

### **Directions to use the IT Courses to IT Competitions/Standards Crosswalk**

All of the Secondary *Information Technology career field courses* have been matched with appropriate Business Professionals of America competitions. Each competition (project) meets many *Ohio Information Technology Career Field Technical content standards*. By using this document, there is easy access to which competencies are met through the prepared projects by BPA.

### **Use of Projects in the Classroom**

Regional competitions maybe released to all local advisors for **PAST** years' competitions. What this means is the advisor has projects AND rubrics that can be used in the classroom instead of creating new.

### **Example of Using the Guide**

According to CTE-26, teacher is teaching **Information Technology**, Subject Code 145005

1. Locate the Information Technology course page
2. Use the chart on that page to locate competitions that can be used as a project in your classroom.
3. The columns on the right side of the chart provide the numerical reference for the Strand.Outcome.Competency from the Ohio Information Technology Career Field Technical content standards.



## Information Technology

Subject Code:

145005

This first course in the IT career field is designed to provide students with a working knowledge of computer concepts and essential skills necessary for work and communication in today's society. Students will learn safety, security, and ethical issues in computing and social networking. Students will also learn about input/output systems, computer hardware and operating systems, and office application

Competition Name		Strand 1	Strand 2		
<b>Management Information Systems Events</b>					
300	Computer Network Technology	1.1.6 1.3.3	2.1.7 2.2.1 2.2.2 2.2.3 2.2.4 2.2.5 2.2.6	2.2.8 2.3.1 2.3.2 2.7.1 2.7.3 2.7.5 2.10.3	2.11.1 2.11.2 2.11.3 2.11.4 2.11.5 2.11.6 2.11.7 2.11.8
305	PC Servicing & Troubleshooting	1.1.6 1.3.3	2.1.6 2.2.3 2.2.6 2.3.1 2.3.2 2.5.1 2.5.6 2.5.7 2.6.2 2.6.3	2.6.4 2.6.5 2.6.6 2.6.7 2.6.8 2.10.1 2.10.2 2.10.4 2.10.7 2.10.9	2.11.1 2.11.2 2.11.3 2.11.4 2.11.5 2.11.6 2.11.7 2.11.8
310	Network Administration using MS	1.1.6 1.3.3	2.1.1 2.1.7 2.2.4 2.2.8 2.5.1 2.5.4 2.5.5 2.5.6 2.5.7	2.6.2 2.6.3 2.6.4 2.6.5 2.6.6 2.6.7 2.6.8 2.7.1 2.7.3	2.7.5 2.11.1 2.11.2 2.11.3 2.11.4 2.11.5 2.11.6 2.11.7 2.11.8
320	Computer Security	1.1.6 1.2.6 1.3.3	2.1.1 2.1.2 2.1.3 2.1.4 2.1.5 2.1.7	2.1.10 2.2.5 2.7.1 2.7.3 2.7.5 2.7.7 2.7.8	
345	SQL DB Fundamentals	1.1.6 1.3.3	2.1.1 2.1.8 2.8.1 2.8.2 2.8.3	2.8.4 2.8.5 2.8.6 2.8.7 2.8.8 2.8.9	

## Web Design

Subject Code:  
145010

Students will learn the dynamics of the Web environment while pursuing an in-depth study of both Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS). Web based protocols such as FTP, TCP/IP, and HTTP will be addressed. Students will create a website with tag text elements, special characters, lines, graphics, hypertext links, and graphical tables.

Competition Name		Strand 1	Strand 2		Strand 6	
<b>Digital Communication &amp; Design Events</b>						
405	Fundamentals of Web Design	1.1.6	2.11.1		6.1.1	6.2.5
		1.1.7	2.11.2		6.1.2	6.2.6
		1.2.5	2.11.3		6.1.3	6.2.7
		1.2.6	2.11.4		6.1.4	6.5.1
		1.2.7	2.11.5		6.1.6	6.5.2
		1.2.9	2.11.6		6.1.7	6.5.3
		1.3.8	2.11.7		6.2.1	6.5.7
		1.4.2	2.11.8		6.2.2	6.5.8
		1.4.4			6.2.3	
					6.2.4	
435	Web Site Design Team	1.1.6	2.7.1	2.9.4	6.1.1	6.4.1
		1.1.7	2.7.2	2.9.5	6.1.2	6.4.2
		1.2.5	2.7.3	2.9.6	6.1.3	6.4.3
		1.2.6	2.7.4	2.11.1	6.1.4	6.4.4
		1.2.7	2.7.5	2.11.2	6.1.6	6.4.5
		1.2.9	2.7.6	2.11.3	6.1.7	6.4.6
		1.3.8	2.7.7	2.11.4	6.2.1	6.5.1
		1.4.2	2.7.8	2.11.5	6.2.2	6.5.2
		1.4.4	2.9.1	2.11.6	6.2.3	6.5.3
			2.9.2	2.11.7	6.2.4	6.5.6
			2.9.3	2.11.8	6.2.5	6.5.7
					6.2.6	6.5.8
					6.2.7	6.5.9
					6.3.1	6.5.10
					6.3.2	6.5.11
			6.3.3	6.5.12		
<b>Virtual Competitive Events</b>						
V04	Web Application Team	1.1.6			6.1.1	6.4.3
		1.1.7			6.1.2	6.4.4
		1.2.2			6.1.3	6.4.5
		1.2.3			6.1.4	6.4.6
		1.2.4			6.1.5	6.5.1
		1.2.5			6.1.6	6.5.2
		1.2.6			6.1.7	6.5.3
		1.2.7			6.2.1	6.5.4
		1.2.12			6.2.2	6.5.5
		1.3.3			6.2.3	6.5.6
		1.3.8			6.2.4	6.5.7
		1.4.2			6.2.5	6.5.8
		1.4.4			6.2.6	6.5.9
		1.4.8			6.2.7	6.5.10
					6.3.1	6.5.11
			6.3.2	6.5.12		
			6.3.3			
			6.4.1			
			6.4.2			

