



## COE – DIGITAL & INFORMATION TECHNOLOGY PROGRAMS - CATALOG YEAR 2016 - 2017

### Find the Right Educational Degree Plan

There are two distinctly different ways to pursue your education at HCC. Each pattern has its own particular purpose, and its own advantages and disadvantages. Read the descriptions carefully to make an informed choice. You must choose one of the two following patterns: The *Academic*

*Transfer* pattern of education **OR** The *Workforce Career* pattern of education. For more information, visit our [College and Career Planner Guide](#).

## DIGITAL & INFORMATION TECHNOLOGY

### COMPUTER SCIENCE

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**HOUSTON COMMUNITY COLLEGE SYSTEM  
EDUCATIONAL PLAN/TRANSFER SUBSTITUTION PETITION**

\_\_\_ FA \_\_\_ VA

NAME:	SID#:	TEL#:	EMAIL:	DATE:
COLLEGE:	COU/ADV:	TEL#:	EMAIL:	

**COMPUTER INFORMATION SYSTEMS - ASSOCIATE OF ARTS**

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
TSI testing is required prior to first enrollment.									
<b>SUGGESTED 2 YEAR PLAN</b>									
<b>FIRST YEAR</b>									
<b>FIRST SEMESTER - FALL</b>									
EDUC 1300 Learning Framework	3								
ENGL 1301 Composition I	3								
MATH 1324 Finite Mathematics with Applications	3								
BCIS 1405 Business Computer Applications <i>OR</i>									
BCIS 1305 Business Computer Applications	3								
<b>D.</b> HIST #3## American History *	3								
<b>SEMESTER TOTAL</b>	<b>15</b>								
<b>SECOND SEMESTER - SPRING</b>									
ENGL 1302 Composition II	3								
MATH 1325 Elements of Calculus with Applications	3								
COSC 1436 Programming Fundamentals I	4								
<b>A.</b> XXXX #3## Life Physical Science *	3								
<b>D.</b> HIST #3## American History *	3								
<b>SEMESTER TOTAL</b>	<b>16</b>								
<b>SECOND YEAR</b>									
<b>FIRST SEMESTER - FALL</b>									
MATH 1342 Statistics	3								
COSC 1437 Programming Fundamentals II	4								
ECON 2301 Principles of Macroeconomics <i>OR</i>									
ECON 2302 Principles of Microeconomics	3								
GOVT 2305 Federal Government	3								
<b>B.</b> XXXX #3## Creative Arts Elective *	3								
<b>SEMESTER TOTAL</b>	<b>16</b>								
<i>(Continued on next page)</i>									

\* SEE NOTES

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**COMPUTER INFORMATION SYSTEMS - ASSOCIATE OF ARTS**

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
<i>(Continued from page 1)</i>									
<b>SECOND YEAR</b>									
<b>FIRST SEMESTER - FALL</b>									
ACCT 2301 Principles Accounting I	3								
COSC 2425 Computer Organization and Machine Language	4								
<b>C.</b> XXXX #3## Language, Philosophy and Culture FCA Course ** *	3								
GOVT 2306 Texas Government	3								
<b>SEMESTER TOTAL</b>	<b>13</b>								
<b>PROGRAM TOTAL</b>	<b>60</b>								
<b>* SEE NOTES</b>									

**ADDITIONAL COMMENTS & NOTES:**

- \* Even though you only need 60 credit hours to graduate, students might choose to complete a 3 credit hour course that satisfies the Creative Arts FCA requirement rather than a 2 hour elective.
- \*\* If you have not already taken the Creative Arts FCA course in conjunction with the "Elective" credit; the Language, Philosophy and Culture FCS course may be substituted with a Creative Arts FCA course.
- A.** Life Physical Sciences Elective (lab optional) .....3 hrs  
 ANTH 2301; ASTR 1303, 1304, 1403, 1404; BIOL 1308, 1309,1322, 1406, 1407; CHEM 1305, 1405, 1411, 1412; GEOG 1301; GEOL 1305, 1345, 1347, 1403, 1404; PHYS 1305, 1401, 1402, 2325, 2326
- B.** Creative Arts Elective (*choose one*) .....3 hrs  
 ARTS 1301, 1303, 1304, COMM 2366, DANC 2303, DRAM 1310, 2361, 2366, ENGL 2307, 2308, HUMA 1301, 1311, MUSI 1301, 1306, 1310
- C.** Language, Philosophy and Culture Elective (*choose one*).....3 hrs  
 ENGL 2322, 2323, 2327, 2328, 2332, 2333, 2342, 2343, 2351, HIST 2311, 2312, 2321, 2322, HUMA 1305, 2319, 2323, PHIL 1301, 1304, 2306, 2307, 2316
- D.** American History (choose two).....6 hrs  
 Choose one from: HIST 1301, 1302, 2301, 2328, 2381

