDU, ENG (131 or above), GEO, GEY, HIS, HON, HUM, HWE (108, 124 only), JOU, LIT, MME, MAT (MAT 120 or higher), MUS, PED, PHI, PHR, PHY (PHY 105 or above), POS, PSY, SCI (155, 156), SOC, SPA 114, SPE, THE and any foreign language numbered 111-112, 211-212.

**Total . . . . .60**

\*Not all independent study or special topics courses may apply.

**Associate of Arts Degree - Business Transfer Emphasis**

**See also A.A.S., Business Administration**

The Associate of Arts degree with a Business Transfer Emphasis is designed for the student who wishes to transfer to a Colorado four-year public college or university. Students who complete this program, maintain a minimum 2.0 cumulative GPA and earn a "C" or better in all courses shall be fully considered for admission into the business programs offered by state four-year public colleges or universities. This agreement does not guarantee admission to the School of Business. However, it does guarantee that admitted students who follow the condition of this agreement will be guaranteed complete transfer of the A.A. degree up to the maximum allowable course credits. If a student is offered admission, the student will enter with junior standing in the School of Business, provided that the A.A. degree includes all courses specified below.

Students who have earned two-year degrees other than the A.A. in Business or who have not fully completed the degree requirements will be evaluated on a course-by-course basis. Individual business courses may transfer and count toward the graduation requirements for a four-year business degree, but the transferable courses are limited to the course equivalents of the courses specified in the curricula of the four-year Business Administration degree

programs. The four-year college or university will accept all eligible credits earned within ten years of transfer. Courses earned more than 10 years earlier will be evaluated on an individual basis. Students should review the business degree requirements of the four-year college or university of their interest when making plans to transfer.

This agreement is between the Colorado community colleges and the following Colorado public four-year institutions of higher education: Adams State College, Colorado State University, Colorado State University-Pueblo, Fort Lewis College, Mesa State College, Metropolitan State College of Denver, University of Colorado at Boulder, University of Colorado at Colorado Springs, University of Colorado at Denver, University of Northern Colorado and Western State College.

**General Education Requirements (40 credit hours)**

**Communications (9 credit hours)**

ENG	121	English Composition I . . . . .3
ENG	122	English Composition II . . . . .3
SPE	115	Public Speaking . . . . .3

**Mathematics (8 credit hours)**

MAT	123	Finite Mathematics OR
MAT	121	College Algebra . . . . .4
MAT	125	Survey of Calculus . . . . .4

**Social Sciences (9 credit hours)**

ECO	201	Principles of Macroeconomics . . . . .3
ECO	202	Principles of Microeconomics . . . . .3

Select one History Elective from the following list:

HIS	101	Western Civilization I . . . . .3
HIS	102	Western Civilization II . . . . .3
HIS	201	U.S. History I . . . . .3
HIS	202	U.S. History II . . . . .3
HIS	247	Contemporary World History . . . . .3

**Arts and Humanities (6 credit hours)**

Select two Arts and Humanities Electives from the following list:

ART	110	Appreciation . . . . .3
ART	111	Art History I . . . . .3
ART	112	Art History II . . . . .3
HUM	121	Early Civilizations . . . . .3
HUM	122	From Medieval to Modern . . . . .3
HUM	123	The Modern World . . . . .3
FRE	211	French III . . . . .3
FRE	212	French IV . . . . .3
SPA	211	Spanish III . . . . .3
SPA	212	Spanish IV . . . . .3
JPN	211	Japanese III . . . . .3
JPN	212	Japanese IV . . . . .3
LIT	115	Introduction to Literature . . . . .3
LIT	201	Masterpieces of Literature I . . . . .3
LIT	202	Masterpieces of Literature II . . . . .3
LIT	205	Ethnic Literature . . . . .3
LIT	211	Survey of American Lit I . . . . .3
LIT	212	Survey of American Lit II . . . . .3
LIT	221	Survey of British Lit I . . . . .3
LIT	222	Survey of British Lit II . . . . .3
MUS	120	Music Appreciation . . . . .3
MUS	121	Introduction to Music History I . . . . .3

MUS	122	Introduction to Music History II . . . . .	3
PHI	111	Introduction to Philosophy . . . . .	3
PHI	112	Ethics . . . . .	3
PHI	113	Logic . . . . .	3
THE	105	Introduction to Theatre Arts . . . . .	3
THE	211	Development of Theatre I . . . . .	3
THE	212	Development of Theatre II . . . . .	3

**Science (8 credit hours)**

Select two lab-based science courses from the following list: (Credits over 8 may be applied to the electives category at the four-year institution.)

AST	101	Astronomy I . . . . .	4
AST	102	Astronomy II . . . . .	4
BIO	105	Science of Biology . . . . .	4
BIO	111	General College Biology I with Lab . . . . .	5
BIO	112	General College Biology II with Lab . . . . .	5
BIO	201	Human Anatomy and Physiology I . . . . .	4
BIO	202	Human Anatomy and Physiology II . . . . .	4
BIO	204	Microbiology . . . . .	4
CHE	101	Introduction to Chemistry I with Lab . . . . .	5
CHE	102	Introduction to Chemistry II with Lab . . . . .	5
CHE	111	General College Chemistry II with Lab . . . . .	5
CHE	112	General College Chemistry II with Lab . . . . .	5
GEY	111	Physical Geology . . . . .	4
GEY	121	Historical Geology . . . . .	4
PHY	105	Conceptual Physics . . . . .	4
PHY	111	Physics: Algebra-Based I with Lab . . . . .	5
PHY	112	Physics: Algebra-Based II with Lab . . . . .	5
PHY	211	Physics: Calculus-Based I with Lab . . . . .	5
PHY	212	Physics: Calculus-Based II with Lab . . . . .	5

**Business Graduation Requirements (20 credit hours)**

**Accounting (8 credit hours)**

ACC	121	Principles of Accounting I . . . . .	4
ACC	122	Principles of Accounting II . . . . .	4

**General Business (12 credit hours)**

BUS	115	Introduction to Business . . . . .	3
BUS	216	Legal Environment of Business . . . . .	3
BUS	217	Business Communications . . . . .	3
BUS	226	Business Statistics . . . . .	3

**Total credit hours for**

**Associate of Arts Business . . . . . 60 credit hours**

**NOTE:** This degree will be conferred as an **Associate of Arts, Business Transfer Emphasis** will not be listed on student's transcript or diploma, but will be recognized by transfer institutions for program admission.

**Associate of Arts - Statewide Elementary Education Transfer**

The Associate of Arts degree with an Elementary Education Transfer Emphasis is designed for the community college student who wishes to transfer to a Colorado 4-year public college or university to receive a Bachelor's degree with an Elementary Education teacher licensure. Students who complete the program at the community college, receiving a "C" or better (B- or better in ENG 121) will be considered for admission at Colorado public institutions of higher education.

Student must develop a graduation plan with a Teacher

Education advisor that identifies the first 41 hours that are guaranteed to transfer to all teacher education programs at the following Colorado public 4-year institutions of higher education: Adams State College (Interdisciplinary Studies); Colorado State University at Pueblo (Liberal Studies), Fort Lewis College (Interdisciplinary Studies), Mesa State College (Liberal Arts), Metropolitan State College of Denver (Behavioral Science and Human Development), University of Colorado at Boulder (History), University of Colorado at Colorado Springs (English, History/Social Studies, Modern Foreign Languages, Science, Mathematics), University of Colorado at Denver and Health Sciences Center Downtown Denver (Individually Structured Major), University of Northern Colorado (Interdisciplinary Studies), Western State College (Interdisciplinary Studies).

To complete the A.A. graduation requirements, students who have completed or are currently enrolled in courses that will total the first 41 credits will apply to a specific teacher education program and be advised on the final 19 credits guaranteed to transfer.

**General Education Requirements (36 credit hours)**

**English (6 credit hours)**

ENG	121	College Composition . . . . .	3
		("B-" or better)	
ENG	122	Composition II . . . . .	3

**Speech (3 credit hours)**

SPE	115	. . . . .	3
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**Math (6 credit hours)**

MAT	155	Integrated Math I . . . . .	3
MAT	156	Integrated Math II . . . . .	3

**Humanities (3 credit hours)**

Choose one from the following:

LIT	115	Introduction to Literature . . . . .	3
LIT	201	Masterpieces of Literature I . . . . .	3
LIT	202	Masterpieces of Literature II . . . . .	3
LIT	211	Survey of American Literature I . . . . .	3
LIT	221	Survey of British Literature I . . . . .	3

**Science (8 credit hours)**

SCI	155	Integrated Science I . . . . .	4
SCI	156	Integrated Science II . . . . .	4

**Social Sciences (9 credit hours)**

GEO	105	World Regional Geography . . . . .	3
HIS	201	U.S. History I . . . . .	3
POS	111	American Government . . . . .	3

**Education Requirements (6 credit hours)**

EDU	221	Introduction to Education . . . . .	3
PSY	238	Child Development . . . . .	3

Electives based on transfer institution . . . (19 credit hours)  
Consult an advisor and the transfer institution to determine appropriate electives.

**Total General Education/Education Credits . . . . . 41**

**Total Electives determined by transfer institution. . . 19**

**Associate of Arts, Elementary Education Transfer**

**Total Credits . . . . . 60**

**DEGREE REQUIREMENTS**

NOTE: This degree will be conferred as an Associate of Arts. Elementary Education Emphasis will not be listed on student's transcript or diploma, but will be recognized by transfer institutions for program admission.

## Associate of Arts Degree - Music Emphasis

### Core Curriculum Required (38 credit hours)

May include:

MUS 120	Music Appreciation	3
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Required:

MUS 121	Music History I	3
MUS 122	Music History II	3

### MUS Core Classes:

*MUS 110	Music Theory I	3
*MUS 112	Ear Training - Singing Lab I	1
MUS 111	Music Theory I	3
MUS 113	Ear Training - Singing Lab II	1
MUS 131	Music Class	2

**Total . . . . .10 credits**

\*Students with no background in theory should take Music Fundamentals (MUS 100) or pass an equivalency exam before taking MUS 110 and MUS 112.

\*\*Piano majors should take Guitar or Voice Class. Voice, Instrumental and Theory/Composition majors should take Piano Class unless already having a strong background in piano, in which case either Guitar or Voice class should be taken.

### MUS Area of Emphasis:

A) Piano/Voice/Instrument majors:

#### Private lessons (4 Semesters)

MUS 141	Private Instruction	2
MUS 142	Private Instruction II	2
MUS 241	Private Instruction	2
MUS 242	Private Instruction	2
MUS 243	Private Instruction	2
MUS 244	Private Instruction	2

**Total for Option A . . . . .12**

OR

B) Theory/Composition majors:

#### Private lessons (2 Semesters)

MUS 141	Private Instruction	2
MUS 142	Private Instruction II	2
MUS 241	Private Instruction	2
MUS 242	Private Instruction	2

AND

#### Private lessons (2 Semesters)

MUS 241	Private Instruction	2
MUS 242	Private Instruction	2
MUS 243	Private Instruction	2
MUS 244	Private Instruction	2

AND

#### Ensemble

MUS 151	Ensemble I	1
MUS 152	Ensemble II	1
MUS 251	Ensemble I	1
MUS 252	Ensemble II	1

**Total for Option B . . . . .12**  
OR

C) Music Industry/Business/Technology majors

MUS 167	Music Business I	3
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### Private lessons (4 Credits)

Choose from:

MUS 141	Private Instruction	2
MUS 142	Private Instruction II	2
MUS 241	Private Instruction	2
MUS 242	Private Instruction	2
MUS 243	Private Instruction	2
MUS 244	Private Instruction	2

### Ensemble (4 credits)

MUS 151	Ensemble I	1
MUS 152	Ensemble II	1
MUS 251	Ensemble I	1
MUS 252	Ensemble II	1
Other class or independent study related to subject, such as		
MUS 261	History of Jazz	3

**Total for Option C . . . . .12 credit hours**

**Total . . . . .60 credit hours**

NOTE: This degree will be conferred as an Associate of Arts. Music Emphasis will not be listed on student's transcript or diploma, but will be recognized by transfer institutions for program admission.

