

**Career Clusters, Pathways, and Courses**  
**North Carolina Career and Technical Education**



*Please see the FAQ worksheet tab for Frequently Asked Questions.*

September 26, 2017

## Frequently Asked Questions

### How do I use this document?

*This document contains all of the NC Career and Technical Education courses approved by the NC State Board of Education representing all Career Clusters and Pathways. LEAs should edit this document to publish a local guide reflecting its own Career Clusters, Pathways, and courses. The Local document may also include any approved Local Course Offerings. State Staff have assigned these courses based on a State-level perspective. LEAs may use discretion in over-riding courses based on a locally developed pathway.*

### What does the ^ mean?

*The ^ indicates the courses uses materials from third-party providers.*

### What does the \* mean?

*The \* indicates a completer course.*

### What is a completer course?

*A completer course is the second or third course in a series that builds upon skills acquired in the previous course(s). A completer course has a prerequisite.*

### What is a concentrator?

*A concentrator is a student who has earned four or more technical credits in a Career Cluster, at least one of which is a completer course. The student may earn all four credits from foundation courses or three from foundation and one from enhancement courses for the Career Cluster.*

### What is a foundation course?

*A foundation course provides fundamental knowledge and skills needed for student success in secondary and postsecondary education and careers in the Career Cluster.*

### What is an enhancement course?

*An enhancement course augments related knowledge and skills developed in foundation courses and provides for success in postsecondary education and careers in the Career Cluster.*

### What is the difference between a Career Cluster and a Career Pathway?

*Career Clusters are groupings of occupations used as an organizing tool for curriculum design and instruction. Career pathways are sub-groupings of occupations within a Career Cluster. Occupations are grouped into pathways based on the set of common knowledge and skills required for career success.*

### What is the National Academy Foundation?

*The National Academy Foundation provides industry-focused curricula in four themes: Finance, Hospitality & Tourism, Information Technology, and Engineering. For more information on NAF, please visit [www.NAF.org](http://www.NAF.org).*

*Continued on next page...*

### **What is the NC Career & College Promise?**

*The NC Career & College Promise offers North Carolina high school age students a clear, focused and affordable path to future success. Qualified North Carolina high-school age students can begin their two- or four-year college work, tuition free, while they are in high school allowing them to get a head start on their workplace and college preparation. The program is free to all students who maintain a "B" average and meet other eligibility requirements. For more information on the NC Career & College Promise, please visit [www.careercollegenc.org](http://www.careercollegenc.org) .*

*We have included a worksheet tab with the CCP courses currently aligned to Career Clusters. The tab is named "CCP Courses" and is located to the left of the AFNR Career Cluster worksheet.*

### **Is Cooperative Education still available?**

*Yes. Cooperative Education is a method of instruction for students, 16 and older, where technical classroom instruction is combined with paid employment directly related to the classroom instruction. The experience has to be offered in the same academic year in which the complementing course is offered. The course type for Co-op(foundational or enhancement) will be the same as the classroom course.*

### **What are the current graduation requirements for a student in North Carolina?**

*For the most current graduation requirements, please visit [www.ncpublicschools.org/gradrequirements](http://www.ncpublicschools.org/gradrequirements)*

**Edits for the September release include:**

Removing AU71 from enhancement in the STEM and Health Science clusters

Revising the name of IM21 from Cabinetmaking I to Woodworking I in the Manufacturing cluster

**Transitional Courses are listed below. These courses previously were included in the Career Cluster documents, but have since been removed.**

Course Number	Course Name	Foundational Clusters	Enhancement Clusters
FC10	Teen Living	AG, AC, AR, HL	
AU71	Biotechnology and Agriscience Research I	AG	
AU72	Biotechnology and Agriscience Research II	AG	
II13	Cisco Network Engineering Technology III	IT	
II14	Cisco Network Engineering Technology IV		IT
BD14	e-Commerce II	IT	
BN24	Network Administration III	IT	
BP30	Oracle Database Programming I	IT	
BP32	Oracle Database Programming II	IT	
BP22	SAS Programming II	IT	
TE21	Principles of Technology I	ST	
TE22	Principles of Technology II	ST	
IA12	Digital File Preparation	AR	
IM33	Electronics III	MN	
IM34	Electronics IV		MN
IA11	Introduction to Graphic Communications	AR	
IA13	Print Advertising and Design	AR	