*The Houston Community College (HCC) Associate in Arts - Computer Information Systems degree is intended for students planning on transferring to a senior college or university to receive a baccalaureate degree. The degree accomplishes the completion of seven of the nine Foundational Component Area (FCA) and all of the Tuning for Community College Program of Study for Transfer Leading to a Computer Information Systems and Sciences Program (Aug 2013) as outlined by the Texas Higher Education Coordinating Board (THECB).*

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NAME:	SID#:	TEL#:	EMAIL:	DATE:
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**COMPUTER SCIENCE - ASSOCIATE OF SCIENCE**

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
TSI testing is required prior to first enrollment.									
<b>SUGGESTED 2 YEAR PLAN</b>									
<b>FIRST YEAR</b>									
<b>FIRST SEMESTER - FALL</b>									
EDUC 1300 Learning Framework	3								
ENGL 1301 Composition I	3								
MATH 2412 Precalculus <i>OR</i>	3-4								
MATH 2312 Precalculus									
COSC 1436 Programming Fundamentals I	4								
A. HIST #3## American History *	3								
<b>SEMESTER TOTAL</b>	<b>16-17</b>								
<b>SECOND SEMESTER - SPRING</b>									
ENGL 1302 Composition II	3								
MATH 2413 Calculus I	4								
COSC 1437 Programming Fundamentals II	4								
A. HIST #3## American History *	3								
<b>SEMESTER TOTAL</b>	<b>14</b>								
<b>SECOND YEAR</b>									
<b>FIRST SEMESTER - FALL</b>									
MATH 2414 Calculus II	4								
PHYS 2325 University Physics I	3								
PHYS 2125 Physics Laboratory I	1								
COSC 2436 Programming Fundamentals III	4								
GOVT 2305 Federal Government	3								
<b>SEMESTER TOTAL</b>	<b>15</b>								
<i>(Continued on next page)</i>									

\* SEE NOTES

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**COMPUTER SCIENCE - ASSOCIATE OF SCIENCE**

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
<i>(Continued from page 1)</i>									
<b>SECOND YEAR</b>									
<b>SECOND SEMESTER - SPRING</b>									
PHYS 2326 University Physics I	3								
PHYS 2126 Physics Laboratory I	1								
COSC 2425 Computer Organization and Machine Language	4								
<b>B.</b> XXXX #3## Social/Behavioral Science Elective * *	3								
GOVT 2306 Texas Government	3								
<b>SEMESTER TOTAL</b>	<b>14</b>								
<b>PROGRAM TOTAL</b>	<b>60</b>								
<b>* SEE NOTES</b>									

**ADDITIONAL COMMENTS & NOTES:**

\*The Social and Behavioral Sciences FCS course may be substituted with either a **Language,Philosophy and Culture** FCA course **OR** a **Creative Arts** FCA course.

- A.** American History (choose two).....6 hrs  
Choose from: **HIST** 1301, 1302, 2301, 2328, 2381
- B.** Social/Behavioral Science Elective (*choose one*) .....3 hrs  
**ANTH** 2346, 2351, **ECON** 2301, 2302, **GEOG** 1302, 1303, **PSYC** 2301 2314 2316, 2319, **SOCI** 1301, 1306, 2336
- C.** Creative Arts Elective (*choose one*) .....3 hrs  
**ARTS** 1301, 1303, 1304, **COMM** 2366, **DANC** 2303, **DRAM** 1310, 2361, 2366, **ENGL** 2307, 2308, **HUMA** 1301, 1311, **MUSI** 1301, 1306, 1310
- D.** Language, Philosophy and Culture Elective (*choose one*).....3 hrs  
**ENGL** 2322, 2323, 2327, 2328, 2332, 2333, 2342, 2343, 2351, **HIST** 2311, 2312, 2321, 2322, **HUMA** 1305, 2319, 2323, **PHIL** 1301, 1304, 2306, 2307, 2316

*The Houston Community College (HCC) Associate in Science - Computer Science degree is intended for students planning on transferring to a senior college or university to receive a baccalaureate degree. The degree accomplishes the completion of seven of the nine Foundational Component Area (FCA) and all of the Computer Science Field of Study (FOS) Curriculum as outlined by the Texas Higher Education Coordinating Board (THECB).*