## Associate of Science Core

Students successfully completing any Guaranteed Transfer Courses are guaranteed acceptance of the course at any public four-year college or university in Colorado.

The State Guaranteed Transfer Courses and the Colorado Community College General Education requirements have been incorporated into the degree. Students who complete a 60 credit-hour A.S. degree with appropriate course requirements and grades of "C" or better may be able to complete a Baccalaureate degree in 60 additional credits after transferring to a four-year public institution. Consult your ACC Advisor about Colorado's 60 + 60 agreement.

NOTE: This guarantee excludes majors in Education, Business, Engineering and Nursing.

### General Education Core

#### I. Communications (9 credit hours)

ENG 121	English Composition I	3
ENG 122	English Composition II	3
SPE 115	Public Speaking OR	
SPE 125	Interpersonal Communication	3

#### II. Arts and Humanities (9 credit hours)

Select three courses with no more than two courses from any one category:

#### Art

ART 110	Art Appreciation	3
ART 111	Art History I	3
ART 112	Art History II	3
MUS 120	Music Appreciation	3
MUS 121	Introduction to Music History I	3

MUS	122	Introduction to Music History II . . . . .	3
THE	105	Introduction to Theatre Arts . . . . .	3
THE	211	Development of Theatre I . . . . .	3
THE	212	Development of Theatre II . . . . .	3

**Literature and Humanities**

HUM	121	Early Civilizations . . . . .	3
HUM	122	From Medieval to Modern . . . . .	3
HUM	123	The Modern World . . . . .	3
LIT	115	Introduction to Literature . . . . .	3
LIT	201	Masterpieces of Literature I . . . . .	3
LIT	202	Masterpieces of Literature II . . . . .	3
LIT	205	Ethnic Literature . . . . .	3
LIT	211	Survey of American Lit I . . . . .	3
LIT	212	Survey of American Lit II . . . . .	3
LIT	221	Survey of British Lit I . . . . .	3
LIT	222	Survey of British Lit II . . . . .	3

**Ways of Thinking**

PHI	111	Intro to Philosophy . . . . .	3
PHI	112	Ethics . . . . .	3
PHI	113	Logic . . . . .	3

**Foreign Language**

FRE	211	French III . . . . .	3
FRE	212	French IV . . . . .	3
SPA	211	Spanish III . . . . .	3
SPA	212	Spanish IV . . . . .	3
JPN	211	Japanese III . . . . .	3
JPN	212	Japanese IV . . . . .	3

**III. Mathematics (3 credit hours)**

MAT	121	College Algebra . . . . .	4
MAT	122	College Trigonometry . . . . .	3
MAT	201	Calculus I . . . . .	5
MAT	202	Calculus II . . . . .	5

**IV. Social and Behavioral Sciences (9 credit hours)**

Select three courses, one of which must be history, with no more than two courses from any one category.

**Economic and Political Systems**

ECO	201	Principles of Macroeconomics . . . . .	3
ECO	202	Principles of Microeconomics . . . . .	3
POS	105	Introduction to Political Science . . . . .	3
POS	111	American Government . . . . .	3

**Geography**

GEO	105	World Regional Geography . . . . .	3
GEO	106	Human Geography . . . . .	3

**History**

HIS	101	Western Civilization I . . . . .	3
HIS	102	Western Civilization II . . . . .	3
HIS	201	U.S. History I . . . . .	3
HIS	202	U.S. History II . . . . .	3
HIS	247	Contemporary World History . . . . .	3

**Human Behavior and Social Systems**

ANT	101	Cultural Anthropology . . . . .	3
ANT	111	Physical Anthropology . . . . .	3
PSY	101	General Psychology I . . . . .	3
PSY	102	General Psychology II . . . . .	3
PSY	235	Human Growth and Development . . . . .	3
SOC	101	Intro to Sociology I . . . . .	3
SOC	102	Intro to Sociology II . . . . .	3

**V. Physical and Life Science (8 credit hours)**

Select two courses. (Credits over 8 will be applied to the electives category.)

AST	101	Astronomy I . . . . .	4
AST	102	Astronomy II . . . . .	4
BIO	111	General College Biology I with Lab . . . . .	5
BIO	112	General College Biology II with Lab . . . . .	5
BIO	201	Human Anatomy and Physiology I . . . . .	4
BIO	202	Human Anatomy and Physiology II . . . . .	4
BIO	204	Microbiology . . . . .	4
CHE	111	General College Chemistry I with Lab . . . . .	5
CHE	112	General College Chemistry II with Lab . . . . .	5
GEY	111	Physical Geology . . . . .	4
GEY	121	Historical Geology . . . . .	4
MET	150	General Meteorology . . . . .	4
PHY	111	Physics: Algebra-Based I with Lab . . . . .	5
PHY	112	Physics: Algebra-Based II with Lab . . . . .	5
PHY	211	Physics: Calculus-Based I with Lab . . . . .	5
PHY	212	Physics: Calculus-Based II with Lab . . . . .	5

**VI. Restricted Math/Science Electives (22 credit hours)**

Courses from the following list must be selected to bring the total credit hours to 60. Please note that in some disciplines only certain courses apply. Associate of Science students should work with an advisor to select courses appropriate to their major.

AST, BIO (100 or above), CHE, CIS (only the following: 115, 118), CSC (only the following: 160, 161, 225, 230), EGG, GEY, MAT (MAT 121 or above), PHY (\*PHY 111 or above).

**Total . . . . . 60 credit hours**

\*Not all independent study or special topics courses may apply.

**Associate of General Studies Degree**

**I. Communications (9 credit hours)**

Select two courses:

*ENG	121	English Composition I . . . . .	3
*ENG	122	English Composition II . . . . .	3
ENG	131	Technical Writing I . . . . .	3

Select 1 course:

SPE	115	Public Speaking . . . . .	3
SPE	125	Interpersonal Communication . . . . .	3
SPE	225	Organizational Communication . . . . .	3

**II. Humanities (9 credit hours)**

*ART	110	Art Appreciation . . . . .	3
*ART	111	Art History I . . . . .	3
*ART	112	Art History II . . . . .	3
ART	121	Drawing . . . . .	3
ART	138	Photography I . . . . .	3
ART	141	Jewelry and Metalwork I . . . . .	3
ART	161	Ceramics I . . . . .	3
ART	211	Painting I . . . . .	3
ART	231	Watercolor I . . . . .	3

Foreign Language I-II: ARA, CHI, FRE, JPN, LAT, SPA, 111-112 . . . . . 5

Foreign Language III: FRE, JPN, LAT, SPA 211 . . . . . 3

Foreign Language IV: FRE, JPN, LAT, SPA 212 . . . . . 3

ASL 121-122 American Sign Language . . . . . 5

*HIS	101	Western Civilization I . . . . .	3
*HIS	102	Western Civilization II . . . . .	3
*HIS	201	U.S. History I . . . . .	3

*HIS	202	U.S. History II . . . . .	3
*HIS	247	Contemporary World History . . . . .	3
*HUM	121	Early Civilizations . . . . .	3
*HUM	122	From Medieval to Modern . . . . .	3
*HUM	123	The Modern World . . . . .	3
*LIT	115	Intro to Literature I . . . . .	3
*LIT	201	Masterpieces of Literature I . . . . .	3
*LIT	202	Masterpieces of Literature II . . . . .	3
*LIT	205	Ethnic Literature . . . . .	3
*LIT	211	Survey of American Literature I . . . . .	3
*LIT	212	Survey of American Literature II . . . . .	3
*LIT	221	Survey of British Literature I . . . . .	3
*LIT	222	Survey of British Literature II . . . . .	3
LIT	255	Children's Literature . . . . .	3
MUS	100	Fundamentals of Music Theory . . . . .	3
*MUS	120	Music Appreciation . . . . .	3
*MUS	121	Intro to Music History I . . . . .	3
*MUS	122	Intro to Music History II . . . . .	3
*PHI	111	Intro to Philosophy . . . . .	3
*PHI	112	Ethics . . . . .	3
*PHI	113	Logic . . . . .	3
SPE	115	Public Speaking . . . . .	3
SPE	125	Interpersonal Communication . . . . .	3
SPE	225	Organizational Communication . . . . .	3
*THE	105	Intro to Theatre Arts . . . . .	3
*THE	211	Development of Theatre I . . . . .	3
*THE	212	Development of Theatre II . . . . .	3

### III. Social Sciences (9 credit hours)

*ANT	101	Cultural Anthropology . . . . .	3
ANT	107	Intro to Archaeology . . . . .	3
*ANT	111	Physical Anthropology . . . . .	3
ECO	105	Intro to Economics . . . . .	3
*ECO	201	Principles of Macroeconomics . . . . .	3
*ECO	202	Principles of Microeconomics . . . . .	3
ECO	205	Contemporary Economic Issues . . . . .	3
*GEO	105	World Regional Geography . . . . .	3
*GEO	106	Human Geography . . . . .	3
GEO	107	Physical Geography . . . . .	3
GEO	165	Human Ecology . . . . .	3
*HIS	101	Western Civilization I . . . . .	3
*HIS	102	Western Civilization II . . . . .	3
*HIS	201	U.S. History I . . . . .	3
*HIS	202	U.S. History II . . . . .	3
*HIS	247	Contemporary World History . . . . .	3
*POS	105	Intro to Political Science . . . . .	3
*POS	111	American Government . . . . .	3
POS	125	American State and Local Government . . . . .	3
POS	205	International Relations . . . . .	3
POS	216	Comparative Government . . . . .	3
*PSY	101	General Psychology I . . . . .	3
*PSY	102	General Psychology II . . . . .	3
PSY	116	Stress Management . . . . .	3
*PSY	235	Human Growth and Development . . . . .	3
*SOC	101	Intro to Sociology I . . . . .	3
*SOC	102	Intro to Sociology II . . . . .	3
SOC	205	Marriage and The Family . . . . .	3
SOC	215	Contemporary Social Problems . . . . .	3

### IV. Sciences (3 credit hours)

*ANT	111	Physical Anthropology . . . . .	3
*AST	101	Astronomy I . . . . .	4
*AST	102	Astronomy II . . . . .	4
*BIO	105	Science of Biology . . . . .	4

*BIO	111	General College Biology I . . . . .	5
*BIO	112	General College Biology II . . . . .	5
BIO	115	Human Genetics . . . . .	3
*BIO	201	Human Anatomy and Physiology I . . . . .	4
*BIO	202	Human Anatomy and Physiology II . . . . .	4
BIO	204	Microbiology . . . . .	4
*CHE	101	Intro to Chemistry I . . . . .	5
*CHE	102	Intro to Chemistry II . . . . .	5
*CHE	111	General College Chemistry I/Lab . . . . .	5
*CHE	112	General College Chemistry II/Lab . . . . .	5
CIS	115	Intro to Computer Information Systems . . . . .	3
CIS	118	Intro to PC Applications . . . . .	3
CSC	150	Visual Basic Programming . . . . .	3
CSC	160	Computer Science I (Java) . . . . .	4
CSC	161	Computer Science II (Java) . . . . .	4
*GEY	111	Physical Geology . . . . .	4
*GEY	121	Historical Geology . . . . .	4
PHY	100	Elementary Physics . . . . .	3
*PHY	105	Conceptual Physics . . . . .	4
*PHY	111	Physics: Algebra-Based I . . . . .	5
*PHY	112	Physics: Algebra-Based II . . . . .	5
*PHY	211	Physics: Calculus-Based I . . . . .	5
*PHY	212	Physics: Calculus-Based II . . . . .	5
SCI	155	Integrated Science I . . . . .	4
SCI	156	Integrated Science II . . . . .	4

### V. Math (MAT 120 or above) (3 credit hours)

*MAT	120	Mathematics for Liberal Arts . . . . .	4
*MAT	121	College Algebra . . . . .	4
*MAT	122	College Trigonometry . . . . .	3
*MAT	123	Finite Mathematics . . . . .	4
*MAT	125	Survey of Calculus . . . . .	4
*MAT	135	Intro to Statistics . . . . .	3
*MAT	155	Integrated Math I . . . . .	3
*MAT	156	Integrated Math II . . . . .	3
MAT	179	Computer Applications for Statistics . . . . .	1
*MAT	201	Calculus I . . . . .	5
*MAT	202	Calculus II . . . . .	5

### VI. Electives (27 credit hours)

Selected from any credit-bearing course numbered at or above 100 which is offered by the College.