**Career Cluster Two-letter Abbreviations:**

1.	Agriculture, Food, & Natural Resources	AG	
2.	Architecture & Construction	AC	
3.	Arts, A/V Technology, & Communications	AR	
4.	Business Management & Administration	BM	
5.	Education & Training	ED	
6.	Finance	FN	
7.	Government & Public Administration	GV	
8.	Health Science	HL	
9.	Hospitality & Tourism	HT	

10.	Human Services	HU	
11.	Information Technology	IT	
12.	Law, Public Safety, Corrections & Security	LW	
13.	Manufacturing	MN	
14.	Marketing	MK	
15.	Science, Technology, Engineering, & Mathematics	ST	
16.	Transportation, Distribution & Logistics	TD	




Pathways					Cluster Enhancement Courses
Agribusiness Systems	AU10 Agriscience Applications	AU11 Agricultural Production I	AU12 Agricultural Production II *	CS95 CTE Advanced Studies	CC45 Career Management BM10 Microsoft Word and PowerPoint ^ BM20 Microsoft Excel and Access ^ MM51 Marketing ^ FH20 Introduction to Culinary Arts & Hospitality ME11 Entrepreneurship I ^ (BFIT & MEE) BF10 Principles of Business & Finance (BFIT & MEE) BM30 Microsoft SharePoint ^ CS96 CTE Apprenticeship CS97 CTE Internship OI00 IB Personal and Professional Skills ^
		CS11 Project Management I	CS12 Project Management II – Global CS13 Project Management II – Technology	CS14 Project Management III	
Animal Systems	AU10 Agriscience Applications	AU11 Agricultural Production I	AU12 Agricultural Production II *	CS95 CTE Advanced Studies	
		AA21 Animal Science I	AA22 Animal Science II * AA23 Animal Science II Small Animal *	AA41 Veterinary Assisting ^ CS95 CTE Advanced Studies	
		AA31 Equine Science I	AA32 Equine Science II *		
Food Products & Processing Systems	FC11 Principles of Family and Human Services BF05 Personal Finance (BFIT, FACS & MEE)	FN41 Foods I	FN42 Foods II-Enterprise *	CS95 CTE Advanced Studies	
			FN43 Foods II-Technology*		
Natural Resources Systems	AU10 Agriscience Applications	AN51 Environmental & Natural Resources I	AN52 Environmental & Natural Resources II *	CS95 CTE Advanced Studies	
Plant Systems	AU10 Agriscience Applications	AU11 Agricultural Production I	AU12 Agricultural Production II *	CS95 CTE Advanced Studies	
		AP41 Horticulture I	AP42 Horticulture II *		
			AP44 Horticulture II – Landscaping * AP43 Horticulture II – Turfgrass Management*		
Power, Structural & Technical Systems	AU10 Agriscience Applications	AS31 Agricultural Mechanics I	AS32 Agricultural Mechanics II* AS33 Agricultural Mechanics II Small Engines*	CS95 CTE Advanced Studies	
Career & College Promise	Approved Career & College Promise Career Technical Education Pathway				

Additional Pathways	Environmental Service Systems
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Middle School Courses	CC58 Exploring Career Decisions	AU01 Exploring Biotechnology in Agriculture
	BU10 Computer Skills and Applications	AU02 Exploring Agricultural Science
	BU20 Exploring Business, Marketing, and Entrepreneurship	FC01 Exploring Family and Consumer Sciences Education