## Computer and Mobile Applications

Subject Code: 145020

Students will learn to create applications for mobile devices using a variety of commercial and open source software.

They will install these applications, modify them, and develop customer service skills to handle user issues. Knowledge and skills related to customer service in professional offices, small businesses, departments, work groups, and corporate information services will be addressed.

Competition Name		Strand 1	Strand 2	Strand 5			Strand 6	Strand 7		
<b>Management Information Systems Events</b>										
330	Visual Basic/C# Programming	1.1.6			5.1.1	5.3.4	5.6.1			
		1.1.7			5.1.2	5.3.5	5.6.2			
		1.2.6			5.1.3	5.3.6	5.6.3			
		1.2.7			5.1.4	5.3.7	5.6.4			
		1.3.3			5.1.5	5.3.8	5.6.5			
					5.1.6	5.3.9	5.6.6			
					5.1.7	5.3.10	5.6.7			
					5.1.8	5.3.11	5.6.8			
					5.2.1	5.3.12	5.6.9			
					5.2.2	5.5.1	5.6.10			
					5.2.3	5.5.2	5.6.11			
					5.2.4	5.5.3	5.6.12			
					5.2.5	5.5.4	5.6.13			
					5.3.1	5.5.5	5.6.14			
			5.3.2	5.5.6	5.6.17					
			5.3.3							
335	C++ Programming	1.1.6			5.1.1	5.3.4	5.6.1			
		1.1.7			5.1.2	5.3.5	5.6.2			
		1.2.6			5.1.3	5.3.6	5.6.3			
		1.2.7			5.1.4	5.3.7	5.6.4			
		1.3.3			5.1.5	5.3.8	5.6.5			
					5.1.6	5.3.9	5.6.6			
					5.1.7	5.3.10	5.6.7			
					5.1.8	5.3.11	5.6.8			
					5.2.1	5.3.12	5.6.9			
					5.2.2	5.5.1	5.6.10			
					5.2.3	5.5.2	5.6.11			
					5.2.4	5.5.3	5.6.12			
					5.2.5	5.5.4	5.6.13			
					5.3.1	5.5.5	5.6.14			
			5.3.2	5.5.6	5.6.17					
			5.3.3							
340	Java Programming	1.1.6			5.1.1	5.3.3	5.5.6			
		1.1.7			5.1.2	5.3.4	5.6.1			
		1.2.6			5.1.3	5.3.5	5.6.2			
		1.2.7			5.1.4	5.3.6	5.6.3			
		1.3.3			5.1.5	5.3.7	5.6.4			
					5.1.6	5.3.8	5.6.5			
					5.1.7	5.3.9	5.6.6			
					5.1.8	5.3.10	5.6.7			
					5.2.1	5.3.11	5.6.8			
					5.2.2	5.3.12	5.6.9			
					5.2.3	5.5.1	5.6.10			
					5.2.4	5.5.2	5.6.11			
					5.2.5	5.5.3	5.6.12			
					5.3.1	5.5.4	5.6.13			
			5.3.2	5.5.5	5.6.14					
					5.6.17					
<b>Digital Communication &amp; Design Events</b>										
405	Fundamentals of Web Design	1.1.6	2.11.1	2.11.5				6.2.1	7.4.1	7.4.7
		1.1.7	2.11.2	2.11.6				6.2.2	7.4.2	7.4.8
		1.2.5	2.11.3	2.11.7				6.2.3	7.4.3	7.4.9
		1.2.6	2.11.4	2.11.8				6.2.4	7.4.4	7.4.10
		1.2.7						6.2.5	7.4.5	7.4.11