<sup>1</sup>MAT courses must be numbered 120 or above. ENG courses must be numbered 121 or above. Foreign Language must be numbered 111-112, 211-212, ASL 121-122, SPA 114.

\*Courses marked with an asterisk are a part of the General Transfer Curriculum (GT 25).

**Total . . . . . 60 credit hours**

## Associate of General Studies - Broadband Technical Management Emphasis

The following A.G.S. degree in Broadband Technical Management was designed by ACC and Jones/NCTI to provide a degree path for technicians in the broadband industry. The curriculum in this program is designed for broadband technicians and requires hands-on activities with the supervision of an on-site training coordinator.

Upon completion, those who wish to continue their education will be accepted as juniors at Franklin University and DeVry University through an articulation agreement between those institutions, Arapahoe Community College, the Indiana Institute of Technology and Jones/NCTI.

The Associate of General Studies (A.G.S.) degree allows students the unique option of building job-specific degrees to suit their career choices.

\* NOTE: Broadband degrees and certificates are available ONLY to Jones/NCTI participants

**Major Courses (23 credit hours)**

CTC 107	Installer . . . . .	3
	(or choose from restricted electives)	
CTC 109	Installer Technician . . . . .	4
CTC 111	Service Technician . . . . .	4
CTC 113	System Technician . . . . .	4
CTC 127	Fiber Installation and Activation . . . . .	2
CTC 128	Fiber Testing and Maintenance . . . . .	2
CTC 165	Advanced Technician . . . . .	4

**Choose Three (9 credit hours)**

CTC 118	Broadband Digital Installer . . . . .	3
CTC 117	Computers and Broadband Modems . . . . .	3
CTC 120	Understanding Voice and Data Networks . . . . .	3
CTC 124	Troubleshooting Advanced Services . . . . .	3

**General Education Courses (31 credit hours)**

BUS 115	Introduction to Business . . . . .	3
BUS 216	Legal Environment of Business . . . . .	3
CIS 118	Intro to PC Applications . . . . .	3
ENG 121	English Composition I . . . . .	3
MAN 116	Principles of Supervision . . . . .	3
MAN 226	Principles of Management . . . . .	3
MAR 216	Principles of Marketing . . . . .	3
MAT 121	College Algebra OR higher . . . . .	4
PSY 101	General Psychology I OR	
PSY 116	Stress Management . . . . .	3
SPE 115	Public Speaking OR	
SPE 125	Interpersonal Communication . . . . .	3

**Total . . . . . 63 credit hours**

NOTE: This degree will be conferred as an **Associate of General Studies**. *Broadband Technical Management Emphasis* will not be listed on student's transcript or diploma.

## Associate of General Studies - Broadband Business Management Emphasis

This Associate of General Studies degree allows students the unique option of building job-specific degrees to suit their career choices. The A.G.S. combines courses from a Jones/NCTI certificate, based on industry-specific competencies, with electives and general requirements.

To begin, the student completes the courses in a Jones/NCTI certificate of choice and combines them with electives to earn at least 27 credit hours. The remaining credit hours come from general requirement courses. The result is a degree that demonstrates job-specific expertise and general business knowledge, all while providing

unparalleled opportunity for success.

\* NOTE: Broadband degrees and certificates are available ONLY to Jones/NCTI participants

**Major Courses (27-29 credit hours)**

**General Education (33-35 credit hours)**

**I. Communications (9 credit hours)**

ENG 121	English Composition I . . . . .	3
ENG 131	Technical Writing I . . . . .	3
SPE 115	Public Speaking OR . . . . .	
SPE 125	Interpersonal Communications . . . . .	3

**II. Humanities (9-11 credit hours)**

PHI 112	Ethics . . . . .	3
Foreign Languages: ARA, CHI, FRE, JPN,		
LAT or SPA 111-112 . . . . .		
Foreign Languages: FRE, JPN, LAT or SPA 211-212 . . . . .		
SPA 114	Spanish . . . . .	5
ASL 121-122	American Sign Language . . . . .	5
HIS 201	U.S. History I . . . . .	3
LIT 115	Introduction to Literature I . . . . .	3
SPE 125	Interpersonal Communication . . . . .	3
(if not taken to meet the Communication requirement)		

**III. Social Sciences (9 credit hours)**

ECO 201	Principles of Macroeconomics . . . . .	3
PSY 101	General Psychology I OR . . . . .	
PSY 116	Stress Management . . . . .	3
SOC 101	Intro to Sociology I . . . . .	3

**IV. Sciences (3 credit hours)**

CIS 118	Intro to PC Applications . . . . .	3
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**V. Math (3 credit hours)**

MAT 121	or higher . . . . .	3
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**Total . . . . . 60-64 credit hours**

NOTE: This degree will be conferred as an **Associate of General Studies**. *Broadband Business Management Emphasis* will not be listed on student's transcript or diploma.

## Broadband Business Management

**Certificate**

Students completing this certificate will be among the elite in the broadband industry, well-suited to manage those who build and maintain cable plants, install, repair and service cable modems, telephony, and digital video in broadband networks. Holders of this certificate can expect to work as managers of field service technicians, bandwidth access technicians, head-end technicians, NOC technicians or customer service or sales representatives.

\* NOTE: Broadband degrees and certificates are available ONLY to Jones/NCTI participants

BUS 115	Introduction to Business . . . . .	3
BUS 216	Legal Environment of Business . . . . .	3
MAN 116	Principles of Supervision . . . . .	3
MAN 226	Principles of Management . . . . .	3
MAR 216	Principles of Marketing . . . . .	3

**TOTAL . . . . . 15 credit hours**

## Broadband Customer Premises Technician

### Certificate

There are more customer premise technicians in the cable industry than any other classification and the job complexity of these individuals has increased exponentially as new technologies have migrated into customer premise equipment. This certificate combines curricula needed to address the expanded role and required professionalism of this individual. Students will be qualified to install, maintain and troubleshoot analog and digital services in the drop network from the distribution tap to the terminating device at the customer's premises.

\* NOTE: Broadband degrees and certificates are available ONLY to Jones/NCTI participants

CTC	107	Installer . . . . .	3
		(or choose one from restricted electives) . .	
CTC	109	Installer Technician. . . . .	4
CTC	117	Computers and Broadband Modems. . . . .	3
CTC	118	Broadband Digital Installer. . . . .	3
CTC	124	Troubleshooting Advanced Services. . . . .	3
SPE	125	Interpersonal Communications	
		OR	
SPE	115	Public Speaking . . . . .	3

### Restricted Electives

CTC	111	Service Technician . . . . .	4
CTC	113	Systems Technician. . . . .	4
CTC	120	Understanding Voice and Data Networks .3	
CTC	165	Advanced Technician . . . . .	3

**Total . . . . . 18-19 credit hours**

## Broadband HFC Networks Technician

### Certificate

Technological advances have evolved and transformed the traditional cable network from one of coaxial cables and amplifiers to one that includes significant amounts of fiber optics. The need for efficiency and reliability in the network has made it necessary for the typical cable network technician to have skills in RF and optical technologies. This certificate ensures that the student is expert in HFC network maintenance practices and procedures and is qualified to serve and maintain two-way analog and digital services in the coaxial feeder and trunk system, fiber-optic system and head-end.

\* NOTE: Broadband degrees and certificates are available ONLY to Jones/NCTI participants

CTC	111	Service Technician . . . . .	4
CTC	113	Systems Technician. . . . .	4
CTC	165	Advanced Technician . . . . .	3
CTC	127	Fiber Installation and Activation. . . . .	2
CTC	128	Testing and Maintenance for Fiber Technicians . . . . .	2
SPE	125	Interpersonal Communications	
		OR	
SPE	115	Public Speaking . . . . .	3

**Total . . . . . 18 credit hours**

## Broadband Digital Management

### Certificate

Students completing this certificate will be among the elite in the broadband industry, well-suited to supervise those who deploy and service cable modems, constant bit rate (CBR) telephony and digital video in broadband networks. Holders of this certificate can expect to work as managers of field service technicians, bandwidth access technicians, head-end technicians, NOC technicians, etc., with broadband companies that are deploying advanced services.

\* NOTE: Broadband degrees and certificates are available ONLY to Jones/NCTI participants

BUS	115	Introduction to Business . . . . .	3
CTC	107	Installer . . . . .	3
		(or choose one from restricted electives) . .	
CTC	109	Installer Technician. . . . .	4
CTC	111	Service Technician . . . . .	4
CTC	117	Computers and Broadband Modems. . . . .	3
CTC	118	Broadband Digital Installer. . . . .	3
CTC	124	Troubleshooting Advanced Services. . . . .	3
MAN	116	Principles of Supervision . . . . .	3

### Restricted Electives

CTC	113	Systems Technician. . . . .	4
CTC	165	Advanced Technician . . . . .	3
CTC	120	Understanding Voice and Data Networks .3	

**Total . . . . . 26-27 credit hours**

## Broadband Telephony Technology

### Certificate

This certificate is for professionals hoping to advance in the rapidly growing field of broadband telephony. Those completing this certificate can expect to work with broadband cable, RBOCs, LECs, CLECs and DSL companies that are deploying advanced services such as ISDN, DSL, VDSL, VoIP and digital video. Also, individuals who have worked in the telephone industry will find this option helpful to move beyond POTS into supervision of full service broadband telephony technicians.

\* NOTE: Broadband degrees and certificates are available ONLY to Jones/NCTI participants

### Major Courses

CTC	107	Installer . . . . .	3
		(or choose one from restricted electives) . .	
CTC	109	Installer Technician. . . . .	4
CTC	117	Computers and Broadband Modems. . . . .	3
CTC	118	Broadband Digital Installer. . . . .	3
CTC	120	Understanding Voice and Data Networks .3	
BUS	115	Introduction to Business . . . . .	3
MAN	116	Principles of Supervision . . . . .	3
CTC	111	Service Technician . . . . .	4
		OR	
CTC	127	Fiber installation and Activation. . . . .	2
		AND	
CTC	128	Testing and Maintenance for Fiber Technicians . . . . .	2

### Restricted Electives

CTC	111	Service Technician	4
CTC	113	Systems Technician	4

**Total** ..... **26–27 credit hours**

## Broadband Technical Management

### Certificate

Broadband cable industry professionals completing this option will find success as managers of line technicians, maintenance technicians, fiber optics technicians and headend technicians, to name a few. These individuals will manage the personnel, processes and technologies used in design, construction, installation, maintenance and service of broadband coaxial and fiber networks.

