### Developmental Education Courses (if required)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Gen Ed</th>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Pre-requisites / Co-requisites</th>
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<tbody>
<tr>
<td>☐ ACLS050</td>
<td>Introduction to Academic Literacy</td>
<td></td>
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<tr>
<td>☐ ENGL027</td>
<td>Writing Skills Workshop</td>
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<tr>
<td>☐ MATH020</td>
<td>Pre-Algebra</td>
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<tr>
<td>☐ MATH022</td>
<td>Elementary Algebra</td>
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<tr>
<td>☐ MATH026</td>
<td>Intermediate Algebra</td>
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</tbody>
</table>

### Course Schedule

#### Semester 1

<table>
<thead>
<tr>
<th>Course #</th>
<th>Course Title</th>
<th>Credits</th>
<th>Gen Ed</th>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Pre-requisites / Co-requisites</th>
</tr>
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<tbody>
<tr>
<td>☐ COLS101</td>
<td>College Success</td>
<td>1</td>
<td>B, M, D</td>
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<td></td>
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<tr>
<td>☐ CMTH102</td>
<td>Introduction to Communication</td>
<td>3</td>
<td>B, M, D, E</td>
<td></td>
<td>B, M, D, E</td>
<td>B, M, D</td>
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<td>PRE: English placement policy</td>
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<tr>
<td>☐ ENGL101</td>
<td>English I</td>
<td>3</td>
<td>B, M, D</td>
<td></td>
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<td>PRE: English placement policy</td>
</tr>
<tr>
<td>☐ CISC100</td>
<td>Information Technology Fundamentals</td>
<td>4</td>
<td>CL</td>
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<tr>
<td>☐ MATH</td>
<td>Mathematics Elective</td>
<td>3</td>
<td>AH, SIT or SSHB General</td>
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<td>B, M, D</td>
<td>B, M, D</td>
<td>B, M, D</td>
<td>PRE: Math placement policy</td>
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#### Semester 2

<table>
<thead>
<tr>
<th>Course #</th>
<th>Course Title</th>
<th>Credits</th>
<th>Gen Ed</th>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Pre-requisites / Co-requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ CISC104</td>
<td>Information Systems and Resources</td>
<td>4</td>
<td>B, M, D</td>
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<td>PRE: CISC100 or CISC101</td>
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<tr>
<td>☐ CISC105</td>
<td>Desktop Operating Systems</td>
<td>4</td>
<td>B, M</td>
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<td>PRE: CISC100 or ARTA240</td>
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<tr>
<td>☐ CISC128</td>
<td>Client-side Scripting</td>
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<td>B</td>
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<td>PRE: CISC100 or CISC115</td>
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<tr>
<td>☐ ENGL151*</td>
<td>English II</td>
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<td>PRE: ENGL101</td>
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#### Semester 3

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<th>Course #</th>
<th>Course Title</th>
<th>Credits</th>
<th>Gen Ed</th>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Pre-requisites / Co-requisites</th>
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<tbody>
<tr>
<td>☐ BUSA221G</td>
<td>Business Communications</td>
<td>3</td>
<td>B, M, D</td>
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<td>PRE: ENGL151 and CMTH102</td>
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<tr>
<td>☐ CISC257</td>
<td>Server-side Scripting</td>
<td>4</td>
<td>B</td>
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<td>PRE: CISC128 CO: CISC270</td>
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<tr>
<td>☐ CISC270</td>
<td>Database Systems</td>
<td>4</td>
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<td>PRE: CISC100 or CISC115</td>
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<tr>
<td>☐ Elective</td>
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<td>B, M, D</td>
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<td>Depends on course selected</td>
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<tr>
<td>☐ AH, SIT or SSHB General Education Elective</td>
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<td>AH, SIT or SSHB General</td>
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<td>B, M, D</td>
<td>B, M, D</td>
<td>B, M, D</td>
<td>Depends on course selected</td>
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#### Semester 4

<table>
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<th>Course #</th>
<th>Course Title</th>
<th>Credits</th>
<th>Gen Ed</th>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Pre-requisites / Co-requisites</th>
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</thead>
<tbody>
<tr>
<td>☐ CISC208</td>
<td>Mobile Development</td>
<td>4</td>
<td>B</td>
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<td>PRE: CISC257 and CISC270 or CISC125</td>
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<td>☐ CISC150</td>
<td>Object-oriented Programming</td>
<td>4</td>
<td>B</td>
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<td>PRE: CISC115 or CISC128</td>
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<tr>
<td>☐ AH, SIT or SSHB General Education Elective</td>
<td>3</td>
<td>AH, SIT or SSHB General Education</td>
<td></td>
<td>B, M, D</td>
<td>B, M, D</td>
<td>B, M, D</td>
<td>Depends on course selected</td>
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<td>☐ CISC286</td>
<td>Linux Administration</td>
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<td>PRE: CISC105</td>
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**Total Semester Credits:**

- Semester 1: 17
- Semester 2: 15
- Semester 3: 17
- Semester 4: 15

**Total Degree Credits:**

- 64

### General Education Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Course Code</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Diversity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BUSA221G</td>
<td></td>
<td>Writing Intensive</td>
</tr>
</tbody>
</table>

