Connection #1

Below are proposed curriculum changes for IT beginning Fall 2019. (Pending Curriculum Committee approval 10/18) The department is proposing the removal of the degree specialization in Information Systems Technology with Game Design and as well as the removal of the Networking and Cybersecurity Career Studies Certificate.

Below is a table showing the Parent Degree, Degree Specializations and Career Studies Certificates, as they would appear in the revised 2019 catalog. Please note that there are "justifications" for degree or career studies certificate changes. Attached are also "old" tables showing changes that will occur within the degrees, specializations, and career studies certificates.

Proposal: Remove Information Systems Technology with Game Design and Development Specialization Degree program
  Justification:
  - Industry demand and student interest for the gaming specialization has diminished. Sustainability to fund this specialization is not feasible at the current student enrollment level.

Proposal: Remove Networking and Cybersecurity Career Studies Certificate
  Justification:
  - The ITN 155 course is the only course difference that is not offered in the IST parent degree. ITN 155 was last offered Spring 2018 with 4 students. Sustainability to fund this course is not feasible at this student enrollment level.
  - Industry demand and student interest for the CCNA industry certification has diminished. Students can obtain the CCENT industry certification by taking only ITN 154.

Degree, Specializations, and Career Studies Certificates' (catalog 2019)

Information Technology
Information Systems Technology
Award: Associate of Applied Science
Length: 65-68 credits
Information Systems Technology
Specialization: Internet Services
Award: Associate of Applied Science
Length: 66-68 credits
Information Systems Technology
Specialization: Accounting Information Systems Technology
Award: Associate of Applied Science
Length: 64-66 credits
Computer Service Technician
Award: Career Studies Certificate
Length: 18 credits
Cybersecurity
Award: Career Studies Certificate
Length: 25 credits
Internet Webmaster
Award: Career Studies Certificate
Length: 18 credits

PROGRAM CONTENT COMPARISON

Courses	Information Systems Technology (AAS)	Information Systems Technology with Internet Services Specialization (AAS)	Information Systems Technology with Accounting Information Systems Specialization (AAS)	Computer Service Technician (CSC)	Cybersecurity (CSC)	Internet Webmaster (CSC)
ACC 111 (3)			3			
ACC 112 (3)			3			
ACC 215 (3)			3			
ACC 221 (3)			3			
ACC 222 (3)			3			
ENG 111 (3)	3	3	3			
ENG 112 (3)	3	3	3			
MTH 154 (3) or MTH 167 (5)	3	3	3			
HUM EEE (3)	3	3	3			
SOC EEE (3)	3	3	3			
CSC 200 (3)	3	3	3	3	3	3
ITD 110	3	3	3			3
ITD 112 (3)		3				
ITD 130 (3)	3	3	3			
ITD 210 (3)		3				
ITE 115 (3) or ITE 119 (3)	3	3	3	3		3
ITE 290 (3) or ITE 297 (3)	3	3	3			
ITN 106 (3)	3	3	3	3		
ITN 107 (3)	3	3		3		
ITN 154 (4)	4	4		4	4	4
ITN 260 (3)	3	3	3		3	3
ITN 261 (3)	3	3	3		3	
ITN 262 (3)	3	3	3		3	
ITN 263 (3)	3	3			3	
ITN 266 (3)	3				3	
ITN 267 (3)	3	3			3	
CSC 131 (3) or ITP 120 (3)	3	3	3			
SDV 108 (1)	1	1	1	1		1
HLT/PED EEE (1)	1	1	2			
Credits	**63**	**66**	**63**	**17**	**25**	**17**

Information Systems Technology - OLD

Award: Associate of Applied Science
Length: 65-68 credits

General Education Requirements (18-21 Credits):
ENG   111-112   College Composition I II (6)
MTH   154   Quantitative Reasoning (3)
                        [or MTH 167 Precalculus with Trigonometry (5)]
HUM   EEE   Humanities Elective (3) See pages 163-165
~~NAS   EEE   Natural Sciences Elective (3-4) See pages 163-165~~
SOC   EEE   Social Sciences Electives (3) See pages 163-165