\* NOTE: Broadband degrees and certificates are available ONLY to Jones/NCTI participants

CTC	107	Installer (or choose one from restricted electives)	3
CTC	109	Installer Technician	4
CTC	111	Service Technician	4
CTC	113	System Technician	4
CTC	127	Fiber Installation and Activation	2
CTC	128	Fiber Testing and Maintenance	2
CTC	165	Advanced Technician	4
MAN	116	Principles of Supervision	3
MAN	226	Principles of Management	3

### Restricted Electives

CTC	117	Computer and Broadband Modems	3
CTC	118	Broadband Digital Installer	3
CTC	120	Understanding Voice and Data Networks	3
CTC	124	Troubleshooting Advanced Services	3

**Total** ..... **29 credit hours**

## Broadband Customer Service Representative

### Certificate

Students will use this option to gain the knowledge they need to perform as effective and efficient customer service representatives, as well as achieve the credibility associated with a college certificate. They will learn the technical and people skills needed to be the valuable interface between broadband companies and customers.

\* NOTE: Broadband degrees and certificates are available ONLY to Jones/NCTI participants

BTE	100	Computer Keyboarding	1
CIS	118	Intro to PC Applications	3
CTC	108	Broadband Cable Overview	1
CTC	121	Understanding Broadband Technology	3
MAR	160	Customer Service	3
PSY	101	General Psychology I	
		OR.....	
PSY	116	Stress Management	3

**Total** ..... **15 credit hours**

## Broadband Customer Service Management

### Certificate

This certificate prepares students for careers as broadband customer service managers, giving them both the technical and managerial skills to perform their jobs.

\* NOTE: Broadband degrees and certificates are available ONLY to Jones/NCTI participants

BUS	115	Introduction to Business	3
CIS	118	Intro to PC Applications	3
CTC	121	Understanding Broadband Technology	3
ENG	121	English Composition I	3
MAN	116	Principles of Supervision	3
MAN	226	Principles of Management	3
MAR	160	Customer Service	3
PSY	101	General Psychology I	
		OR.....	
PSY	116	Stress Management	3

**Total** ..... **24 credit hours**

## Broadband Networking Technician

### Certificate

Increasingly, digitized voice and video are joining data for transport over networks of all sizes. Technicians must have a comprehensive understanding of protocols such as TCP/IP, network architectures, network design and planning, and other such skills. Demonstrated knowledge of these concepts is necessary for technicians who work in broadband telecommunications and IT fields. This certificate prepares the technician to understand digital voice and video and various forms of data transport over networks.

\* NOTE: Broadband degrees and certificates are available ONLY to Jones/NCTI participants

CNG	101	Intro to Networking	3
CNG	102	Local Area Networks	3
CNG	103	Wide Area Networks	3
CNG	104	Introduction to TCP/IP	3

**Total** ..... **12 credit hours**

## Broadband Technical Service Representative

### Certificate

Those completing this certificate will be well versed in the technologies used to deploy video, voice and data services.

\* NOTE: Broadband degrees and certificates are available ONLY to Jones/NCTI participants

BTE	100	Computer Keyboarding	1
CIS	118	Intro to PC Applications	3
CTC	120	Understanding Voice and Data	3
CTC	121	Understanding Broadband Technology	3
CTC	123	Basic Broadband Troubleshooting	3
MAR	160	Customer Service	3

PSY	101	General Psychology I OR	
PSY	116	Stress Management . . . . .	3
<b>Total . . . . .</b>			<b>19 credit hours</b>

## Broadband High-Speed Data Technical Service Representative

### Certificate

This certificate is helpful for individuals looking to move into high-speed data call center support and management roles, as well as those in sales, marketing and administrative functions in organizations that offer HSD service. Individuals completing this certificate will possess an in-depth knowledge of the technologies used to deploy, troubleshoot and support data services through broadband networks. Graduates will be uniquely qualified to manage services related to the deployment and initial, intermediate and advanced technical support of high-speed data in customer care and network operations centers.

\* NOTE: Broadband degrees and certificates are available ONLY to Jones/NCTI participants

BTE	100	Computer Keyboarding . . . . .	1
CIS	118	Intro to PC Applications . . . . .	3
CTC	120	Understanding Voice and Data . . . . .	3
CTC	121	Understanding Broadband Technology . . . . .	3
CTC	123	Basic Broadband Troubleshooting . . . . .	3
CTC	125	High-Speed Data Customer Service . . . . .	2
CTC	126	Advanced High-Speed Data Customer Service . . . . .	3
MAR	160	Customer Service . . . . .	3
PSY	101	General Psychology I OR	
PSY	116	Stress Management . . . . .	3
<b>Total . . . . .</b>			<b>24 credit hours</b>

## Associate of General Studies - Engineering Emphasis

This program is designed for the student who wishes to receive a traditional four-year engineering bachelor's degree by beginning at ACC and then transferring to an engineering school. This program is based on a transfer agreement between ACC and the University of Colorado at Denver (UCD). Credits listed below received at ACC are transferable to UCD within the limits of the agreement. Students completing the curriculum below with satisfactory performance will be able to transfer into the UCD College of Engineering and Applied Science with a junior standing.

Students must choose one of four program options. Please contact the Health, Math, Science and Engineering Division at 303.797.5888 for more information.

Students must meet with the ACC Engineering Department Advisor to plan their program of study. Please contact Henry Weigel at 303.797.5831 or henry.weigel@arapahoe.edu.

### General Education (50-53 credit hours)

#### Mathematics (14 credit hours)

MAT	201	Calculus I . . . . .	5
MAT	202	Calculus II . . . . .	5
MAT	203	Calculus III . . . . .	4

#### Sciences (15 credit hours)

CHE	111	General College Chemistry I . . . . .	5
PHY	211	Physics: Calculus Based I . . . . .	5
PHY	212	Physics: Calculus Based II . . . . .	5

#### Communications (9 credit hours)

ENG	121	English Composition I . . . . .	3
ENG	122	English Composition II . . . . .	3
SPE	115	Public Speaking . . . . .	3

#### Humanities and Social Sciences (12-15 credit hours)

Depending upon program option selection below, either 12 or 15 Humanities and Social Sciences credit hours are required:

##### 6 credit hours from the same area:

ECO	201	Principles of Macroeconomics . . . . .	3
ECO	202	Principles of Microeconomics . . . . .	3
POS	105	Introduction to Political Science . . . . .	3
POS	111	American Government . . . . .	3
SOC	101	Intro to Sociology I . . . . .	3
SOC	102	Intro to Sociology II . . . . .	3

##### 3 credit hours from:

ANT	101	Cultural Anthropology . . . . .	3
ANT	111	Physical Anthropology . . . . .	3
PSY	101	General Psychology I . . . . .	3

##### 6 credit hours from the same area:

HIS	101	Western Civilization I . . . . .	3
HIS	102	Western Civilization II . . . . .	3
LIT	201	Masterpieces of Literature I . . . . .	3
LIT	202	Masterpieces of Literature II . . . . .	3
PHI	111	Intro to Philosophy . . . . .	3
PHI	112	Ethics . . . . .	3

### PROGRAM OPTIONS –

see program options below (12-15 credit hours)

**Total . . . . . 65**

#### CHOOSE ONE PROGRAM OPTION:

##### Civil Engineering Option (12 credit hours)

15 credit hours of Humanities and Social Sciences electives required.

EGG	101	Engineering Graphics . . . . .	3
EGG	211	Engineering Mechanics: Statics . . . . .	3
EGG	212	Engineering Mechanics: Dynamics . . . . .	3
Restricted MAT or EGG elective – select from:			
CSC	160 (C++)	MAT 175, 255, 260 . . . . .	3

##### Computer Science in Engineering Option (15 credit hours)

12 credit hours of Humanities and Social Sciences electives required.

EGG	105	Logic Design . . . . .	4
CSC	160	Computer Science I (C++) . . . . .	4
CSC	161	Computer Science II (C++) . . . . .	4
Restricted CSC or MAT elective – select from:			
CSC	225, MAT 255, 260, 280 . . . . .		3

### Electrical Engineering Option (15 credit hours)

12 credit hours of Humanities and Social Sciences electives required.

EGG 105	Logic Design	4
EGG 221	Circuit Analysis I	4
EGG 222	Circuit Analysis II	4
Restricted CSC or MAT elective – select from:		
CSC 160 (C++), 233, 255, MAT 255, 260		3

### Mechanical Engineering Option (12 credit hours)

15 credit hours of Humanities and Social Sciences electives required.

EGG 101	Engineering Graphics	3
EGG 211	Engineering Mechanics: Statics	3
EGG 212	Engineering Mechanics: Dynamics	3
Restricted CSC or MAT elective – select from:		
CSC 160 (C++), MAT 255, 260		3

**NOTE:** This degree will be conferred as an **Associate of General Studies**. *Broadband Business Management Emphasis* will not be listed on student’s transcript or diploma.

## General Education Requirements for Associate of Applied Science Degrees

The Associate in Applied Science degrees require that a minimum number of courses must be completed from the approved general education list. The Associate of Arts, the Associate of Science and Associate of General Studies degree requirements listed previously already contain the general education options for those degrees.

### Definition of General Education

General education for the A.G.S. and A.A.S. degrees is defined by State Board Policy (BP 9-40). General education is “general” in several clearly identifiable ways: it is not directly related to a student’s formal technical, vocational or professional preparation; it is a part of every student’s course of study, regardless of his or her area of emphasis; and is intended to impart common knowledge, intellectual concepts and attitudes which every educated person should possess.

*ANT 101	Cultural Anthropology	3
*ANT 107	Intro to Archaeology	3
*ANT 111	Physical Anthropology	3
ARC 125	History of Architecture	3
*ART 110	Art Appreciation	3
*ART 111	Art History I	3
*ART 112	Art History II	3
ART 121	Drawing	3
ART 138	Photography I	3
ART 141	Jewelry and Metalwork I	3
ART 161	Ceramics I	3
ART 231	Watercolor I	3
*AST 101	Astronomy I	4
*AST 102	Astronomy II	4
*BIO 105	Science of Biology	4
*BIO 111	General College Biology I	5
*BIO 112	General College Biology II	5
BIO 115	Human Genetics	3