Pathways	 <b>Architecture &amp; Construction</b> Cluster Foundation Courses				Cluster Enhancement Courses
<b>Construction</b>	IC00 Core and Sustainable Construction ^	IC21 Carpentry I ^	IC22 Carpentry II * ^	IC23 Carpentry III ^	CC45 Career Management BD10 Multimedia and Webpage Design BM10 Microsoft Word and PowerPoint ^ BM20 Microsoft Excel and Access ^ MM51 Marketing ^ MI21 Fashion Merchandising AS31 Agricultural Mechanics I FA31 Apparel and Textile Production I ME11 Entrepreneurship I ^ (BFIT & MEE) BM30 Microsoft SharePoint ^ CS96 CTE Apprenticeship CS97 CTE Internship OI00 IB Personal and Professional Skills ^
		IC41 Electrical Trades I ^	IC42 Electrical Trades II * ^	IC43 Electrical Trades III ^	
		IC11 Masonry I ^	IC12 Masonry II * ^	IC13 Masonry III ^	
	IU10 Introduction to Trade and Industrial Education	IC61 Drafting I	IC62 Drafting II – Architectural *	IC63 Drafting III – Architectural	
	IC00 Core and Sustainable Construction ^	IC21 Carpentry I ^	CS11 Project Management I	CS12 Project Management II – Global	
		IC41 Electrical Trades I ^			
IU10 Introduction to Trade and Industrial Education	IC11 Masonry I ^	CS13 Project Management II – Technology			
<b>Design/Pre-construction</b>	FC11 Principles of Family and Human Services	FI51 Interior Design I	FI52 Interior Design II*	FI53 Interior Applications	
	BF05 Personal Finance (BFIT, FACS & MEE)			CS95 CTE Advanced Studies	
	BF10 Principles of Business & Finance (BFIT & MEE)				
<b>Career &amp; College Promise</b>	Approved Career & College Promise Career Technical Education Pathway				

<b>Additional Pathways</b>	Maintenance/Operations
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<b>Middle School Courses</b>	CC58 Exploring Career Decisions      FC01 Exploring Family and Consumer Sciences Education
	BU10 Computer Skills and Applications      TE01 Technology Design & Innovation
	BU20 Exploring Business, Marketing, and Entrepreneurship






Pathways	 <b>Arts, A/V Technology &amp; Communications</b> <b>Cluster Foundation Courses</b>				Cluster Enhancement Courses	
<b>Audio &amp; Video Technology &amp; Film</b>  <b>Printing Technology</b>	IU10 Introduction to Trade and Industrial Education	IA31 Digital Media ^	IA32 Advanced Digital Media * ^	CS95 CTE Advanced Studies	CC45 Career Management BM20 Microsoft Excel and Access ^ FC11 Principles of Family and Human Services F151 Interior Design I BF10 Principles of Business & Finance (BFIT & MEE) BF05 Personal Finance (BFIT, FACS, & MEE) BM30 Microsoft SharePoint ^ CS96 CTE Apprenticeship CS97 CTE Internship OI00 IB Personal and Professional Skills ^	
<b>Visual Arts</b>		II31 Adobe Visual Design ^	II32 Adobe Digital Design * ^			II33 Adobe Video Design * ^
		BD10 Multimedia and Webpage Design (BFIT & T&I)	FA32 Apparel and Textile Production II * (FACS & MEE)			ME11 Entrepreneurship I ^ (BFIT & MEE)
	MM51 Marketing ^ MI21 Fashion Merchandising (FACS & MEE)	FA31 Apparel and Textile Production I (FACS & MEE)		CS95 CTE Advanced Studies		
	<b>Visual Arts</b>	TS21 Scientific & Technical Visualization I	TS31 Game Art Design * ^	TS32 Advanced Game Art Design ^		
CS11 Project Management I		CS12 Project Management II – Global	CS14 Project Management III			
<b>Career &amp; College Promise</b>	Approved Career & College Promise Career Technical Education Pathway					

<b>Additional Pathways</b>	Performing Arts Journalism & Broadcasting Telecommunications
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<b>Middle School Courses</b>	CC58 Exploring Career Decisions BU10 Computer Skills and Applications BU20 Exploring Business, Marketing, and Entrepreneurship FC01 Exploring Family and Consumer Sciences Education TE01 Technology Design & Innovation
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Pathways	 <b>Business Management &amp; Administration</b> <b>Cluster Foundation Courses</b>				Cluster Enhancement Courses
<b>General Management</b>	BF10 Principles of Business & Finance (BFIT & MEE)  BM10 Microsoft Word and PowerPoint ^	BA10 Accounting I	BB40 Business Management * ^		CC45 Career Management BD10 Multimedia and Webpage Design MM51 Marketing ^ MU92 Strategic Marketing BF05 Personal Finance (BFIT, FACS, & MEE) CS96 CTE Apprenticeship CS97 CTE Internship OI00 IB Personal and Professional Skills ^
			BB30 Business Law *	ME12 Entrepreneurship II ^ (BFIT & MEE)	
			ME11 Entrepreneurship I * ^ (BFIT & MEE)	MU81 Virtual Enterprise I ^ (BFIT & MEE)	
			BB50 IB Business Management ^	CS95 CTE Advanced Studies	
	BM20 Microsoft Excel and Access ^	CS11 Project Management I	BF20 Business Financial Planning * ^		
			CS12 Project Management II – Global *	CS14 Project Management III	
	CS13 Project Management II – Technology *		BM30 Microsoft SharePoint * ^ CS95 CTE Advanced Studies		
<b>Career &amp; College Promise</b>	Approved Career & College Promise Career Technical Education Pathway				