Program Requirements (47-48 Credits):
CSC   200   Introduction to Computer Science (3)
ITD   110   Web Page Design I (3)
ITD   130   Database Fundamentals (3)
ITE   115   Intro to Computer Applications & Concepts (3)
                        [or ITE 119 Information Literacy (3)]
                        ~~[or EGR 216 Computer Methods in Engineering (3)]~~
~~ITE   130   Introduction to Internet Services (3)~~
~~ITE   140   Spreadsheet Software (3)~~
~~ITE   199   Supervised Study – Certification Study (1)~~
ITE   290   Coordinated Internship (3)
                        [or ITE 297 Cooperative Education (3)]
~~ITE   299   Supervised Study in IST (1)~~
ITN   106   Microcomputer Operating Systems (3)
ITN   107   Personal Computer Hardware & Troubleshooting (3)
ITN   154   Network Fundamentals, Router Basics, and Configuration (ICND1) – Cisco (4)
ITN   260   Network Security Basics (3)
~~ITP   110   Visual Basic Programming I (3)~~
                        ~~[or CSC 201 Computer Science I (4)]~~
                        [or ITP 120 Java Programming I (4)]
~~ITE   EEE   (3) See pages 163-165~~
~~MKT   260   Customer Service Management (3)~~
                        ~~[or ACC 211 Principles of Accounting (3)]~~
                        ~~[or BUS 100 Introduction to Business (3)]~~
PED/HLT   Wellness Elective (1)   See pages 163-165
SDV   108   College Survival Skills (1)

Minimum required for degree: 65 - 69 Credits

Information Systems Technology - NEW
Award: Associate of Applied Science
Length: 63-66 credits

General Education Requirements (15-17 Credits):
ENG   111-112   College Composition I II (6)
MTH   154   Quantitative Reasoning (3)
        [or MTH 167 Precalculus with Trigonometry (5)]
HUM   EEE   Humanities Elective (3) See pages 163-165
SOC   EEE   Social Sciences Electives (3) See pages 163-165

Program Requirements (48-49 Credits):
CSC   200   Introduction to Computer Science (3)
CSC   130   Computer Science I (3)
        [or ITP 120 Java Programming I (4)]
ITD   110   Web Page Design I (3)
ITD   130   Database Fundamentals (3)
ITE   115   Intro to Computer Applications & Concepts (3)
        [or ITE 119 Information Literacy (3)]
ITE   290   Coordinated Internship (3)
        [or ITE 297 Cooperative Education (3)]
ITN   106   Microcomputer Operating Systems (3)
ITN   107   Personal Computer Hardware & Troubleshooting (3)
ITN   154   Network Fundamentals, Router Basics, and Configuration (ICND1) – Cisco (4)
ITN   260   Network Security Basics (3)
ITN   261   Network Attacks, Computer Crime, and Hacking (3)
ITN   262   Network Communication, Security and Authentication (3)
ITN   263   Internet/Intranet Firewalls and E-Commerce Security (3)
ITN   266   Network Security Layers (3)
ITN   267   Legal Topics in Network Security (3)
PED/HLT   Wellness Elective (1)   See pages 163-165
SDV   108   College Survival Skills (1)

Minimum required for degree: 63 - 66 Credits

Information Systems Technology Degree Program Change Justification:

- The emergence of cybersecurity is a topic that is essential in the IT field of study and the number of jobs available in cybersecurity has skyrocketed. For this reason, cybersecurity courses have taken the place of the science elective, ITE 130, ITE 140, and MKT 260. The content of ITE 130 is now more commonplace and is covered in the other existing courses like ITE 115 and ITD 110. The ITE elective is now specified with a cybersecurity course. The VCCS Table 5-1 requires AAS degrees to contain either a math or science course. A math course requirement is present in the degree. By removing the science elective and replacing it with a cybersecurity course, the degree program is still within compliance of VCCS Table 5-1. The degree program contains a math course as required by VCCS Table 5-1.

- This makes the Cybersecurity Career Studies Certificate 100% stackable with the IST degree program.

- The content of ITE 199 and 299 is conducted elsewhere.

- ITP 110 Visual Basic has not been offered at PHCC for several years. The programming languages of C++ and Java are in more demand from industry than Visual Basic. Additionally, the programming languages of C++ and Java are more transferable to senior institutions.
- CSC 201 must be changed to CSC 130 due to the higher math corequisite required. The description between the two courses are similar.

CSC 130 – Scientific Programming

Introduces a science-oriented, high level programming language. Studies the language and its application in problem solving in a structured programming environment. Includes the concepts and practice of structured programming, problem-solving, top-down design of algorithms, basic C syntax, control structures, arrays, and data structures.

Lecture 3-4 hours per week.

3 – 4 credits

CSC 201 – Computer Science I

Introduces algorithm and problem solving methods. Emphasizes structured programming concepts, elementary data structures and the study and use of a high level programming language. Corequisite MTH 173 or equivalent or divisional approval.

Lecture 4 hours per week.