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<b>COLLEGE:</b>	<b>COU/ADV:</b>	<b>TEL#:</b>	<b>EMAIL:</b>	<b>CAT YR: 8/15/16-8/14/17</b>

**COMPUTER PROGRAMMING - APPLICATIONS DEVELOPMENT - MICROSOFT C# SPECIALIZATION - AAS**

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
TSI testing is required prior to first enrollment.									
<b>FIRST YEAR</b>									
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking Skills for Student Success	3								
ENGL 1301 Composition I	3								
MATH 1314 College Algebra	3								
BCIS 1405 Business Computer Applications <i>OR</i>									
COSC 1401 Introduction to Computing	4								
COSC 1436 Programming Fundamentals I (with C#)	4								
<b>SECOND SEMESTER</b>									
MATH 1324 Finite Mathematics with Applications	3								
COSC 1437 Programming Fundamentals II (with C#)	4								
ITSE 1346 Database Theory and Design <i>OR</i>									
ITSE 1345 Introduction to Oracle SQL	3								
XXXX #3## General Education Elective	3								
<b>THIRD SEMESTER</b>									
XXXX #3## Approved Humanities/Fine Arts Elective	3								
<b>SECOND YEAR</b>									
<b>FIRST SEMESTER</b>									
ITSE 1456 Extensible Markup Language (XML)	4								
ITSE 2443 Advanced Windows Programming	4								
INEW 1340 ASP.NET Programming	3								
XXXX #3## Department Approved Business Elective	3								
<b>SECOND SEMESTER</b>									
XXXX #3## Approved Social/Behavioral Science Elective	3								
ITSE 2453 Advanced C# Programming	4								
ITSE 1380 Cooperative Education - Computer Programming/Programmer, General** <i>OR</i>									
INEW 2332 Comprehensive Software Project: Coding, Testing, and Implementation**	3								
XXXX #3## Department Approved Business Elective	3								
<b>PROGRAM TOTAL</b>	<b>**CAPSTONE CLASS</b>	<b>60</b>							

Program Approved Business Electives include:ACCT 2301, ACCT 2302, BUSG 1301, BUSG 2305, Busg 2317, BMGT 1301, BMGT 1303, BMGT1325, ECON 1301, ECON2301, ECON 2302, HRPO 1311, or HRPO 2307.



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**COMPUTER PROGRAMMING - APPLICATIONS DEVELOPMENT - MICROSOFT C++ SPECIALIZATION - AAS**

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
TSI testing is required prior to first enrollment.									
<b>FIRST YEAR</b>									
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking Skills for Student Success	3								
ENGL 1301 Composition I	3								
MATH 1314 College Algebra	3								
BCIS 1405 Business Computer Applications <i>OR</i>									
COSC 1401 Introduction to Computing	4								
COSC 1436 Programming Fundamentals I - C++)	4								
<b>SECOND SEMESTER</b>									
MATH 1324 Finite Math with Applications	3								
COSC 1437 Programming Fundamentals II - C++	4								
ITSE 1346 Database Theory and Design <i>OR</i>									
ITSE 1345 Introduction to Oracle SQL	3								
XXXX #3## General Education Elective	3								
<b>THIRD SEMESTER</b>									
XXXX #3## Approved Humanities/Fines Arts Elective	3								
<b>SECOND YEAR</b>									
<b>FIRST SEMESTER</b>									
ITSE 1456 Extensible Markup Language	4								
COSC 2425 Computer Organization and Machine Language	4								
COSC 2436 Programming Fundamentals III - C++	4								
XXXX #3## Department Approved Business Elective*	3								
<b>SECOND SEMESTER</b>									
ITSE 2343 Advanced Windows Programming	3								
ITSE 1380 Cooperative Education - Computer Programming/Programmer, General** <i>OR</i>									
INEW 2332 Comprehensive Software Project: Coding, Testing, and Implementation**	3								
XXXX #3## Social/Behavioral Science General Ed. Elective	3								
XXXX #3## Department Approved Business Elective*	3								
<b>**CAPSTONE CLASS   PROGRAM TOTAL</b>	<b>60</b>								

\*Program Approved Business Electives include:ACCT 2301, ACCT 2302, BUSG 1301, BUSG 2305, Busg 2317, BMGT 1301, BMGT 1303, BMGT1325, ECON 1301, ECON2301, ECON 2302, HRPO 1311, or HRPO 2307.