<b>Additional Pathways</b>	Administrative Support	Business Information Management
	Human Resources Management	Operations Management


<b>Middle School Courses</b>	CC58 Exploring Career Decisions	BU20 Exploring Business, Marketing, and Entrepreneurship
	BU10 Computer Skills and Applications	



<b>Pathways</b>		<b>Cluster Enhancement Courses</b>
<b>Administration and Administrative Support</b>	<p>LEAs may use locally developed courses to provide opportunities for students in this Career Cluster.</p> <p>8595/CS95 CTE Advanced Studies is an appropriate foundational course in this cluster.</p>	<p>CC45 Career Management            BM10 Microsoft Word and PowerPoint ^            BM30 Microsoft SharePoint ^            BM20 Microsoft Excel and Access ^            BF10 Principles of Business &amp; Finance (BFIT &amp; MEE)            BF05 Personal Finance (BFIT, FACS, &amp; MEE)            CS96 CTE Apprenticeship            CS97 CTE Internship            FC11 Principles of Family and Human Services            OI00 IB Personal and Professional Skills ^</p>
<b>Professional Support Services</b>		
<b>Teaching/Training</b>		
<b>Career &amp; College Promise</b>		

<b>Additional Pathways</b>	None
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<b>Middle School Courses</b>	CC58 Exploring Career Decisions    BU20 Exploring Business, Marketing, and Entrepreneurship BU10 Computer Skills and Applications    FC01 Exploring Family and Consumer Sciences Education
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<b>Pathways</b>	 <p><b>Cluster Foundation Courses</b></p>			<b>Cluster Enhancement Courses</b>	
<b>Business Finance</b>	BF10 Principles of Business & Finance (BFIT & MEE) BF05 Personal Finance (BFIT, FACS, & MEE) BM20 Microsoft Excel and Access ^	BA10 Accounting I	BA20 Accounting II * BA30 College-Level Accounting Honors * ^ BF20 Business Financial Planning * ^	ME11 Entrepreneurship I ^ (BFIT & MEE) BB30 Business Law CS95 CTE Advanced Studies	CC45 Career Management BM10 Microsoft Word and PowerPoint ^ MM51 Marketing ^ MU92 Strategic Marketing CS11 Project Management I BM30 Microsoft SharePoint ^ MU81 Virtual Enterprises ^ CS96 CTE Apprenticeship CS97 CTE Internship FC11 Principles of Family and Human Services OI00 IB Personal and Professional Skills ^
<b>National Academy Foundation</b>	Academy of Finance ^				
<b>Career &amp; College Promise</b>	Approved Career & College Promise Career Technical Education Pathway				

<b>Additional Pathways</b>	Banking Services Insurance	Securities and Investments
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<b>Middle School Courses</b>	CC58 Exploring Career Decisions BU10 Computer Skills and Applications BU20 Exploring Business, Marketing, and Entrepreneurship	FC01 Exploring Life Skills TE01 Technology Design & Innovation
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<b>Pathways</b>	 <b>Government &amp; Public Administration</b> <b>Cluster Foundation Courses</b>	<b>Cluster Enhancement Courses</b>
<b>Governance</b>	<p>LEAs may use locally developed courses to provide opportunities for students in this Career Cluster.</p> <p>8595/CS95 CTE Advanced Studies is an appropriate foundational course in this cluster.</p>	<p>CC45 Career Management            BM10 Microsoft Word and PowerPoint ^            BM30 Microsoft SharePoint ^            BM20 Microsoft Excel and Access ^            CS11 Project Management I            BF10 Principles of Business &amp; Finance (BFIT &amp; MEE)            BF05 Personal Finance (BFIT, FACS, &amp; MEE)            CS96 CTE Apprenticeship            CS97 CTE Internship            FC11 Principles of Family and Human Services            OI00 IB Personal and Professional Skills ^</p>
<b>National Security</b>		
<b>Foreign Services</b>		
<b>Planning</b>		
<b>Revenue and Taxation</b>		
<b>Regulation</b>		
<b>Public Management and Administration</b>		
<b>Career &amp; College Promise</b>		