4 credits

Information Systems Technology - OLD
Specialization: Internet Services
Award: Associate of Applied Science
Length: 67-69 credits

General Education Requirements (18-20 Credits):

ENG	111-112	College Composition I-II (6)
HUM	EEE	Humanities Elective (3)
MTH	154	Quantitative Reasoning (3)
		[or MTH 167 Precalculus with Trigonometry (5)]
~~NAS~~	~~EEE~~	~~Natural Sciences Elective (3-4)~~ *See pages 163-165*
SOC	EEE	Social Sciences Elective (3) *See pages 163-165*

Program Requirements (49 Credits):

CSC	200	Introduction to Computer Science (3)
Choose 2 from (8):		
		~~CSC 201 Computer Science I (4)~~
		~~CSC 202 Computer Science II (4~~)
		ITP 120 Java Programming I (4)
		~~ITP 220 Java Programming II (4)~~
ITD	110	Web Page Design I (3)
ITD	112	Designing Web Page Graphics (3)
ITD	210	Web Page Design II (3)
ITD	130	Database Fundamentals (3)
ITE	115	Intro to Computer Applications & Concepts (3)
		[or ITE 119 Information Literacy (3)]
		~~[or EGR 216 Computer Methods in Engineering (3)]~~
~~ITE~~	~~130~~	~~Introduction to Internet Services (3)~~
~~ITE~~	~~199~~	~~Supervised Study – Certification Study (1)~~
ITE	290	Coordinated Internship (3)
		[or ITE 297 Cooperative Education (3)]
~~ITE~~	~~299~~	~~Supervised Study in IST (1)~~
ITN	106	Microcomputer Operating Systems (3)
ITN	154	Network Fundamentals, Router Basics, and Configuration (ICND1) – Cisco (4)
ITN	260	Network Security Basics (3)
~~MKT~~	~~260~~	~~Customer Service Management (3)~~
		~~[or ACC 211 Principles of Accounting (3)]~~
		~~[or BUS 100 Introduction to Business (3)]~~
PED/HLT	EEE	Wellness (1) *See pages 163-165*
SDV	108	College Survival Skills (1)

Minimum required for degree: 67-69 Credits

Information Systems Technology - NEW
Specialization: Internet Services
Award: Associate of Applied Science
Length: 69 credits

General Education Requirements (15-17 Credits):

ENG	111-112	College Composition I-II (6)
HUM	EEE	Humanities Elective (3)
MTH	154	Quantitative Reasoning (3)
		[or MTH 167 Precalculus with Trigonometry (5)]
SOC	EEE	Social Sciences Elective (3) *See pages 163-165*

Program Requirements (51-52 Credits):

CSC	200	Introduction to Computer Science (3)
CSC 130 Computer Science I (3)		
		[or ITP 120 Java Programming I (4)]
ITD	110	Web Page Design I (3)
ITD	112	Designing Web Page Graphics (3)
ITD	210	Web Page Design II (3)
ITD	130	Database Fundamentals (3)
ITE	115	Intro to Computer Applications & Concepts (3)
		[or ITE 119 Information Literacy (3)]
ITE	290	Coordinated Internship (3)
		[or ITE 297 Cooperative Education (3)]
ITN	106	Microcomputer Operating Systems (3)
ITN	107	Personal Computer Hardware and Troubleshooting (3)
ITN	154	Network Fundamentals, Router Basics, and Configuration (ICND1) – Cisco (4)
ITN	260	Network Security Basics (3)
ITN	261	Network Attacks, Computer Crime, and Hacking (3)
ITN	262	Network Communication, Security and Authentication (3)
ITN	263	Internet/Intranet Firewalls and E-Commerce Security (3)
ITN	267	Legal Topics and Network Security (3)
PED/HLT EEE		Wellness (1) *See pages 163-165*
SDV	108	College Survival Skills (1)

Minimum required for degree: 68-69 Credits

Information Systems Technology Degree with Specialization Internet Services Program Change Justification:

- The emergence of cybersecurity is a topic that is essential in the IT field of study and the number of jobs available in cybersecurity has skyrocketed. For this reason, cybersecurity courses have taken the place of the science elective, ITE 130, and MKT 260. This matches the parent degree. The content of ITE 130 is now more commonplace and is covered in the other existing courses like ITE 115 and ITD 110. The VCCS Table 5-1 requires AAS degrees to contain either a math or a science course. A math course requirement is present in the degree. By removing the science elective and replacing it with a cybersecurity course, the degree program is still within compliance of VCCS Table 5-1. The degree program contains a math course as required by VCCS Table 5-1.