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**COMPUTER PROGRAMMING - APPLICATIONS DEVELOPMENT - JAVA SPECIALIZATION - AAS**

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
TSI testing is required prior to first enrollment.									
<b>FIRST YEAR</b>									
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking									
Skills for Student Success	3								
ENGL 1301 Composition I	3								
MATH 1314 College Algebra	3								
BCIS 1405 Business Computer Applications	4								
COSC 1436 Programming Fundamentals I (with Java)	4								
<b>SECOND SEMESTER</b>									
MATH 1324 Finite Mathematics with Applications	3								
COSC 1437 Programming Fundamentals II (with Java)	4								
ITSE 1346 Database Theory and Design <b>OR</b>									
ITSE 1345 Introduction to Oracle SQL	3								
XXXX #2## General Education Elective	2								
<b>THIRD SEMESTER</b>									
XXXX #3## Approved Humanities/Fine Arts/Gen. Ed. Elective	3								
<b>SECOND YEAR</b>									
<b>FIRST SEMESTER</b>									
ITSE 1456 Extensible Markup Language (XML)	4								
COSC 2436 Programming Fundamentals III (with Java)	4								
INEW 2434 Advanced Web Programming	4								
XXXX #3## Program Approved Business Elective	3								
<b>SECOND SEMESTER</b>									
INEW 2438 Advanced Java Programming	4								
XXXX #3## Social/Behavioral Science/General Ed Elective	3								
ITSE 1380 Cooperative Education - Computer Programming/Programmer, General** <b>OR</b>									
INEW 2332 Comprehensive Software Project: Coding, Testing, and Implementation**	3								
XXXX #3## Program Approved Business Elective	3								
<b>**CAPSTONE CLASS   PROGRAM TOTAL</b>	<b>60</b>								

Program Approved Business Electives include: ACCT 2301, ACCT 2302, BUSG 1301, BUSG 2305, BUSG 2317, BMGT 1301, BMGT 1303, BMGT 1325, ECON 1301, ECON 2301, ECON 2302, HRPO 1311, or HRPO 2307.





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**COMPUTER SYSTEMS NETWORKING - MICROSOFT SERVER ADMINISTRATION - AAS**

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
TSI testing is required prior to first enrollment.									
<b>FIRST YEAR</b>									
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking									
Skills for Student Success	3								
ITSC 1309 Integrated Software Applications I <i>OR</i>	3								
BCIS 1405 Computer Business Applications									
MATH 1314 College Algebra	3								
ITSC 1425 Personal Computer Hardware	4								
ITMT 1370 Windows Client Operating System	3								
<b>SEMESTER TOTAL</b>	<b>16</b>								
<b>SECOND SEMESTER</b>									
ENGL 1301 Composition I	3								
ITSY 1342 Information Technology Security	3								
ITMT 2371 Installing and Configuring Windows Server 2012	3								
ITNW 1425 Fundamentals of Networking Technologies <i>OR</i>									
ITCC 1401 Cisco Exploration 1 - Network Fundamentals	4								
<b>SEMESTER TOTAL</b>	<b>13</b>								
<b>THIRD SEMESTER</b>									
SPCH #3## SPCH Elective, SPCH 1311, 1321 or 1315	3								
ITSC 1319 Internet/Web Page Development	3								
<b>SEMESTER TOTAL</b>	<b>6</b>								
<b>SECOND YEAR</b>									
<b>FIRST SEMESTER</b>									
XXXX #3## Approved Social/Behavioral Science Elective	3								
ITNW 1313 Computer Virtualization	3								
ITMT 2372 Administering Windows Server 2012	3								
COSC 1436 Programming Fundamentals I	4								
<b>SEMESTER TOTAL</b>	<b>13</b>								

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**COMPUTER SYSTEMS NETWORKING - MICROSOFT SERVER ADMINISTRATION - CERTIFICATE: LEVEL II**

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
<b>FIRST YEAR</b>									
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking Skills for Student Success	3								
ITNW 1358 Network+ <i>OR</i>									
ITNW 1425 Fundamentals of Networking Technologies <i>OR</i>									
ITCC 1401 Cisco Exploration 1 - Network Fundamentals	3								
ITMT 1370 Windows Client Operating System	3								
<b>SEMESTER TOTAL</b>	<b>9</b>								
<b>SECOND SEMESTER</b>									
ITMT 2371 Installing and Configuring Windows Server 2012	3								
ITSY 1342 Information Technology Security	3								
ITSC 1425 Personal Computer Hardware	4								
<b>SEMESTER TOTAL</b>	<b>10</b>								
<b>THIRD SEMESTER</b>									
ITSC 1319 Internet/Web Page Development	3								
<b>SEMESTER TOTAL</b>	<b>3</b>								
<b>SECOND YEAR</b>									
<b>FIRST SEMESTER</b>									
ITNW 1313 Computer Virtualization	3								
ITSY 2330 Intrusion Detection	3								
ITMT 2372 Administering Windows Server 2012 <b>**</b>	3								
<b>SEMESTER TOTAL</b>	<b>9</b>								
<b>PROGRAM TOTAL</b>	<b>31</b>								
<b>**CAPSTONE COURSE</b>									