*BIO 201	Human Anatomy and Physiology I	4
*BIO 202	Human Anatomy and Physiology II	4
*BIO 204	Microbiology	4
BTE 102	Keyboarding Applications	2
BUS 115	Intro to Business	3
BUS 116	Personal Finance	3
BUS 216	Legal Environment of Business	3
*CHE 101	Intro to Chemistry I	5
*CHE 102	Intro to Chemistry II	5
*CHE 111	General College Chemistry I/Lab	5
*CHE 112	General College Chemistry II/Lab	5
CIS 115	Intro to Computer Information Systems	3
CIS 118	Intro to PC Applications	3
CSC 150	Visual Basic Programming	3
CSC 160	Computer Science I (Java)	4
CSC 161	Computer Science II (Java)	4
ECO 105	Intro to Economics	3
*ECO 201	Principles of Macroeconomics	3
*ECO 202	Principles of Microeconomics	3
ECO 205	Contemporary Economic Issues	3
ELT 100	Basic Electronics	3
*ENG 121	English Composition I	3
*ENG 122	English Composition II	3
ENG 131	Technical Writing I	3
(FOL) 111	Foreign Language I	5
(FOL) 112	Foreign Language II	5
(FOL) 211	Foreign Language III	3
(FOL) 212	Foreign Language IV: ARA, CHI, FRE, JPN, SPA and LAT	3
ASL 121	American Sign Language I	3
ASL 122	American Sign Language II	5
*GEO 105	World Regional Geography	3
*GEO 106	Human Geography	3
GEO 107	Physical Geography	3
GEO 165	Human Ecology	3
*GEY 111	Physical Geology	4
*GEY 121	Historical Geology	4
GDI 145	Video Computer Graphics	3
*HIS 101	Western Civilization I	3
*HIS 102	Western Civilization II	3
*HIS 201	U.S. History I	3
*HIS 202	U.S. History II	3
*HIS 247	Contemporary World History	3
*HUM 121	Early Civilizations	3
*HUM 122	From Medieval to Modern	3
*HUM 123	The Modern World	3
HWE 100	Human Nutrition	3
HWE 103	Standard First Aid-Adult CPR	1
HWE 108	Weight Loss and Nutrition	1
INV 115	Investments/Stocks and Bonds	3
LAW 225	Constitutional and Administrative Law	3
*LIT 115	Intro to Literature I	3
*LIT 201	Masterpieces of Literature I	3
*LIT 202	Masterpieces of Literature II	3
*LIT 205	Ethnic Literature	3
*LIT 211	Survey of American Literature I	3
*LIT 212	Survey of American Lit II	3
*LIT 221	Survey of British Literature I	3
*LIT 225	Introduction to Shakespeare	3
*LIT 222	Survey of British Lit II	3
LIT 255	Children’s Literature	3
MAN 116	Principles of Supervision	3
MAN 226	Principles of Management	3
MAR 106	Marketing Your Image	3

MAR	216	Principles of Marketing . . . . .	3
MAT	090	Introductory Algebra. . . . . (applicable only to specified vocational degrees)	4
MAT	106	Survey of Algebra. . . . .	4
MAT	111	Graphing Calculator Techniques. . . . .	1
MAT	108	Technical Mathematics. . . . .	4
*MAT	120	Mathematics for Liberal Arts . . . . .	4
*MAT	121	College Algebra . . . . .	4
*MAT	122	College Trigonometry. . . . .	3
*MAT	123	Finite Mathematics . . . . .	4
*MAT	125	Survey of Calculus . . . . .	4
*MAT	135	Intro to Statistics. . . . .	3
MAT	179	Computer Applications for Statistics . . . . .	1
*MAT	201	Calculus I . . . . .	5
*MAT	202	Calculus II. . . . .	5
MUS	100	Fundamentals of Music Theory . . . . .	3
*MUS	120	Music Appreciation. . . . .	3
*MUS	121	Intro to Music History I . . . . .	3
*MUS	122	Intro to Music History II. . . . .	3
PED		Any physical activity course. . . . .	1
*PHI	111	Intro to Philosophy . . . . .	3
*PHI	112	Ethics . . . . .	3
*PHI	113	Logic. . . . .	3
PHY	100	Elementary Physics. . . . .	3
*PHY	105	Conceptual Physics. . . . . (does not apply to the A.S. core)	4
*PHY	111	Physics: Algebra-Based I . . . . .	5
*PHY	112	Physics: Algebra-Based II. . . . .	5
*PHY	211	Physics: Calculus-Based I. . . . .	5
*PHY	212	Physics: Calculus-Based II. . . . .	5
*POS	105	Intro to Political Science. . . . .	3
*POS	111	American Government . . . . .	3
POS	125	American State and Local Government . . . . .	3
POS	205	International Relations . . . . .	3
POS	216	Comparative Government. . . . .	3
*PSY	101	General Psychology I . . . . .	3
*PSY	102	General Psychology II . . . . .	3
PSY	116	Stress Management. . . . .	3
*PSY	235	Human Growth and Development . . . . .	3
*SOC	101	Intro to Sociology I. . . . .	3
*SOC	102	Intro to Sociology II . . . . .	3
SOC	205	Marriage and The Family . . . . .	3
SOC	215	Contemporary Social Problems . . . . .	3
SPE	115	Public Speaking . . . . .	3
SPE	125	Interpersonal Communication. . . . .	3
SPE	225	Organizational Communication . . . . .	3
*THE	105	Intro to Theatre Arts . . . . .	3
*THE	211	Development of Theatre I. . . . .	3
*THE	212	Development of Theatre II . . . . .	3

\*General Education courses marked with an asterisk are a part of the General Transfer Curriculum (GT 25).

## Associate of Applied Science Degrees

The common goal of all Associate of Applied Science degrees and occupational certificate programs is to prepare students for employment in specific occupations. The programs for the degrees consist of major courses as well as related general education courses. While many of these courses may transfer to a 4-year college or university, the

programs themselves do not have transferability as their primary goal. Students are encouraged to discuss career goals and educational objectives with a counselor or advisor prior to enrolling in these programs. Courses numbered below 100 cannot be used to satisfy elective requirements for A.A.S. degrees.

## Accounting

### Associate of Applied Science Degree

This program is designed to prepare the student for entry-level positions in the bookkeeping/accounting field. This would include clerical positions in specialized areas such as accounts payable, accounts receivable and payroll, as well as positions with a more total involvement in accounting.

#### Major Courses (32 credit hours)

ACC	121	Principles of Accounting I . . . . .	4
ACC	122	Principles of Accounting II. . . . .	4
ACC	115	Payroll Accounting . . . . .	3
ACC	131	Income Tax I. . . . .	3
ACC	135	Spreadsheet Applications for Accounting. . . . .	3
ACC	226	Cost Accounting . . . . .	3
ACC	229	Managerial Accounting. . . . .	3
ACC	287	Cooperative Education OR	
ACC	289	Capstone . . . . .	3
BUS	217	Business Communications and Report Writing . . . . .	3
FIN	101	Introduction to Finance. . . . .	3

#### General Education Courses (15-17 credit hours)

BUS	216	The Legal Environment . . . . .	3
ECO	201	or ECO 202. . . . .	3
ENG	121	or ENG 131. . . . .	3
MAT	106/111 OR higher. . . . .		3-5
SPE	125 or SPE 225 or SPE 115. . . . .		3

#### Restricted Electives (13 credit hours)

Select at least six hours from Area One and six hours from Area Two. The remaining hour may be selected from either area. Please consult with an Advisor for selection of electives best suited to your needs.

#### Area One: Business Electives

Select at least six hours from any Course with the following prefixes: BTE, BUS, ECO, FIN, INV, MAN, MAR

#### Area Two: ACC/CIS Electives

Select at least six hours from any course with the following prefix, not already required: ACC, CIS, CNG, CSC

#### Physical Education<sup>2</sup> (1 credit hour)

PED	activity course . . . . .	1
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**Total . . . . . 61-63 credit hours**

1. Students without a good background in algebra should take the math requirement prior to taking ACC 122.
2. The PED requirement will be waived for students who are 35 years of age or older at time of most recent admission to the College. Appropriate credit must be taken to substitute for the hour waived.

## Activity Professionals Training

### Certificate

The Activity Profession is unique in health care because the focus is on “what is RIGHT with the person rather than what is wrong.” The activity professional is offered flexibility and creativity while improving the quality of life of older adults residing in nursing homes, assisted living facilities, retirement communities and community-based adult day programs.

Students will learn how to meet the psychosocial, physical and cultural needs of the older adult through a diverse activity program. Students will learn program planning, physical and social aspects of aging, regulatory requirements, documentation guidelines and administrative techniques. Classroom instruction will include presentations from a variety of experts in the fields of activity and aging. After successful completion of the activity professional training program the graduate is qualified according to federal OBRA regulations to be an activity director employed in a nursing home. This program is the only State-approved training program in Colorado.

Activity Professional Training 110 (MEPAP I), and APT 188 are corequisites that meet for eight-hour sessions three times a month for four months. Practicum experience includes 90 hours of working in an activity department under the direction of a certified activity professional. Activity Professional Training 210 (MEPAP II) comprises preparation in volunteer management, advanced documentation and regulatory compliance, community relations and advanced administrative practices. APT 288 is the advanced practicum. The curriculum for this certificate is aligned with the requirements established by the National Certification Council of Activity Professionals and the National Association of Activity Professionals. APT 110, 188, 210 and 288 are required.

This certificate is eligible for financial aid.

All courses required for this certificate must be completed with a “C” or better.

#### Activity Professionals’ Training Certificate (20 credit hours)

APT 110	Activity Training Prof I . . . . .	8
APT 188	Basic Practicum . . . . .	2
APT 210	Activity Training Prof II . . . . .	8
APT 288	Advanced Management Practicum . . . . .	2

**Total . . . . . 20 credit hours**

## Applied Technology

### Associate of Applied Science Degree

Students desiring to complete the Associate of Applied Science (A.A.S.) Degree in Applied Technology will complete the technical course work contained in a State-approved career and technical education program certificate \* at one of the four area vocational technical schools (AVTS). The four AVTS are: Delta-Montrose Area Vocational Technical Center, Emily Griffith Opportunity School, San Juan Basin Area Vocational Technical School and Pickens Tech Center.

The general education and other degree requirements will be completed at Arapahoe Community College. The A.A.S. degree will be conferred by Arapahoe Community College after the general education and other degree requirements have been completed.

The approved career and technical education certificate programs at the AVTS prepare students with technical, applied academic and employability skills. Credit in varying amounts from these certificate programs will be applicable to the community college’s A.A.S. degree in Applied Technology.

Students may enroll concurrently at both institutions, an AVTS and Arapahoe Community College. Students must comply with the regulations and requirements relating to admission and attendance at each institution.

Minimum requirements for the Associate of Applied Science (A.A.S.) Applied Technology degree include:

- 60 semester credits of coursework.
- Arapahoe Community College will accept up to 42 credit hours of course work from an approved certificate at an AVTS.
- Cumulative GPA of 2.0 or higher.
- General education course credits of 15-18 semester credits.

Minimum of 18 semester credits earned at Arapahoe Community College to include:

#### General Education Requirements: Semester Credits

English: ENG 121 or ENG 131 . . . . .	3
Speech: SPE 115 or SPE 125 . . . . .	3
Humanities: Selected from general education lists . . . . .	3
Mathematics: MAT 121 or higher . . . . .	4
Natural Science: Selected from the General Education list 3	
Social Science: Selected from General Education list . . . . .	3

#### 15-credit minimum

Students completing an AVTS certificate of less than 42 hours must complete additional hours at Arapahoe Community College from the approved General Education list. These credit hours should be selected to complement the certificate from the AVTS and be consistent with the student’s future plans. Students transferring a certificate with thirty or fewer hours will complete a minimum of twelve hours in a single technology-based discipline. The disciplines are:

Architectural Technology (ARC), Automotive Technology (ATC, AUT), Computer-Aided Drafting, Computer Graphics (CAD), Computer Information Systems (CIS), and Convergent Technologies (CTC), and Electronics Engineering Technologies (ELT). The specific courses must be selected in consultation with a department advisor and be approved by the advisor.

\*A state-approved career and technical education program is a program that is approved by the State Board for Community Colleges and Occupational Education (SBCCOE) and is current.

## Architectural Technology

### Associate of Applied Science Degree (A.A.S.)

The Architectural Technology program provides students with the development of skills necessary to become a competent draftsman. Graduates of the program will be dealing with residential drawings as well as commercial structures. New students are encouraged to talk or meet with an Architectural Technology faculty advisor before first semester registration.

The student will also be introduced to a number of architectural and building trade related topics. From the "History of Architecture" to "Surveying," the student will be expanding his/her knowledge of this industry. Diversified courses within the Architectural Technology program provide a foundation for employment within the varied building design and construction industry.