<b>Additional Pathways</b>	None
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<b>Middle School Courses</b>	CC58 Exploring Career Decisions    BU20 Exploring Business, Marketing, and Entrepreneurship BU10 Computer Skills and Applications    FC01 Exploring Family and Consumer Sciences Education
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**Cluster Foundation Courses**

Pathways	Cluster Foundation Courses				Cluster Enhancement Courses
<b>Therapeutic Services</b> <b>Diagnostic Services</b> <b>Health Informatics</b> <b>Support Services</b>	HU10 Health Team Relations	HB11 Biomedical Technology I	HB12 Biomedical Technology II *	HN43 Nursing Fundamentals ^ (2 credits) HN44 Fundamentals of Gerontology ^	CC45 Career Management BF05 Personal Finance (BFIT, FACS, & MEE) BF10 Principles of Business & Finance (BFIT & MEE) BM10 Microsoft Word and PowerPoint ^ BM30 Microsoft SharePoint ^ BM20 Microsoft Excel and Access ^ CS96 CTE Apprenticeship CS97 CTE Internship FC11 Principles of Family and Human Services FE60 Parenting and Child Development FN41 Foods I IP11 Public Safety I IP12 Public Safety II ME11 Entrepreneurship I ^ (BFIT & MEE) MM51 Marketing ^ OI00 IB Personal and Professional Skills ^
<b>Biotechnology Research &amp; Development</b>	HP70 PLTW Principles of Biomedical Sciences ^	HP71 PLTW Human Body Systems * ^	HP72 PLTW Medical Interventions ^	HP73 PLTW Biomedical Innovations ^	
<b>Career &amp; College Promise</b>	Approved Career & College Promise Career Technical Education Pathway				
<b>Additional Pathways</b>	None				
<b>Middle School Courses</b>	CC58 Exploring Career Decisions		FC01 Exploring Life Skills		
	BU10 Computer Skills and Applications		HB05 Exploring Biotechnology in Health Science		



Pathways					Cluster Enhancement Courses
Restaurants & Food/Beverage Service	FN41 Foods I	FH20 Introduction to Culinary Arts & Hospitality	FH21 Culinary Arts & Hospitality I (1 credit)	FH22 Culinary Arts & Hospitality II * (2 credits)	CC45 Career Management BD10 Multimedia and Webpage Design BM10 Microsoft Word and PowerPoint ^ BM20 Microsoft Excel and Access ^ AU11 Agricultural Production & Management I AA31 Equine Science I BF05 Personal Finance (BFIT, FACS, & MEE) CS96 CTE Apprenticeship CS97 CTE Internship FC11 Principles of Family and Human Services OI00 IB Personal and Professional Skills ^
		FH71 ProStart I ^	FH72 ProStart II * ^		
		FN42 Foods II - Enterprise *		CS95 CTE Advanced Studies	
Travel & Tourism	MH31 Sports & Entertainment Marketing I ^	MH32 Sports & Entertainment Marketing II * ^		ME12 Entrepreneurship II ^ (BFIT & MEE)	
	BF10 Principles of Business & Finance (BFIT & MEE)	MH42 Hospitality and Tourism *	ME11 Entrepreneurship I ^ (BFIT & MEE)	CS12 Project Management II – Global	
	MM51 Marketing ^	MH42 Hospitality and Tourism *	CS11 Project Management I	CS95 CTE Advanced Studies	
National Academy Foundation	Academy of Hospitality & Tourism ^				
Career & College Promise	Approved Career & College Promise Career Technical Education Pathway				

Additional Pathways	Lodging	Recreation, Amusements & Attractions
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Middle School Courses	CC58 Exploring Career Decisions	BU20 Exploring Business, Marketing, and Entrepreneurship
	BU10 Computer Skills and Applications	CU01 Exploring Family and Consumer Sciences Education




<b>Pathways</b>					<b>Cluster Enhancement Courses</b>
<b>Early Childhood Development &amp; Services</b>	FC11 Principles of Family and Human Services	FE60 Parenting & Child Development	FE11 Early Childhood Education I	FE12 Early Childhood Education II *  CS95 CTE Advanced Studies	CC45 Career Management BM10 Microsoft Word and PowerPoint ^ BM30 Microsoft SharePoint ^ BM20 Microsoft Excel and Access ^ FN41 Foods I ME11 Entrepreneurship I ^ (BFIT & MEE) CS96 CTE Apprenticeship CS97 CTE Internship OI00 IB Personal and Professional Skills ^
<b>Career &amp; College Promise</b>	Approved Career & College Promise Career Technical Education Pathway				