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**COMPUTER SYSTEMS NETWORKING - CYBER SECURITY - AAS**

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
TSI testing is required prior to first enrollment.									
<b>FIRST YEAR</b>									
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking									
Skills for Student Success	3								
ENGL 1301 Composition I	3								
MATH 1314 College Algebra	3								
ITSC 1309 Integrated Software Applications I <i>OR</i>									
BCIS 1405 Computer Business Applications	3-4								
ITSC 1316 Linux Installation and Configuration <i>OR</i>									
ITSC 1307 UNIX Operating System I <i>OR</i>									
ITMT 1370 Windows Client Operating System	3								
<b>SEMESTER TOTAL</b>	<b>15-16</b>								
<b>SECOND SEMESTER</b>									
ITNW 1358 Network+ <i>OR</i>									
ITNW 1425 Fundamentals of Networking Technologies <i>OR</i>									
ITCC 1401 Cisco Exploration I-Network Fundamentals	3-4								
ITSC 1458 UNIX System Administration I	4								
ITSY 1342 Information Technology Security	3								
ITSC 1319 Internet/Web Page Development	3								
<b>SEMESTER TOTAL</b>	<b>13-14</b>								
<b>THIRD SEMESTER</b>									
ITNW 1313 Computer Virtualization	3								
SPCH #3## SPCH Elective: SPCH 1311, 1321 or 1315	3								
<b>SEMESTER TOTAL</b>	<b>6</b>								

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<b>NAME:</b>		<b>SID#:</b>	<b>TEL#:</b>	<b>EMAIL:</b>	<b>DATE:</b>
<b>COLLEGE:</b>	<b>COU/ADV:</b>	<b>TEL#:</b>	<b>EMAIL:</b>	<b>CAT YR: 8/15/16-8/14/17</b>	

**NETWORK SYSTEMS AND CYBER SECURITY - CERTIFICATE - LEVEL II**

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
<b>FIRST YEAR</b>									
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking Skills for Student Success	3								
ITSC 1301 Introduction to Computers	3								
ITCC 1401 Cisco Exploration I - Network Fundamentals	4								
<b>SEMESTER TOTAL</b>	<b>10</b>								
<b>SECOND SEMESTER</b>									
ITSY 1342 Information Technology Security	3								
ITSC 1321 Intermediate PC Operating Systems	3								
ITNW 1313 Computer Virtualization	3								
<b>SEMESTER TOTAL</b>	<b>9</b>								
<b>THIRD SEMESTER</b>									
ITSC 1307 UNIX Operating System I	3								
<b>SEMESTER TOTAL</b>	<b>3</b>								
<b>SECOND YEAR</b>									
<b>FIRST SEMESTER</b>									
ITSY 2401 Firewalls and Network Security	4								
ITSY 2330 Intrusion Detection	3								
<b>SEMESTER TOTAL</b>	<b>7</b>								
<b>SECOND SEMESTER</b>									
ITSC 1458 UNIX System Administration I	4								
ITSY 2345 Network Defense and Countermeasures*	3								
<b>SEMESTER TOTAL</b>	<b>7</b>								
<b>PROGRAM TOTAL</b>	<b>36</b>								
<b>*CAPSTONE CLASS</b>									

\*\*Students may sub ITCC 1401 with: ITNW 1425 Fundamentals of Networking Technologies

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**COMPUTER SYSTEMS NETWORKING - CISCO SPECIALIZATION - AAS**

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
TSI Testing is required prior to first enrollment.									
<b>FIRST YEAR</b>									
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking Skills for Student Success	3								
ENGL 1301 Composition I	3								
MATH 1314 College Algebra	3								
ITSC 1309 Integrated Software Applications I <i>OR</i>									
BCIS 1405 Computer Business Applications	3-4								
ITSC 1316 Linux Installation and Configuration <i>OR</i>									
ITSC 1307 UNIX Operating System I <i>OR</i>									
ITMT 1370 Windows Client Operating System	3								
<b>SEMESTER TOTAL</b>	<b>15-16</b>								
<b>SECOND SEMESTER</b>									
ITSC 1319 Internet/Web Page Development	3								
ITSC 1425 Personal Computer Hardware	4								
ITCC 1401 Cisco Exploration 1-Network Fundamentals	4								
ITSY 1342 Information Technology Security	3								
<b>SEMESTER TOTAL</b>	<b>14</b>								
<b>THIRD SEMESTER</b>									
ITCC 1404 Cisco Exploration 2-Routing Protocols and Concepts	4								
SPCH #3## Speech Elective:, SPCH 1311, 1315 or 1321	3								
<b>SEMESTER TOTAL</b>	<b>7</b>								
<b>SECOND YEAR</b>									
<b>FIRST SEMESTER</b>									
XXXX #3## Social/Behavioral Science General Education Elective	3								