#### Major Courses (52 credit hours)

ARC 101	Intro to Architectural Drawing	5
ARC 102	Residential Architecture	5
ARC 107	Blueprint Reading (Residential/Commercial)	3
ARC 116	Building Materials	3
ARC 121	Building Structure Analysis	3
ARC 125	History of Architecture	3
ARC 205	Commercial Drawing Practice I	4
ARC 215	Architectural Graphics	3
ARC 216	Estimating I	3
ARC 218	Surveying	3
ARC 226	Construction Scheduling	3
ARC 231	Building Service Systems	3
ARC 236	Codes/Zoning/Specifications	3
ARC 278	Seminar	1
ARC 280	Internship	1
CAD 101	Computer Aided Drafting I	3
CAD 102	Computer Aided Drafting II	3

#### General Education Courses (16 credit hours)

ART 110, 111, or 112		3
ENG 121 or 131	English	3
MAT 108	Technical Mathematics OR higher	4
SPE 115, 125, or 225	Speech	3

#### Elective:

From the General Education Course List - Section I, Communications; IV, Sciences or V, Mathematics. 3

#### Physical Education (1 credit hour)

PED	Activity Course*	1
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**Total Degree Credits . . . . . 69 credit hours**

\*The PED requirement may be waived for students who are 35 years of age or older at the time of most recent admission to the College. Appropriate credit must be taken to substitute for the hour waived.

## Architectural Drafting

### Certificate

The Architectural Drafting certificate provides the educational background and basic technical training necessary for the student to seek employment within one of the area's architectural firms. Students will be prepared for a variety of job-entry positions that include Draftsman or Computer Aided Design Technician.

#### Major Courses (35 credit hours)

ARC 101	Intro to Architectural Drawing	5
ARC 102	Residential Architecture	5
ARC 116	Building Materials	3
ARC 121	Building Structure Analysis	3
ARC 125	History of Architecture	3
ARC 215	Architectural Graphics	3
CAD 101	Computer Aided Drafting I	3
CAD 102	Computer Aided Drafting II	3
CAD 201	Computer Aided Drafting/Custom	3
MAT 108	Technical Mathematics or higher	4

## Architectural Contracts and Materials

### Certificate

The Architectural Contracts and Materials certificate provides the educational background and basic technical training necessary for the student to seek employment within one of the area's architectural firms. Students will be prepared and trained for a variety of job-entry positions that include Engineering Technician, Materials Technician, Estimator, Specification Writer or Construction Supervisor.

#### Major Courses (27 credit hours)

ARC 107	Blueprint Reading (Residential/Commercial)	3
ARC 116	Building Materials	3
ARC 216	Estimating I	3
ARC 218	Surveying	3
ARC 226	Construction Scheduling	3
ARC 228	Contracts, Bonds and Insurance	3
ARC 231	Building Service Systems	3
ARC 236	Codes/Zoning/Specifications	3
ENG 131	Technical Writing	3

**Total . . . . . 27 credit hours**

## Mechanical Drafting Certificate

The Mechanical Drafting certificate program will provide the educational background and basic technical training necessary for the graduate to seek employment with one of the area's manufacturing or engineering industries. Students will be prepared for a variety of job-entry positions whose titles include Draftsman, Junior Designer and Computer Aided Design Technician

#### Major Courses (31 credit hours)

CAD 101	Computer Aided Drafting I	3
CAD 102	Computer Aided Drafting II	3
CAD 201	Computer Aided Drafting/Custom	3

DRT	101	Technical Drafting I . . . . .	3
DRT	102	Technical Drafting II. . . . .	3
DRT	109	Descriptive Geometry. . . . .	3
MAT	108	Technical Mathematics or higher . . . . .	4
MTE	120	Manufacturing Process. . . . .	3
TEC	201	Engineering Technologies. . . . .	3
TEC	205	Geometric Dimensioning and Tolerancing	3

**Restricted Electives (3 credit hours)**

CAD	202, 249, or 254. . . . .	3
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**Total . . . . . 34 credit hours**

## Residential Drafting Certificate

**Certificate**

**Major Courses (16 credit hours)**

ARC	101	Intro to Architectural Drawing . . . . .	5
ARC	102	Residential Architecture . . . . .	5
CAD	101	Computer Aided Drafting I. . . . .	3
CAD	102	Computer Aided Drafting II . . . . .	3

**Total . . . . . 16 credit hours**

## Automotive Service Industry

### Associate of Applied Science Degree or Certificate

The Associate of Applied Science Degree in automotive service technology and related certificate programs are NATEF certified and taught by ASE certified Instructors.

The two-year Automotive A.A.S. (Associate of Applied Science) and certificate degree programs are designed to train and prepare students for employment in the automotive service industry as professional technicians and to prepare students for the ASE (Automotive Service Excellence) certification examinations.

The automotive training program at ACC is organized into four outstanding "Tracks:"

1. General Motors-specific program called GM Automotive Service Educational Program (ASEP)
2. DaimlerChrysler-specific program called DaimlerChrysler College Automotive Program (CAP)
3. Nissan- Nissan-specific program (Nissan Denver Technician Apprenticeship Program)
4. The general college program called Automotive Service Technology (ATEC)

The corporate sponsored dealership apprenticeship programs (CAP, ASEP, and Nissan) are manufacturer-specific and are degree programs only. In-coming freshmen will begin only in the Fall semester. These tracks require the student to obtain and maintain an apprenticeship position at a GM, Nissan, or DaimlerChrysler dealership for the duration of the program. Program faculty will assist the student in finding suitable placement. Additionally, these students will take Web-based manufacturer technician training courses; their sponsoring dealership will receive training credit for that student upon his or her graduation with the A.A.S. degree.

The general ATEC program does not requires the student to obtain an industry apprenticeship however an apprenticeship strengthens the connection between material learned in school and its application in the real world.

All tracks have limited seats available and are filled on a first-come first-served basis, dependent upon satisfactory criminal background checks and drug screening.

Students wishing to pursue the two-year degree must be signed into the respective courses by the department chair at the beginning of each semester to ensure that the student is on track to graduate in the prescribed two-year period. Classes for the corporate tracks will be filled with dealer-sponsored students first; general program students may be allowed to fill any available remaining seats.

All students, regardless of their chosen track, should be aware of automotive repair industry expectations, specifically:

1. Technicians must drive their customers' vehicles as part of the repair process; thus the technician and the student must have a clean motor vehicle record and valid driver's license.
2. The hiring process at reputable repair shops and dealerships will include a drug screen and a thorough background investigation.

As a result of these industry policies, to be eligible for acceptance into the program, students must take a department administered mechanical assessment test and pass an industry standard MVR, background, and urinalysis check. Please access the American Data Bank Web site at <http://accatotechscreening.com>.

The National Automotive Technician Education Foundation, Inc. accredits the Automotive Service Technology Programs and can be reached at 101 Blue Seal Drive, Leesburg VA, 20175, Telephone (703) 669-6650.

**Automotive Courses (60 credit hours)**

ASE	102	Introduction to the Automotive Shop . . . . .	2
ASE	110	Brakes I. . . . .	3
ASE	210	Brakes II . . . . .	3
ASE	120	Basic Automotive Electricity . . . . .	2
ASE	123	Battery, Starting and Charging Systems . . . . .	2
ASE	220	Specialized Electronics Training . . . . .	2
ASE	221	Body Electrical . . . . .	4
ASE	130	General Engine Diagnosis . . . . .	2
ASE	132	Ignition System Diagnosis and Repair . . . . .	2
ASE	134	Automotive Emissions . . . . .	2
ASE	231	Automotive Computers. . . . .	2
ASE	233	Fuel Injection and Exhaust Systems . . . . .	4
ASE	235	Driveability Diagnosis . . . . .	1
ASE	140	Suspension and Steering I. . . . .	3
ASE	240	Suspension and Steering II . . . . .	3
ASE	250	Automatic Transmission/Transaxle Service . . . . .	1
ASE	251	Automatic Trans/Transaxle Diagnosis . . . . .	5
ASE	160	Automotive Engine Removal and Install . . . . .	1
ASE	161	Engine Disassembly, Diagnosis and Assembly . . . . .	5
ASE	265	Heating and Air Conditioning. . . . .	5
ASE	150	U-Joint and Axle Shaft Service. . . . .	2

ASE	151	Manual Transmission/Trans and Clutches	2
ASE	152	Differentials and 4WD/AWD Service	2

**Total Automotive Credit Hours**.....60

**General Education Courses (17 credit hours)**

ENG	121	English Composition I OR	
ENG	131	Technical Writing	3
CIS	118	Introduction to PC Applications	3
MAT	108	Technical Mathematics (or higher algebra-based math)	4
PHY	101	Elementary Physics (or higher algebra-based physics)	4
SPE	125	Interpersonal Communication	3

**Total General Education Credit Hours**.....17

**Total**.....77 credit hours

## Automotive Service Management

### Certificate

This program is designed as a work co-op program for people interested in a job as an automotive service writer/consultant. The academic courses may be taken prior to, in conjunction with, or after the automotive courses. Dealerships are particularly interested in female service writers as women are under-represented in the automotive service field.

**Automotive Courses (33 credit hours)**

ASE	102	Introduction to Auto Shop	2
ASE	130	General Engine Diagnosis	2
ASE	110	Brakes I	3
ASE	140	Suspension and Steering I	3
ASE	265	Heating and Air Conditioning	5
ASE	120	Basic Automotive Electricity	2
ASE	123	Battery, Starting and Charging Systems	2
ASE	132	Ignition System Diagnosis and Repair	2
ASE	233	Fuel Injection and Exhaust Systems	4
ASE	250	Automatic Transmission/Transaxle Serv	1
ASE	134	Automotive Emissions	2
ASE	210	Brakes II	3
ASE	150	U-Joint and Axle Shaft Service	2

**Total Automotive Credit Hours**.....33

**General Education Courses (13 credit hours)**

ENG	121	English Composition I OR	
ENG	131	Technical Writing	3
SPE	125	Interpersonal Communication	3
CIS	118	Intro to PC Applications	3
BUS	115	Intro to Business	3
BTE	100	Computer Keyboarding	1

**Total General Education Credit Hours**.....13

**Total**.....46 credit hours

### Electrical/Electronics, Engine Performance and Brakes – 1 Year Certificate

ASE	110	Brakes I	3
ASE	210	Brakes II	3
ASE	120	Basic Automotive Electricity	2
ASE	123	Battery, Starting and Charging Systems	2

ASE	220	Specialized Electronics Training	2
ASE	221	Body Electrical	4
ASE	130	General Engine Diagnosis	2
ASE	132	Ignition System Diagnosis and Repair	2
ASE	134	Automotive Emissions	2
ASE	231	Automotive Computers	2
ASE	233	Fuel Injection and Exhaust Systems	4
ASE	235	Driveability Diagnosis	1

**Total**.....29 credit hours

### Steering/Suspension, Powertrain, Heating and Air Conditioning – 1 Year Certificate

ASE	140	Suspension and Steering I	3
ASE	240	Suspension and Steering II	3
ASE	250	Automatic Transmission/Transaxle Serv	1
ASE	251	Automatic Trans/Transaxle Diagnosis	5
ASE	160	Automotive Engine Removal and Install	1
ASE	161	Engine Disassembly, Diagnosis and Assembly	5
ASE	265	Heating and Air Conditioning	5
ASE	150	U-Joint and Axle Shaft Service	2
ASE	151	Manual Transmission/Trans and Clutches	2
ASE	152	Differentials and 4WD/AWD Service	2

**Total**.....29 credit hours

## Business Administration

### Associate of Applied Science Degree

The Associate of Applied Science degree in Business Administration is designed to provide students with the skills needed in diverse public and private organizations. The program provides the business, management and marketing skills necessary for success in entry-level positions requiring foundations of greater responsibility, authority and leadership. Students who complete the program will be viewed by potential employers as having a broad-based education necessary for today's team-oriented and globally-competitive environment.