<b>Additional Pathways</b>	Counseling & Mental Health Services	Personal Care Services
	Family & Community Services	Consumer Services

<b>Middle School Courses</b>	CC58 Exploring Career Decisions	FC01 Exploring Family and Consumer Sciences Education
	BU10 Computer Skills and Applications	TE01 Technology Design & Innovation
	BU20 Exploring Business, Marketing, and Entrepreneurship	



Pathways	 <b>Information Technology</b> <b>Cluster Foundation Courses</b>				Cluster Enhancement Courses	
<b>Programming &amp; Software Development</b>	BI10 Foundations of Information Technology (BFIT & T&I) BF10 Principles of Business & Finance (BFIT & MEE) BI05 IB Information Technology in a Global Society ^ BM20 Microsoft Excel and Access ^	BP10 Computer Programming I 0A02 Computer Science Principles	BP12 Computer Programming II * BP20 SAS Programming I * ^	2A02 AP Computer Science ^	CC45 Career Management ME11 Entrepreneurship I ^ (BFIT & MEE) BF05 Personal Finance (BFIT, FACS, & MEE) BM30 Microsoft SharePoint ^ CS96 CTE Apprenticeship CS97 CTE Internship OI00 IB Personal and Professional Skills ^	
<b>Web &amp; Digital Communications</b>	BF10 Principles of Business & Finance (BFIT & MEE) BM10 Microsoft Word and PowerPoint ^ BI05 IB Information Technology in a Global Society ^ BI10 Foundations of Information Technology (BFIT & T&I)	BD10 Multimedia & Webpage Design * (BFIT & T&I) II31 Adobe Visual Design ^	BD12 e-Commerce I * II32 Adobe Digital Design * ^ II33 Adobe Video Design * ^	CS95 CTE Advanced Studies		
<b>Information Support &amp; Services</b>	BI10 Foundations of Information Technology (BFIT & T&I) IU10 Introduction to Trade and Industrial Education BI05 IB Information Technology in a Global Society ^ BM20 Microsoft Excel and Access ^	BI05 IB Information Technology ^ II21 Computer Engineering Technology I (BFIT, T&I & TE)	II22 Computer Engineering Technology II * (BFIT, T&I & TE)	CS95 CTE Advanced Studies		
<b>Network Systems</b>	IU10 Introduction to Trade and Industrial Education BI10 Foundations of Information Technology (BFIT & T&I) BI05 IB Information Technology in a Global Society ^ BI10 Foundations of Information Technology (BFIT & T&I) BI05 IB Information Technology in a Global Society ^	II11 Cisco Network Engineering Technology I ^ BN20 Network Administration I ^ CS11 Project Management I	II12 Cisco Network Engineering Technology II * ^ BN22 Network Administration II * ^ CS12 Project Management II – Global CS13 Project Management II – Technology	CS95 CTE Advanced Studies BN24 Network Administration III ^ CS14 Project Management III		
<b>National Academy Foundation</b>	Academy of Information Technology ^					
<b>Career &amp; College Promise</b>	Approved Career & College Promise Career Technical Education Pathway					
<b>Additional Pathways</b>	None					
<b>Middle School Courses</b>	CC58 Exploring Career Decisions BU10 Computer Skills and Applications	BU20 Exploring Business, Marketing, and Entrepreneurship TE01 Technology Design & Innovation				