Information Systems Technology - OLD

Specialization: Accounting Information Systems
Award: Associate of Applied Science
Length: 65-68 credits

General Education Requirements (18-21 Credits):

ENG	111-112	College Composition I-II (6)	
MTH	154	Quantitative Reasoning (3)	
		[or MTH 167 Precalculus with Trigonometry (5)]	
HUM	EEE	Humanities Elective (3)	
NAS	EEE	Natural Sciences Elective (3-4) *See pages 163-165*	
SOC	EEE	Social Sciences Elective (3) *See pages 163-165*	

Program Requirements (47 Credits):

ACC	211	Principles of Accounting I (3)
ACC	212	Principles of Accounting II (3)
ACC	215	Computerized Accounting (3)
ACC	221	Intermediate Accounting I (3)
ACC	222	Intermediate Accounting II (3)
CSC	200	Introduction to Computer Science (3)
ITD	110	Web Page Design I (3)
ITE	115	Intro to Computer Applications & Concepts (3)
		[or ITE 119 Information Literacy (3)]
		[or EGR 216 Computer Methods in Engineering (3)]
ITE	140	Spreadsheet Software (3)
ITE	150	Desktop Database Software (3)
		[or ITD 130 Database Fundamentals (3)]
ITE	199 Supervised Study – Certification Study (1)	
		[or ACC 299 (1)]
ITE	290	Coordinated Internship (3)
		[or ITE 297 Cooperative Education (3)]
ITE	299	Supervised Study in IST (1)
ITN	106	Microcomputer Operating Systems (3)
ITP	110	Visual Basic Programming I (3)
MKT	260	Customer Service Management (3)
		[or ACC 211 Principles of Accounting (3)]
		[or BUS 100 Introduction to Business (3)]
PED/HLT EEE		Wellness (2) *See pages 163-165*
SDV	108	College Survival Skills (1)

Minimum required for degree: 65 - 68 Credits

Information Systems Technology - NEW
Specialization: Accounting Information Systems
Award: Associate of Applied Science
Length: 66-69 credits

General Education Requirements (15-17 Credits):

ENG	111-112	College Composition I-II (6)
MTH	154	Quantitative Reasoning (3)
		[or MTH 167 Precalculus with Trigonometry (5)]
HUM	EEE	Humanities Elective (3)
SOC	EEE	Social Sciences Elective (3) *See pages 163-165*

Program Requirements (51-52 Credits):

ACC	211	Principles of Accounting I (3)
ACC	212	Principles of Accounting II (3)
ACC	215	Computerized Accounting (3)
ACC	221	Intermediate Accounting I (3)
ACC	222	Intermediate Accounting II (3)
CSC	200	Introduction to Computer Science (3)
CSC	130	Computer Science I (3)
		[or ITP 120 Java Programming I (4)]
ITD	110	Web Page Design I (3)
ITE	115	Intro to Computer Applications & Concepts (3)
		[or ITE 119 Information Literacy (3)]
ITE	130	Database Fundamentals (3)
		[or ITE 150 Desktop Database Software (3)]
ITE	290	Coordinated Internship (3)
		[or ITE 297 Cooperative Education (3)]
ITE	299	Supervised Study in IST (1)
ITN	106	Microcomputer Operating Systems (3)
ITN	260	Network Security Basics (3)
ITN	261	Network Attacks, Computer Crime, and Hacking (3)
ITN	262	Network Communication, Security and Authentication (3)
ITN	267	Legal Topics in Network Security (3)
PED/HLT EEE		Wellness (1) *See pages 163-165*
SDV	108	College Survival Skills (1)

Minimum required for degree: 66 - 69 Credits

Information Systems Technology Degree with Accounting Information Systems Specialization Program Change Justification:

- The emergence of cybersecurity is a topic that is essential in the IT field of study and the number of jobs available in cybersecurity has skyrocketed. For this reason, cybersecurity courses have taken the place of the science elective, ITE 130, ITE 140, and MKT 260. The content of ITE 130 is now more commonplace and is covered in the other existing courses like ITE 115 and ITD 110. The ITE elective is now specified with a cybersecurity course. The VCCS Table 5-1 requires AAS degrees to contain either a math or science course. A math course requirement is present in the degree. By removing

    the science elective and replacing it with a cybersecurity course, the degree program is still within compliance of VCCS Table 5-1. The degree program contains a math course as required by VCCS Table

- The content of ITE 199 and 299 is conducted elsewhere.