The Business Administration program prepares students for careers in business, as well as providing students with instructional resources for the purpose of ongoing enhancement of skills.

This program may transfer to other colleges or universities and apply toward a bachelor's degree. Contact the ACC Counseling Office or a Faculty Advisor in Business Administration for details.

**Major Courses (34 credit hours)**

ACC	121	Principles of Accounting I	4
BUS	115	Introduction to Business	3
BUS	216	Legal Environment of Business	3
BUS	217	Business Communications/ Report Writing	3
FIN	101	Introduction to Finance	3
MAN	128	Human Relations OR	
MAN	215	Organizational Behavior	3
MAN	224	Leadership	3
MAN	226	Principles of Management	3
MAR	106	Marketing Your Image	3
MAR	160	Customer Service	3
MAR	216	Principles of Marketing	3

**General Education Courses (16 credit hours)**

BUS 226	Business Statistics . . . . .	3
CIS	Must be CIS 118 or higher. . . . .	3
CIS 161	Presentation Graphics . . . . .	1
ECO 201	Principles of Macroeconomics OR	
ECO 202	Principles of Microeconomics . . . . .	3
ENG 121	English Composition I . . . . .	3
SPE 115	Public Speaking . . . . .	3

**Coop Education/Internship (1 credit hour)**

BUS 287	Cooperative Education/Internship . . . . .	1
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**Discipline Emphasis (9 - 12 credit hours)**

Student must choose one of the following areas of emphasis:

**General Business Option (9 credit hours)**

The General Business Option prepares students for entry-level positions in a broad range of business occupations. It continues the students' exposure to major areas in the business world, as well as giving the student flexibility in designing a program to fit his or her specific needs.

**Restricted Electives (9 credit hours)**

Student must choose 9 credit hours from the courses listed below:

BUS 116	Personal Finance . . . . .	3
BUS 203	Introduction to International Business . . .	3
BUS 241	Cultural Diversity in Business . . . . .	3
BUS 287	Cooperative Education/Internship . . . . .	3

Any course(s) with the prefixes:

ACC, BTE, BUS, CIS, FIN, MAN, MAR, REE,  
or other, with Department Chair approval . . . . . 3-9

**Management Option (9 credit hours)**

The Management Option prepares students for entry-level positions in business, government and nonprofit organizations. For those who are already managers, the emphasis is designed to improve and broaden their skills by keeping abreast of the most current technological and theoretical aspects of Management.

**Restricted Electives (9 credit hours)**

Students must take 9 credit hours from the following:

MAN 116	Principles of Supervision . . . . .	3
MAN 200	Human Resource Management . . . . .	3
MAN 201	Human Resource Management II . . . . .	3
MAN 216	Small Business Management . . . . .	3
MAN 240	Strategic Management . . . . .	3
MAN 241	Project Management in Organizations . . .	3
MAN 243	Project Management Practicum . . . . .	3
BUS 287	Cooperative Education/Internship . . . . .	3
CIS 202	Automated Project Management: MS Project . . . . .	3

**Marketing Option (9 credit hours)**

The Marketing Option prepares students for entry-level positions which deal with directing the activities of the organization toward the satisfaction of consumer wants and needs. This involves an understanding of consumer behavior; promotional, sales and pricing strategies; product management; and physical distribution, all of which prepare the student for a wide variety of opportunities.

**Restricted Electives (9 credit hours)**

Student must take 9 credit hours from the following:

MAR 111	Principles of Sales . . . . .	3
MAR 117	Principles of Retailing . . . . .	3
MAR 126	Merchandising . . . . .	3
MAR 160	Customer Service . . . . .	3
MAR 220	Principles of Advertising . . . . .	3
MAR 235	Consumer Behavior . . . . .	3
MAR 249	Strategic Marketing . . . . .	3
BUS 287	Cooperative Education/Internship . . . . .	3

**Small Business Management Option (9 credit hours)**

The Small Business Management Option is designed to prepare those interested in a career in owning or managing a small business, as well as to enhance the skills of those already involved in entrepreneurship. The courses are designed to stimulate the entrepreneurial spirit by giving the student the knowledge and ability needed to profitably respond to the environment of the small businessperson.

**Required Course: (3 credit hours)**

MAN 216	Small Business Management . . . . .	3
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**Restricted Electives: . . . . . (6 credit hours)**

Student must take 6 credit hours from the following:

BUS 116	Personal Finance . . . . .	3
BUS 203	Introduction to International Business . . .	3
BUS 241	Cultural Diversity in Business . . . . .	3
MAR 111	Principles of Sales . . . . .	3
MAR 117	Principles of Retailing . . . . .	3
MAR 160	Customer Service . . . . .	3
MAR 220	Principles of Advertising . . . . .	3
BUS 287	Cooperative Education/Internship . . . . .	3

**Event Management Option (9 credit hours)**

The Event Management Option prepares students for entry-level event management and marketing positions for both large and small businesses and community relations positions for government and nonprofit agencies or for self-employment.

**Required Course: (3 credit hours)**

MAN 205	Event Planning . . . . .	3
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**Restricted Electives: (6 credit hours)**

Student must take 6 credit hours from the following:

MAN 216	Small Business Management . . . . .	3
MAR 111	Principles of Sales . . . . .	3
MAR 160	Customer Service . . . . .	3
MAR 220	Principles of Advertising . . . . .	3
BUS 287	Cooperative Education/Internship . . . . .	3

**Real Estate Broker Licensing Option (12 credit hours)**

Successful completion of the courses in this option will satisfy the educational requirement of the Colorado Real Estate Commission to sit for the Real Estate Broker's Licensing Examination.

**Required Courses: (12 credit hours)**

REE 201	Real Estate Broker I . . . . .	6
REE 202	Real Estate Broker II . . . . .	6

### Real Estate Appraiser Option (9 credit hours)

Successful completion of REE 118 and REE 119 in this option will satisfy the educational requirement of the Colorado Board of Real Estate Appraisers to sit for the Registered Appraiser Examination.

#### Required Courses (9 credit hours)

REE 115	Introduction to Real Estate	3
REE 118	Real Estate Appraisal	4
REE 119	Uniform Standards of Professional Appraisal Practice (USPAP)	1
BUS 287	Cooperative Education/Internship	1

### Travel And Tourism Option (9 credit hours)

This option prepares individuals for career opportunities in the Travel and Tourism industry. The program emphasizes travel careers with a variety of employers, as well as the enhancement of the skills of those already employed in the industry.

#### Restricted Electives (9 credit hours)

Student must take 9 credit hours from the following:

TRA 120	Travel Reservations	3
TRA 125	Airline Reservations	3
TRA 128	Travel Destinations	3
TRA 141	Leisure Travel	3
TRA 230	Home-based Travel Agent	3
BUS 287	Cooperative Education/Internship	3

**Total 60 - 63 credit hours**

## Business Administration Certificates

These certificate programs offer opportunities for students to add a wide range of business-related courses to their expertise for advancement in their jobs, to enhance skills needed in the business and/or public workforce sectors, or in endeavors involving self-employment and entrepreneurship.

### Advertising Media

This certificate is designed to enhance the knowledge and skills of those interested in graphic design or marketing careers and for entrepreneurs. Marketing and advertising principles are covered with an overview of graphic design technologies and practices.

#### Required Courses (15 credit hours)

MAR 216	Principles of Marketing	3
MAR 220	Principles of Advertising	3
ART 131	Design I	3
MGD 101	Introduction to Computer Graphics	3
MGD 103	Production Design (prerequisites: ART 131 and MGD 101)	3

**Total 15 credit hours**

### Consumer Behavior

This certificate is for individuals who wish to obtain a better understanding of consumer actions and feeling that may influence the development of marketing strategies. Courses can be applied to the A.A.S. in Business Administration.

#### Required Courses (9 credit hours)

MAR 160	Customer Service	3
MAR 216	Principles of Marketing	3
MAR 235	Consumer Behavior	3

**Total 9 credit hours**

### Contemporary Business

For students who wish to gain a basic knowledge of today's business environment. Courses can all be applied to the A.A.S. in Business Administration.

#### Required Courses (9 credit hours)

BUS 115	Introduction to Business	3
BUS 216	Legal Environment of Business	3
MAN 230	Corporate Responsibility	3

**Total 9 credit hours**

### Contemporary Management

This certificate is designed for both line and staff managers in the business and public sectors and for those who wish to learn the planning, supervision and management techniques and skills needed to improve workforce productivity. Courses can be applied to the A.A.S. in Business Administration.

#### Required Courses (9 credit hours)

MAN 116	Principles of Supervision	3
MAN 226	Principles of Management	3
MAN 240	Strategic Management	3

### Customer Service

This certificate is for individuals who are in a business, management or marketing profession and would like to enhance their customer service skills or develop a customer service plan for their organization or business. Courses can be applied to the A.A.S. in Business Administration.

#### Required Courses (12 credit hours)

MAR 160	Customer Service	3
MAR 111	Principles of Sales	3
MAR 235	Consumer Behavior	3
BUS 217	Business Communication/ RPT Writing	3

**Total 12 credit hours**

### Direct Marketing

This certificate is designed for an individual already in a marketing career or an entrepreneur to understand all aspects of direct marketing from using marketing/advertising principles and basic design of direct mail pieces to gathering customer information and developing and maintaining databases.

#### Required Courses (12 credit hours)

MAR 216	Principles of Marketing	3
MAR 220	Principles of Advertising	3
CIS 167	Desktop Publishing	3
CIS 240	Database Design and Development	3

**Total 12 credit hours**

### Human Resource Management

This certificate is designed to enhance the skills of those who are seeking employment that deals with a practical approach to current issues in Human Resource Management, including laws, compensation programs and evaluation policies and procedures. These courses can be

applied to the Human Resource Specialist certificate and to the A.A.S. in Business Administration.

**Required Courses (9 credit hours)**

MAN 200	Human Resource Management I . . . . .	3
MAN 201	Human Resource Management II . . . . .	3
MAN 215	Organizational Behavior . . . . .	3

**Total . . . . . 9 credit hours**

**Human Resource Specialist**

This certificate is designed for individuals pursuing careers as Human Resource Specialists in large organizations, or Human Resource Managers in smaller organizations, or those already so employed who wish to upgrade or enhance their skills. The program concentrates heavily on the connection between organizations and productivity and how these are affected by the concepts, issues and practices of contemporary Human Resource Management. Courses can be applied to an A.A.S. degree in Business Administration.

**Required Courses (30 credit hours)**

MAR 106	Marketing Your Image . . . . .	3
BUS 216	Legal Environment of Business . . . . .	3
MAN 116	Principles of Supervision . . . . .	3
MAN 128	Human Relations. . . . .	3
MAN 200	Human Resource Management I . . . . .	3
MAN 201	Human Resource Management II . . . . .	3
MAN 215	Organizational Behavior . . . . .	3
MAN 224	Leadership. . . . .	3
MAN 226	Principles of Management . . . . .	3
MAN 230	Corporate Responsibility . . . . .	3

**Total . . . . . 30 credit hours**

**International Business**

This certificate is designed for students entering one of the fastest and most challenging segments of business today, the international market. Completion of these courses will provide a good understanding of the interdisciplinary nature of international business. Courses can be applied to the A.A.S. in Business Administration.