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**COMPUTER SYSTEMS NETWORKING - CERTIFIED CISCO NETWORK PROFESSIONAL (CCNP) - CERTIFICATE: LEVEL I**

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
<b>FIRST YEAR</b>									
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking Skills for Student Success	3								
ITCC 1401 Cisco Exploration 1 - Network Fundamentals	4								
<b>SEMESTER TOTAL</b>	<b>7</b>								
<b>SECOND SEMESTER</b>									
ITCC 1404 Cisco Exploration 2 - Routing Protocols and Concepts	4								
ITCC 2408 Cisco Exploration 3 - LAN Switching and Wireless	4								
<b>SEMESTER TOTAL</b>	<b>8</b>								
<b>THIRD SEMESTER</b>									
ITCC 2410 Cisco Exploration 4 - Accessing the WAN	4								
<b>SEMESTER TOTAL</b>	<b>4</b>								
<b>SECOND YEAR</b>									
<b>FIRST SEMESTER</b>									
ITCC 2454 CCNP Routing-Implementing IP Routing	4								
ITCC 2455 CCNP Switch-Implementing IP Switching	4								
<b>SEMESTER TOTAL</b>	<b>8</b>								
<b>SECOND SEMESTER</b>									
ITCC 2456 CCNP TSHOOT-Maintaining and Troubleshooting IP Networks	4								
ITSC 1307 UNIX Operating System I	3								
<b>SEMESTER TOTAL</b>	<b>7</b>								
<b>PROGRAM TOTAL</b>	<b>34</b>								



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**COMPUTER SYSTEMS NETWORKING - NETWORK AND COMPUTER SYSTEMS HELP DESK - AAS**

HCCS Course Requirement	cr	Transfer	Substitute	Substitute (SU)	Term	Credits	Grade	Approval	Date
	hr	Institution	Course	Transfer (TR)	Comment/Disapproval			Signature	
TSI Testing is required prior to first enrollment.									
<b>FIRST YEAR</b>									
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking									
Skills for Student Success	3								
ENGL 1301 Composition I	3								
MATH 1314 College Algebra	3								
ITNW 1425 Fundamentals of Networking Technologies	4								
<b>SEMESTER TOTAL</b>	<b>13</b>								
<b>SECOND SEMESTER</b>									
ENGL 1302 Composition II	3								
ITNW 1492 Special Topics in Computer Systems									
Networking and Telecommunications	4								
ITSC 2339 Personal Computer Help Desk Support	3								
XXXX #3## Approved Humanities/Fine Arts Elective	3								
ITNW 1308 Implementing and Supporting Client									
Operating Systems	3								
<b>SEMESTER TOTAL</b>	<b>16</b>								
<b>THIRD SEMESTER</b>									
ITSY 1342 Information Technology Security	3								
ITSC 1307 UNIX Operating System I	3								
<b>SEMESTER TOTAL</b>	<b>6</b>								
(Continued on page 2)									









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**COMPUTER SYSTEMS NETWORKING - LINUX SERVER ADMINISTRATOR - AAS**

HCCS Course Requirement	cr	Transfer	Substitute	Substitute (SU)	Term	Credits	Grade	Approval	Date
	hr	Institution	Course	Transfer (TR)				Signature	
TSI Testing is required prior to first enrollment.									
<b>FIRST YEAR</b>									
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking									
Skills for Student Success	3								
ITSC 1309 Integrated Software Applications I <i>OR</i>									
BCIS 1405 Computer Business Applications	3								
MATH 1314 College Algebra	3								
ITSC 1316 Linux Installation and Configuration <i>OR</i>									
ITSC 1307 UNIX Operating System I	3								
<b>SEMESTER TOTAL</b>	<b>12</b>								
<b>SECOND SEMESTER</b>									
ENGL 1301 Composition I	3								
ITSC 1458 UNIX System Administration I	4								
ITNW 1358 Network+ <i>OR</i>									
ITNW 1425 Fundamentals of Networking Technologies <i>OR</i>									
ITCC 1401 Cisco Exploration 1 - Network Fundamentals	3								
ITSY 1342 Information Technology Security	3								
<b>SEMESTER TOTAL</b>	<b>12</b>								
<b>THIRD SEMESTER</b>									
ITSC 1319 Internet/Web Page Development	3								
SPCH #3## Speech Elective:, SPCH 1311, 1315 or 1321	3								
<b>SEMESTER TOTAL</b>	<b>6</b>								
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**COMPUTER SYSTEMS NETWORKING - LINUX ADMINISTRATOR - CERTIFICATE: LEVEL II**