- ITP 110 Visual Basic has not been offered at PHCC for several years. The programming languages of C++ and Java are in more demand from industry than Visual Basic. Additionally, the programming languages of C++ and Java are more transferable to senior institutions.

- PED/HLT elective is changing from 2 credits to 1 credit to match the parent degree and stay within the 15 credit hour maximum difference.

Computer Service Technician - OLD
Award: Career Studies Certificate
Length: 18 credits

Program Requirements (18 Credits):
CSC   200   Introduction to Computer Science (3)
ITE   115   Intro. Computer Applications & Concepts (3)
       [or ITE 119 Information Literacy (3)]

~~ITE   199   Supervised Study-Certification Exam Preparation (1)~~
ITN   106   Microcomputer Operating Systems (3)
ITN   107   Personal Computer Hardware and Troubleshooting (3)
ITN   154   Network Fundamentals, Router Basics, and Configuration (ICND1) – Cisco (4)
SDV   108   College Survival Skills (1)

Minimum required for certificate: 18 Credits

Computer Service Technician - NEW
Award: Career Studies Certificate
Length: 17 credits

Program Requirements (18 Credits):
CSC	200	Introduction to Computer Science (3)
ITE	115	Intro. Computer Applications & Concepts (3)
		[or ITE 119 Information Literacy (3)]
ITN	106	Microcomputer Operating Systems (3)
ITN	107	Personal Computer Hardware and Troubleshooting (3)
ITN	154	Network Fundamentals, Router Basics, and Configuration (ICND1) – Cisco (4)
SDV	108	College Survival Skills (1)

Minimum required for certificate: 17 Credits

Computer Service Technician Career Studies Certificate Program Change Justification:

- The content of ITE 199 and ITE 299 is conducted elsewhere.

* No changes are necessary for the Cybersecurity Career Studies Certificate

Cybersecurity
Award: Career Studies Certificate
Length: 25 credits

Program Requirements (25 Credits):
CSC	200	Introduction to Computer Science (3)
ITN	154	Network Fundamentals, Router Basics and Configuration - CISCO (4)
ITN	260	Network Security Basics (3)
ITN	261	Network Attacks, Computer Crime and Hacking (3)
ITN	262	Network Communication, Security and Authentication (3)
ITN	263	Internet/Intranet Firewalls and E-Commerce Security (3)
ITN	266	Network Security Layers (3)
ITN	267	Legal Topics in Network Security (3)

Minimum required for certificate: 25 Credits

Internet Webmaster - OLD
Award: Career Studies Certificate
Length: 18 credits

Program Requirements (18 Credits):

CSC	200	Introduction to Computer Science (3)
ITE	115	Intro. Computer Applications & Concepts (3)
~~ITE~~	~~130~~	~~Introduction to Internet Services (3)~~
~~ITE~~	~~199~~	~~Supervised Study-Certification Exam Preparation (1)~~
ITD	110	Web Page Design I (3)
ITN	154	Network Fundamentals, Router Basics, and Configuration (ICND1) – Cisco (4)
SDV	108	College Survival Skills (1)

Minimum required for certificate: 18 Credits

Internet Webmaster - NEW
Award: Career Studies Certificate
Length: 18 credits

Program Requirements (17 Credits):

CSC	200	Introduction to Computer Science (3)
ITE	115	Intro. Computer Applications & Concepts (3)
ITN	260	Network Security Basics (3)
ITD	110	Web Page Design I (3)
ITN	154	Network Fundamentals, Router Basics, and Configuration (ICND1) – Cisco (4)
SDV	108	College Survival Skills (1)

Minimum required for certificate: 17 Credits

Internet Webmaster Career Studies Certificate Program Change Justification:

- The change from ITE 130 to ITN 260 aligns with the stackable degree Information Systems Technology with Specialization Internet Services. The content of ITE 130 is now more commonplace and is covered in the other existing courses like ITE 115 and ITD 110.
- The content of ITE 199 and ITE 299 is conducted elsewhere.

Proposal: Remove the Information Systems Technology with Game Design and Development Specialization Degree program.

Justification:
- Industry demand and student interest for the gaming specialization has diminished. Sustainability to fund this specialization is not feasible at the current student enrollment level.

Proposal: Remove Networking and Cybersecurity Career Studies Certificate

Justification:
- The ITN 155 course is the only course difference that is not offered in the IST parent degree. ITN 155 was last offered Spring 2018 with 4 students. Sustainability to fund this course is not feasible at this student enrollment level.
- Industry demand and student interest for the CCNA industry certification has diminished. Students can obtain the CCENT industry certification by taking only ITN 154.