Pathways	 <b>Law, Public Safety, Corrections &amp; Security Cluster Foundation Courses</b>				Cluster Enhancement Courses
<b>Emergency &amp; Fire Management Services</b>	IP11 Public Safety I ^	IP31 Fire Fighter Technology I ^	IP32 Fire Fighter Technology II * ^	IP33 Fire Fighter Technology III ^	CC45 Career Management BM10 Microsoft Word and PowerPoint ^ BM30 Microsoft SharePoint ^ BM20 Microsoft Excel and Access ^ MH42 Hospitality and Tourism BF10 Principles of Business & Finance (BFIT & MEE) BF05 Personal Finance (BFIT, FACS, & MEE) CS96 CTE Apprenticeship CS97 CTE Internship FC11 Principles of Family and Human Services OI00 IB Personal and Professional Skills ^
<b>Corrections Services</b> <b>Law Enforcement Services</b> <b>Legal Services</b> <b>Security and Protective Services</b>	IP11 Public Safety I ^	IP21 Emergency Medical Technology I ^	IP22 Emergency Medical Technology II * ^	CS95 CTE Advanced Studies	
<b>Career &amp; College Promise</b>	Approved Career & College Promise Career Technical Education Pathway				
<b>Additional Pathways</b>	<b>None</b>				
<b>Middle School Courses</b>	CC58 Exploring Career Decisions    TE01 Technology Design & Innovation BU10 Computer Skills and Applications				



**Cluster Foundation Courses**

Pathways					Cluster Enhancement Courses
<b>Production</b>	IU10 Introduction to Trade and Industrial Education	IM21 Woodworking I	IM22 Woodworking II * (1 credit)	IM23 Woodworking III (1 credit)	CC45 Career Management BD10 Multimedia and Webpage Design BM10 Microsoft Word and PowerPoint ^ BM30 Microsoft SharePoint ^ BM20 Microsoft Excel and Access ^ AS31 Agricultural Mechanics I IC61 Drafting I BF05 Personal Finance (BFIT, FACS, & MEE) CS96 CTE Apprenticeship CS97 CTE Internship OI00 IB Personal and Professional Skills ^
		IM61 Welding Technology I	IM62 Welding Technology II * (1 credit)	IM63 Welding Technology III (1 credit)	
		IM41 Metals Manufacturing Technology I	IM42 Metals Manufacturing Technology II * (2 credits)	CS95 CTE Advanced Studies	
<b>Manufacturing Production Process Development</b>	IM11 Advanced Manufacturing I ^	IM12 Advanced Manufacturing II * ^			
	IM21 Woodworking I	CS11 Project Management I	CS12 Project Management II - Global	CS14 Project Management III	
	IM61 Welding Technology I		CS13 Project Management II - Technology		
	IM41 Metals Manufacturing Technology I	FA31 Apparel and Textile Production I (FACS & MEE)	FA32 Apparel and Textile Production II * (FACS & MEE)	ME11 Entrepreneurship I ^ (BFIT & MEE)	
	MM51 Marketing ^				
MI21 Fashion Merchandising (FACS & MEE)					
<b>Maintenance, Installation, and Repair</b>	BF10 Principles of Business & Finance (BFIT & MEE)	IM31 Electronics I ^	IM32 Electronics II * ^	CS95 CTE Advanced Studies	
<b>Career &amp; College Promise</b>	Approved Career & College Promise Career Technical Education Pathway				

<b>Additional Pathways</b>	Quality Assurance	Health, Safety & Environmental Assurance
	Logistics & Inventory Control	

<b>Middle School Courses</b>	CC58 Exploring Career Decisions	BU20 Exploring Business, Marketing, and Entrepreneurship
	BU10 Computer Skills and Applications	TE01 Technology Design & Innovation




**Cluster Foundation Courses**

Pathways	 <b>Cluster Foundation Courses</b>				Cluster Enhancement Courses
<b>Marketing Management</b>	BF10 Principles of Business & Finance (BFIT & MEE)	CS11 Project Management I	CS12 Project Management II – Global *	CS14 Project Management III	CC45 Career Management BD10 Multimedia and Webpage Design BM10 Microsoft Word and PowerPoint ^ BM20 Microsoft Excel and Access ^ BB30 Business Law FA31 Apparel I BF05 Personal Finance (BFIT, FACS, & MEE) MH42 Hospitality and Tourism CS96 CTE Apprenticeship CS97 CTE Internship OI00 IB Personal and Professional Skills ^
			CS13 Project Management II – Technology		
	MM51 Marketing ^	MA52 Marketing Applications * ^	ME11 Entrepreneurship I * ^ (BFIT & MEE)	MU81 Virtual Enterprise I ^	
			MU92 Strategic Marketing	CS95 CTE Advanced Studies	
<b>Merchandising</b>	MI21 Fashion Merchandising (FACS & MEE)	MA52 Marketing Applications * ^	ME11 Entrepreneurship I * ^ (BFIT & MEE)	ME12 Entrepreneurship II ^ (BFIT & MEE)	
			MU92 Strategic Marketing	CS95 CTE Advanced Studies	
<b>Professional Sales</b>	MM51 Marketing ^	MA52 Marketing Applications * ^	ME11 Entrepreneurship I * ^ (BFIT & MEE)	MU81 Virtual Enterprise I ^	
			MU92 Strategic Marketing	CS95 CTE Advanced Studies	
<b>Career &amp; College Promise</b>	Approved Career & College Promise Career Technical Education Pathway				