**Notes:**

- Students have a choice of ENGL151 L (Literature option), R (Report Writing) or T (Technical Writing)
- Math Elective options: MATH 140, 145, 150, 160, 165, 175, 176, 180, 181, 202, 210, 211

*It is the student’s responsibility to be knowledgeable of NCC graduation requirements and to verify transfer requirements with the 4-year institution. Courses listed on the program map are based upon the assumption that prerequisites and courses taken in previous semesters will be successfully completed.*
Program Narrative:
The Associate in Applied Science degree in Application Development will prepare students with the technical knowledge and skills necessary to plan, install, monitor and maintain applications designed to specifications for a certain task. Extensive hands-on lab time will prepare the student for careers in application development, mobile development, software development or database development. Application development may include research, new development, prototyping, modification, reuse, re-engineering, maintenance, or any other activities that result in software products.

Program Learning Outcomes:
-Analyze, design and maintain applications, utility programs and interfaces.
-Describe fundamental concepts of Application Development: Software Development Life Cycle, testing, and maintenance.
-Configure and maintain databases and their interoperability.
-Understand and apply the concepts of IT system administration.
Societies & Institutions Over Time (SIT)

ARTA 100 Art and Visual Thinking
ARTA 101 Art History Survey
CMTH 110 Introduction to the Theatre
CMTH 113 Acting I
CMTH 115 Technical Theatre
CMTH 117 Stagecraft
CMTH 126 The Communication Arts
CMTH 189 Stage Voice and Movement
CMTH 190 Stage Production
CMTH 206 Directing
CMTH 211 Plays: Classical to Contemp. (G-WI)
CMTH 212 Acting II
CMTH 218 Theatre Portfolio
CMTH 220 Introduction to Film
DANC 101 Dance History
DANC 110 Ballet I
DANC 120 Modern Dance I
DANC 130 Jazz I
DANC 210 Ballet II
DANC 220 Modern Dance II
DANC 230 Jazz II
ENGL 201 British Literature I (G-WI)
ENGL 203 Shakespeare (G-WI)
ENGL 205 American Literature I (G-WI)
ENGL 211 Plays: Classical to Contemp. (G-WI)
ENGL 215 Multicultural Adolescent Lit (G-WI)
ENGL 250 Latin American Literature (G-WI)
ENGL 251 British Literature II (G-WI)
ENGL 253 Creative Writing
ENGL 255 American Literature II (G-WI)
ENGL 256 Modern Poetry (G-WI)
ENGL 257 20th Century Lit by Women (G-WI)
ENGL 258 Fiction Writing
ENGL 260 Contemporary Literature (G-WI)
ENGL 264 Irish Literature (G-WI)
ENGL 265 African-American Literature (G-WI)
ENGL 267 Poetry Writing
HUMA 121 The American Work Experience (G-WI)
HUMA 140 Intro to Women & Gender Studies (G-WI)
HUMA 150 Nature of the Environment
HUMA210 Creativity and the Origin of Ideas
JOUR 101 Journalism and Society
Modern Language - All MDLA Courses
MUSC 101 Introduction to Music
PHIL 111 On Death and Dying (G-WI)
PHIL 121 World Religions
PHIL 201 Introduction to Philosophy
PHIL 202 Ethics and Moral Problems (G-WI)
PHIL 204 Asian Philosophies
PHIL 211 Ancient Philosophy
PHIL 215 Modern Philosophy
PHIL 225 What is Freedom?

Electives for A.A. & A.S. Degrees

Accounting – only ACCT 100, 101, 151, 201, 202, 251
Architecture – only ARCH 100
Art – only ARTA 101, 111, 161, 162, 291, 292, 293
Biological Science – all BIOS except 281, 282, 283
Business – only BUSA 115, 115, 152, 201, 202, 205, 232, 272
Chemistry – only CHEM 105, 120, 135, 220, 225, 251,
260, 291, 292, 293, 294
College Success: COLS101, 120
Communications – all CMTH except 180, 182, 185, 240, 252
Computer/Information Science – only CISC 101, 104,
115, 125, 225, 230, 270
Counseling – only COUN 100, 291, 292, 293
Dance – all DANC
Economics – ECON201, 251G
Engineering – only ENGG 100, 191, 192, 193, 194,
115, 125, 225, 230, 270
English – all ENGL
Global Studies - GLBL130, 160, 230
Health – only HEAL 150
History – all HIST
Hospitality – only HOSP 101
Humanities – all HUMA
Interdisciplinary Studies – INTS 101, 202, 250
Journalism – only JOUR 104
Mathematics – only MATH 120, 140, 145, 150, 160, 165,
175, 176, 180, 181, 191-194, 202, 210, 211
Modern Language – all MDLA
Music – all MUSC
Nutrition- NUTR105
Philosophy – all PHIL
Physics – only PHYS
Political Science – all POLS
Publishing- 101, 102
Psychology – all PSYC except 221
Sociology/Anthropology – all SOCA
Special Education – SPED 160

Note concerning Art courses:

ARTA 107, 124, and 158 are applicable only to the
General Studies program, the Fine Art Program,
and A.A.S. degree programs.
ARTA 161 is applicable only to the Fine Art Program
and A.A.S. degrees.
ARTA 226 is applicable only to the General Studies
program and A.A.S. degree programs.