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
<b>FIRST YEAR</b>									
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking Skills for Student Success	3								
ITSC 1309 Integrated Software Applications I <i>OR</i>									
BCIS 1405 Computer Business Applications	3								
ITSC 1425 Personal Computer Hardware	4								
ITSC 1316 Linux Installation and Configuration <i>OR</i>									
ITSC 1307 UNIX Operating System I	3								
<b>SEMESTER TOTAL</b>	<b>13</b>								
<b>SECOND SEMESTER</b>									
ITSC 1458 UNIX System Administration I	4								
ITNW 1358 Network+ <i>OR</i>									
ITNW 1425 Fundamentals of Networking Technologies <i>OR</i>									
ITCC 1401 Cisco Exploration 1 - Network Fundamentals	3								
ITSY 1342 Information Technology Security	3								
<b>SEMESTER TOTAL</b>	<b>10</b>								
<b>THIRD SEMESTER</b>									
ITSC 1319 Internet/Web Page Development	3								
<b>SEMESTER TOTAL</b>	<b>3</b>								
<b>SECOND YEAR</b>									
<b>FIRST SEMESTER</b>									
ITSC 2339 Personal Computer Help Desk Support	3								
ITSC 1447 UNIX System Administration II <b>**</b>	4								
ITNW 1313 Computer Virtualization	3								
<b>SEMESTER TOTAL</b>	<b>10</b>								
<b>PROGRAM TOTAL</b>	<b>36</b>								
<b>**CAPSTONE CLASS</b>									



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**DIGITAL GAMING AND SIMULATION FOR ARTISTS - AAS**

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
TSI testing is required prior to first enrollment.									
<b>FIRST YEAR</b>									
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking									
Skills for Student Success	3								
GAME 1306 Design and Creation of Games	3								
GAME 1378 Art for 2D Games	3								
ARTS 1316 Drawing	3								
GAME 1336 Introduction to 3D Game Modeling	3								
<b>SECOND SEMESTER</b>									
ARTS 1317 Drawing II	3								
GAME 1302 Interactive Storyboarding	3								
GAME 1375 Principles of Game Concept Art	3								
GAME 1304 Level Design I	3								
GAME 2336 Lighting, Shading, and Texture	3								
<b>THIRD SEMESTER</b>									
XXXX #3## Math/Natural Science General Ed. Elective	3								
XXXX #3## Social/Behavioral Science General Ed. Elective	3								
<b>SECOND YEAR</b>									
<b>FIRST SEMESTER</b>									
GAME 1314 Character Sculpting	3								
GAME 2332 Project Development I	3								
GAME 1374 Introduction to 3D Game Animation	3								
GAME 2304 Level Design II	3								
<b>SECOND SEMESTER</b>									
GAME 2325 3D Animation II-Character Setup	3								
GAME 2334 Project Development II **	3								
GAME 2308 Portfolio for Game Development	3								
ENGL 1301 Composition I	3								
<b>PROGRAM TOTAL</b>	<b>60</b>								

\*\*CAPSTONE COURSE



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**DIGITAL GAMING AND SIMULATION FOR ARTISTS - CERTIFICATE: LEVEL II**

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
<b>FIRST YEAR</b>									
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking Skills for Student Success	3								
GAME 1306 Design and Creation of Games	3								
GAME 1378 Art for 2D Games	3								
GAME 1302 Interactive Storyboarding	3								
GAME 1336 Introduction 3D Game Modeling	3								
<b>SEMESTER TOTAL</b>	<b>15</b>								
<b>SECOND SEMESTER</b>									
GAME 1304 Level Design	3								
GAME 1314 Character Sculpting	3								
GAME 1375 Principles of Game Concept Art	3								
GAME 2336 Lighting, Shading, and Texture	3								
<b>SEMESTER TOTAL</b>	<b>12</b>								
<b>SECOND YEAR</b>									
<b>FIRST SEMESTER</b>									
GAME 2332 Project Development I **	3								
GAME 1374 Introduction to 3D Game Animation	3								
GAME 2304 Level Design II	3								
<b>SEMESTER TOTAL</b>	<b>9</b>								
<b>PROGRAM TOTAL</b>	<b>36</b>								
<b>** CAPSTONE COURSE</b>									