Additional Pathways	Marketing Communications	Marketing Research
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Middle School Courses	CC58 Exploring Career Decisions BU10 Computer Skills and Applications BU20 Exploring Business, Marketing, and Entrepreneurship
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Pathways					Cluster Enhancement Courses
<b>Engineering &amp; Technology</b>	IM11 Advanced Manufacturing I ^	IM12 Advanced Manufacturing II * ^			CC45 Career Management BD10 Multimedia and Webpage Design BM10 Microsoft Word and PowerPoint ^ BM20 Microsoft Excel and Access ^ AP41 Horticulture I ME11 Entrepreneurship I ^ (BFIT & MEE) BF10 Principles of Business & Finance (BFIT & MEE) BF05 Personal Finance (BFIT, FACS, & MEE) CS96 CTE Apprenticeship CS97 CTE Internship OI00 IB Personal and Professional Skills ^
	IU10 Introduction to Trade and Industrial Education	IC61 Drafting I	IV22 Drafting II – Engineering *	IV23 Drafting III – Engineering	
	TE11 Technology Engineering & Design ^	TE12 Technological Design * ^	TE13 Engineering Design * ^	CS95 CTE Advanced Studies	
	TP11 PLTW Introduction to Engineering Design ^  TP12 PLTW Principles of Engineering I ^	TP21 PLTW Digital Electronics * ^ TP22 PLTW Computer Integrated Manufacturing * ^ TP23 PLTW Civil Engineering & Architecture * ^ TP24 PLTW Biotechnical * ^ TP25 PLTW Aerospace Engineering * ^	TP31 PLTW Engineering Design & Development ^	CS95 CTE Advanced Studies	
	IC61 Drafting I		CS12 Project Management II – Global		
	TE11 Technology Engineering & Design ^	CS11 Project Management I	CS13 Project Management II – Technology *	CS14 Project Management III	
	<b>Science &amp; Mathematics</b>	TE11 Technology Engineering & Design ^	TS21 Scientific & Technical Visualization I	TS22 Scientific & Technical Visualization II *	
<b>Career &amp; College Promise</b>	Approved Career & College Promise Career Technical Education Pathway				
<b>Additional Pathways</b>	None				
<b>Middle School Courses</b>	CC58 Exploring Career Decisions BU10 Computer Skills and Applications TP01 PLTW Gateway to Technology TE01 Technology Design & Innovation TE02 Technological Systems				



Pathways					Cluster Enhancement Courses
Facility & Mobile Equipment Maintenance	IT11 Introduction to Automotive Service ^	IT16 Automotive Service I ^	IT17 Automotive Service II * ^	IT18 Automotive Service III ^	CC45 Career Management BM10 Microsoft Word and PowerPoint ^ BM20 Microsoft Excel and Access ^ AS31 Agricultural Mechanics I IU10 Introduction to Trade and Industrial Education BF10 Principles of Business & Finance (BFIT & MEE) BF05 Personal Finance (BFIT, FACS, & MEE) CS96 CTE Apprenticeship CS97 CTE Internship OI00 IB Personal and Professional Skills ^
Logistics Planning & Management Services	MM51 Marketing ^	MA52 Marketing Applications * ^	ME11 Entrepreneurship I ^ (BFIT & MEE)	CS95 CTE Advanced Studies	
			MU92 Strategic Marketing		
		CS11 Project Management I	CS12 Project Management II – Global *	CS14 Project Management III	
Career & College Promise	Approved Career & College Promise Career Technical Education Pathway				

Additional Pathways	Health, Safety, & Environmental Management	Transportation Systems/Infrastructure Planning, Management, and Regulations
	Transportation Operations	Sales and Service

Middle School Courses	CC58 Exploring Career Decisions	BU20 Exploring Business, Marketing, and Entrepreneurship
	BU10 Computer Skills and Applications	TE01 Technology Design & Innovation