**Required Courses (9 credit hours)**

BUS 115	Introduction to Business	3
BUS 203	Introduction to International Business . . .	3
BUS 241	Cultural Diversity in Business . . . . .	3

**Total . . . . . 9 credit hours**

**Leadership**

This certificate will help individuals assess and develop personal leadership skills, including the increasingly important relationship between effective leadership and the situation. Courses can be applied to the A.A.S. in Business Administration.

**Required Courses (9 credit hours)**

MAN 215	Organizational Behavior . . . . .	3
MAN 224	Leadership. . . . .	3
MAN 230	Corporate Responsibility . . . . .	3

**Total . . . . . 9 credit hours**

**Management for Professional and Technical Employees**

This certificate is designed specifically for individuals who have professional or technical expertise and are in a management position, anticipate moving into a management position, or plan on starting their own business. To qualify for this certificate individuals must:

- Have a minimum of an Associate of Applied Science degree in a technical area or three years of documented work experience in a technical area, and
- Complete the required course work at Arapahoe Community College.

**Required Courses (15 credit hours)**

BUS 115	Introduction to Business . . . . .	3
BUS 216	Legal Environment of Business . . . . .	3
MAN 116	Principles of Supervision . . . . .	3
MAN 128	Human Relations. . . . .	3
MAN 230	Corporate Responsibility . . . . .	3

**Restricted Electives (3-4 credit hours)**

Student must select one course from the following:

ACC 121	Principles of Accounting. . . . .	4
MAN 216	Small Business Management . . . . .	3
MAR 216	Principles of Marketing . . . . .	3

**Total . . . . . 18-19 credit hours**

**Organizational Behavior**

This certificate is for individuals whose professions require them to interact with others on a regular basis, or who are involved in any aspect of organizational development. The certificate focuses on psychological, interpersonal and behavioral dynamics. Courses can be applied to the A.A.S. in Business Administration.

**Required Courses (9 credit hours)**

MAN 128	Human Relations. . . . .	3
MAN 215	Organizational Behavior . . . . .	3
MAN 226	Principles of Management . . . . .	3

**Total . . . . . 9 credit hours**

**Project Management**

This certificate is designed to enable individuals to initiate, plan, execute and control project events and to bring project events to a timely conclusion. The certificate concentrates on teaching task specialists to work cross-functionally and in ad hoc project teams. Courses can be applied to the A.A.S. degree in Business Administration.

**Required Courses (9 credit hours)**

MAN 241	Project Management in Organizations . . .	3
CIS 202	Automated Project Management – MS Project . . . . .	3
MAN 243	Project Management in Action . . . . .	3

**Total . . . . . 9 credit hours**

**Real Estate Appraisal**

Successful completion of REE 118 and REE 119 in this certificate will satisfy the educational requirement of the Colorado Real Estate Commission to sit for the Real Estate Appraisal Examination. Courses can be applied to the A.A.S. in Business Administration.

**DEGREE REQUIREMENTS**

**Required Courses (8 credit hours)**

REE 115	Real Estate Law and Practice . . . . .	3
REE 118	Real Estate Appraisal . . . . .	4
REE 119	Uniform Standards of Professional Appraisal Practice (USPAP) . . . . .	1

**Total . . . . . 8 credit hours**

**Real Estate Broker**

This certificate is designed for students who wish to complete the hours of education requirements of the Colorado Real Estate Commission for Broker Licensing. Individuals who successfully complete this course of study will be awarded an REC 33 Certificate, which will enable them to sit for the State Broker Licensing examination. Courses can be applied to the A.A.S. in Business Administration.

**Required Courses (12 credit hours)**

REE 201	Real Estate Broker I . . . . .	6
REE 202	Real Estate Broker II . . . . .	6

**Total . . . . . 12 credit hours**

**Sales Management**

For individuals who are interested in the sales profession as a career, or who are already in the sales profession and wish to enhance their knowledge about this increasingly important segment of American business. Courses can be applied to the A.A.S. in Business Administration.

**Required Courses (9 credit hours)**

MAR 111	Principles of Sales . . . . .	3
MAR 160	Customer Service . . . . .	3
MAR 216	Principles of Marketing . . . . .	3

**Total . . . . . 9 credit hours**

**Sales Management II**

For individuals who are interested in the sales profession as a career in sales and/or sales management. This certificate offers individuals a more comprehensive background in sales and/or sales management. Courses can be applied to the A.A.S. in Business Administration.

**Required Courses (18 credit hours)**

MAN 226	Principles of Management . . . . .	3
MAR 111	Principles of Sales . . . . .	3
MAR 216	Principles of Marketing . . . . .	3
MAR 160	Customer Service . . . . .	3
MAR 245	Sales Management . . . . .	3
MAR 235	Consumer Behavior . . . . .	3

**Total . . . . . 18 credit hours**

**Small Business Management**

This certificate is designed for those who are interested in the entrepreneurial aspect of the business environment and want to develop the knowledge and skills needed to understand and function profitably in the small business environment. The certificate is designed to give the student the basic tools he or she will need for immediate use and the courses required can also be applied to the Small Business Option of the A.A.S. degree in Business Administration.

**Required Courses (27 credit hours)**

ACC 235	Computerized Accounting for Small Businesses . . . . .	3
BUS 216	Legal Environment of Business . . . . .	3
BUS 217	Business Communications . . . . .	3
CIS	Must be CIS 118 or higher . . . . .	3
MAN 216	Small Business Management . . . . .	3
MAN 230	Corporate Responsibility . . . . .	3
MAR 111	Principles of Sales . . . . .	3
MAR 160	Customer Service . . . . .	3
MAR 216	Principles of Marketing . . . . .	3

**Restricted Electives (3 credit hours)**

Student must select one course from the following:

MAN 116	Principles of Supervision . . . . .	3
MAR 117	Principles of Retailing . . . . .	3
MAR 220	Principles of Advertising . . . . .	3
SPE 115	Public Speaking . . . . .	3

**Total . . . . . 30 credit hours**

**Small Business Marketing and Sales**

This certificate is designed for individuals who wish to enhance their skills utilizing customer service skills, marketing and advertising principles in small business marketing. Courses can be applied to the A.A.S. in Business Administration.

**Required Courses (12 credit hours)**

MAR 111	Principles of Sales . . . . .	3
MAR 160	Customer Service . . . . .	3
MAR 216	Principles of Marketing . . . . .	3
MAR 220	Principles of Advertising . . . . .	3

**Restricted Electives (3 credit hours)**

Student must select one course from the following:

MAR 117	Principles of Retailing . . . . .	3
MAR 217	E-Commerce Marketing . . . . .	3
MAR 249	Strategic Marketing . . . . .	3

**Total . . . . . 15 credit hours**

**Supervision**

This certificate is designed for individuals who wish to enhance their skills in the supervision of people at the front line of management. The course work required for this certificate is especially suited both to those already in a supervisory position and also to those anticipating moving into a supervisory position. Courses can be applied to the A.A.S. in Business Administration.

**Required Courses (9 credit hours)**

MAN 116	Principles of Supervision . . . . .	3
MAN 128	Human Relations . . . . .	3
MAN 226	Principles of Management . . . . .	3

**Total . . . . . 9 credit hours**

**Travel and Tourism**

The Travel and Tourism certificate is designed to prepare individuals for career opportunities in one of the fastest growing fields in Colorado. In addition to travel agencies, career opportunities exist with airlines, cruise lines, hotels and as corporate travel planners. Courses may also apply to A.A.S. in Business Administration.

**Required Courses (24 credit hours)**

MAR 106	Marketing Your Image	3
BUS 217	Legal Environment of Business	3
CIS	Must be CIS 118 or higher	3
MAN 116	Principles of Supervision	3
MAR 111	Principles of Sales	3
TRA 120	Travel Reservations	3
TRA 128	Travel Destinations	3
TRA 141	Leisure Travel	3

**Restricted Electives (6 credit hours)**

Student must select two courses from the following:

ACC 101	Fundamentals of Accounting	3
TRA 125	Airline Reservations	3
TRA 230	Home-Based Travel Agency	3
BUS 287	Internship	3

**Total 30 credit hours**

**Web-Based Design/Marketing**

This certificate is designed to enhance the knowledge and skills of individuals interested in business careers or entrepreneurs. Marketing, advertising principles and design principles are applied with a basic understanding of developing and maintaining a Web site.

**Required Courses (10 credit hours)**

MAR 117	Principles of Retailing	3
MAR 217	E-Commerce Marketing	3
CIS 130	Introduction to the Internet	1
MGD 141	Web Design I	3

**Total 10 credit hours**

## Business Technologies Certificates

**Administrative Support Specialist**

This certificate will prepare the student for entering a business environment to become an office professional. The student will develop skills in touch keyboarding and applications, electronic office procedures, word processing, language skills, electronic information systems and human relations communications.

**Major Courses (25 credit hours)**

BTE 102	Keyboarding Applications I	2
BTE 125	Records Management	3
BTE 156	Business Math with Calculators	4
BUS 115	Introduction to Business	3
BUS 217	Business Communication and Report Writing	3
CIS 135	Complete PC Word Processing	3
CIS 118	Intro to PC Applications	3
CIS 140	Microsoft Outlook	1
MAR 106	Marketing Your Image	3

**Restricted Electives (5 credit hours)**

Students must select 5 credit hours from the following list:

ACC 101	Fundamentals of Accounting OR	
ACC 121	Principles of Accounting I	3-4
BTE 108	Ten Key by Touch	1
BTE 111	Keyboarding Speed Building I	2

BTE 202	Office Simulation	3
BTE 166	Business Editing Skills	3
BTE 225	Administrative Office Management	3
CIS 167	Desktop Publishing	3
____ Any course(s) with the prefixes: ACC, BTE, BUS, CIS, FIN, MAN, MAR, REE.		

**Total 30 credit hours**

**Bookkeeping and Office**

This certificate will prepare the student for entering the job market in positions in bookkeeping and/or work in an accounting department. The student will develop skills in basic accounting including the accounting cycle, computerized accounting, keyboarding and ten key by touch as well as business math. Also taught are computer skills such as electronic spreadsheets, word processing and electronic office procedures.

**Major Courses (32-33 credit hours)**

ACC 101	Fundamentals of Accounting OR	
ACC 121	Principles of Accounting	3-4
ACC 115	Payroll Accounting	4
ACC 235	Computerized Accounting for Small Businesses	3
OR		
ACC 245	Computerized Accounting with a Professional Package	3
BTE 102	Keyboarding Applications I	2
BTE 108	Ten Key by Touch	1
BTE 125	Records Management	3
BTE 156	Business Math with Calculators	4
BUS 217	Business Communication and Report Writing	3
CIS 118	Intro to PC Applications	3
CIS 135	Complete PC Word Processing	1
CIS 140	Microsoft Outlook	1
CIS 155	PC Spreadsheet Concepts: Excel	3

**Total 32-33 credit hours**

## Carpentry

**Certificate**

This certificate program provides entry-level skill training in a variety of building trades. This competency-based program features hands-on learning in the actual construction of a house on site. Students will enjoy learning the basic skills of framing, floors, walls and roofs. Students will perform hands-on skills in the trades of siding, roofing, masonry, drywall and interior finish carpentry. Students will be exposed to other building trades such as: plumbing, HVAC, electrical and concrete finishing. Upon completion of this program, students can look forward to employment in the many diversified areas of building trades.

Second year students will go beyond basic skills and/or specialize in trades that include framing, door and window installation, interior and exterior finish, all phases of carpentry and masonry. This includes exposure to residential plumbing, electrical and HVAC. Classroom instruction and evaluation parallels the on-the-job training of students. Paid on-the-job internships are also available through a cooperative component that requires students to work a