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**DIGITAL GAMING AND SIMULATION FOR PROGRAMMERS - AAS**

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
TSI testing is required prior to first enrollment.									
<b>FIRST YEAR</b>									
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking									
Skills for Student Success	3								
GAME 1306 Design and Creation of Games	3								
GAME 1379 Introduction to Game Programming	3								
GAME 1378 Art for 2D Games	3								
<b>SECOND SEMESTER</b>									
GAME 2347 Advanced Game Programming	3								
GAME 2373 2D Game Programming	3								
GAME 1304 Level Design I	3								
GAME 2302 Mathematical Applications for Game Development	3								
<b>THIRD SEMESTER</b>									
XXXX #3## Social/Behavioral Science General Ed Elective	3								
XXXX #3## Humanities/Fine Arts General Ed. Elective	3								
<b>SECOND YEAR</b>									
<b>FIRST SEMESTER</b>									
GAME 2332 Project Development I	3								
GAME 2319 Game Engine	3								
GAME 2342 Game Development Using C++	3								
GAME 2304 Level Design II	3								
MATH 1314 College Algebra	3								
<b>SECOND SEMESTER</b>									
GAME 2341 Game Scripting	3								
ENGL 1301 Composition I	3								
GAME 2334 Project Development II **	3								
XXXX #3## Math/ Natural Science General Ed. Elective	3								
GAME 2308 Portfolio for Game Development	3								
<b>PROGRAM TOTAL</b>	<b>60</b>								

\*\* CAPSTONE CLASS

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**DIGITAL GAMING AND SIMULATION FOR PROGRAMMERS - CERTIFICATE: LEVEL II**

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
<b>FIRST YEAR</b>									
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking									
Skills for Student Success	3								
GAME 1306 Design and Creation of Games	3								
GAME 1379 Introduction to Game Programming	3								
GAME 1378 Art for 2D Games	3								
<b>SEMESTER TOTAL</b>	<b>12</b>								
<b>SECOND SEMESTER</b>									
GAME 2347 Advanced Game Programming	3								
GAME 1304 Level Design	3								
GAME 2373 2D Game Programming	3								
GAME 2302 Mathematical Applications for Game Development	3								
<b>SEMESTER TOTAL</b>	<b>12</b>								
<b>THIRD SEMESTER</b>									
GAME 2332 Project Development I **	3								
GAME 2319 Game Engine	3								
GAME 2342 Game Development Using C++	3								
GAME 2304 Level Design II	3								
MATH 1314 College Algebra	3								
<b>SEMESTER TOTAL</b>	<b>15</b>								
<b>PROGRAM TOTAL</b>	<b>39</b>								
<b>** CAPSTONE COURSE</b>									



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**GEOGRAPHIC INFORMATION SCIENCE ANALYST - CERTIFICATE: LEVEL II**

HCCS Course Requirement	cr	Transfer	Substitute	Substitute (SU)	Term	Credits	Grade	Approval	Date
	hr	Institution	Course	Transfer (TR)	Comment/Disapproval			Signature	
TSI testing is required prior to first enrollment.									
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking Skills for Student Success	3								
GISC 1411 Introduction to GIS	4								
MATH 1314 College Algebra	3								
BCIS 1405 Business Computer Applications	4								
<b>SEMESTER TOTAL</b>	<b>13</b>								
<b>SECOND SEMESTER</b>									
GISC 2250 Scripting for Geographic Information Systems (GIS)	2								
COSC 1436 Programming Fundamentals I	4								
GISC 1401 Cartography and Geography in GIS/GPS	4								
GISC 1421 Introduction to Raster-Based GIS	4								
ITSE 1345 Introduction to Oracle SQL	3								
<b>SEMESTER TOTAL</b>	<b>17</b>								
<b>THIRD SEMESTER</b>									
GISC 2411 Geographic Info. Systems (GIS) Applications	4								
GISC 1491 Special Topics in Cartography	4								
GISC 2364 Practicum (or Field Experience) Cartography <i>OR</i>									
GISC 2380 Cooperative Education- Cartography	3								
GISC 2401 Data Acquisition and Analysis in GIS	4								
GISC 2359 Web-Served Geographic Information Systems (GIS) <b>**</b>	3								
<b>SEMESTER TOTAL</b>	<b>18</b>								
<b>PROGRAM TOTAL</b>	<b>49</b>								
<b>**CAPSTONE CLASS</b>									