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		1.2.9 1.3.8 1.4.2 1.4.4						6.2.6 6.2.7	7.4.6	
435	Web Site Design Team	1.1.6 1.1.7 1.2.5 1.2.6 1.2.7 1.2.9 1.3.8 1.4.2 1.4.4 1.10.2	2.9.1 2.9.2 2.9.3 2.9.4 2.9.5 2.9.6 2.11.1	2.11.2 2.11.3 2.11.4 2.11.5 2.11.6 2.11.7 2.11.8				6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 6.2.6 6.2.7 6.3.1 6.3.2 6.3.3	7.2.1 7.2.2 7.2.3 7.2.4 7.4.1 7.4.2 7.4.3 7.4.4	7.4.5 7.4.6 7.4.7 7.4.8 7.4.9 7.4.10 7.4.11
V03	Software Engineering Team	1.1.6 1.1.7 1.2.2 1.2.3 1.2.4 1.2.5 1.2.6 1.2.7 1.2.12 1.3.3 1.3.8 1.4.2 1.4.4 1.4.8			5.1.1 5.1.2 5.1.3 5.1.4 5.1.5 5.1.6 5.1.7 5.1.8 5.2.1 5.2.2 5.2.3 5.2.4 5.2.5 5.3.1 5.3.2 5.3.3 5.3.4	5.3.5 5.3.6 5.3.7 5.3.8 5.3.9 5.3.10 5.3.11 5.3.12 5.5.1 5.5.2 5.5.3 5.5.4 5.5.5 5.5.6 5.6.1 5.6.2 5.6.3	5.6.4 5.6.5 5.6.6 5.6.7 5.6.8 5.6.9 5.6.10 5.6.11 5.6.12 5.6.13 5.6.14 5.6.15 5.6.16 5.6.17 5.7.1 5.7.2 5.7.3			

## Computer Hardware

Subject Code:

145025

Students will learn to install, repair, and troubleshoot computer hardware systems. They will perform preventative maintenance practices and learn techniques for maintaining computer hardware security. Communication skills and professionalism in troubleshooting situations will be emphasized.

Competition Name		Strand 1	Strand 2	Strand 6	Strand 8	
<b>Management Information Systems Events</b>						
305	PC Servicing & Troubleshooting	1.1.6 1.3.3	2.1.7 2.2.1 2.2.2 2.2.3 2.2.4 2.2.5 2.2.6 2.2.8 2.10.1 2.10.2	2.10.4 2.10.7 2.10.9 2.11.1 2.11.2 2.11.3 2.11.4 2.11.5 2.11.6 2.11.7 2.11.8		
310	Network Administration using Microsoft	1.1.6 1.3.3	2.1.1 2.1.7 2.2.4 2.2.8 2.6.2 2.6.3 2.6.4 2.6.5 2.6.6 2.6.7	2.6.8 2.11.1 2.11.2 2.11.3 2.11.4 2.11.5 2.11.6 2.11.7 2.11.8		

## Computer Software

Subject Code: 145030

Students will apply knowledge and skills of commercial and open source operating systems in portable, stand alone, and networked devices. Students will install a variety of operating systems manually and using remote assistance. They will learn to configure, modify, and troubleshoot operating systems. Desktop virtualization, system security, and operating system history will be addressed.

Competition Name		Strand 1	Strand 2		Strand 3	Strand 4	
<b>Management Information Systems Events</b>							
310	Network Administration Using Microsoft	1.1.6 1.3.3	2.1.1 2.1.7 2.5.1 2.5.4 2.5.5 2.5.6 2.5.7 2.6.2 2.6.3 2.6.4 2.6.5 2.6.6 2.6.7 2.6.8	2.7.1 2.7.3 2.7.5 2.11.1 2.11.2 2.11.3 2.11.4 2.11.5 2.11.6 2.11.7 2.11.8	3.1.1 3.2.1 3.2.2 3.2.3 3.2.4 3.2.5 3.3.1 3.3.2 3.3.3 3.3.4 3.3.5 3.3.6 3.3.7	4.9.1 4.9.2 4.9.3 4.9.4 4.9.5 4.9.6 4.9.7 4.9.8	
320	Computer Security	1.1.6 1.2.6 1.3.3	2.1.1 2.1.2 2.1.3 2.1.4 2.1.5 2.1.7 2.1.10 2.7.1 2.7.3 2.7.5 2.7.7 2.7.8		3.1.1 3.1.2 3.1.3 3.1.4 3.1.5 3.2.1 3.2.5 3.2.6 3.2.8 3.4.1 3.4.2 3.4.3 3.4.4	4.13.1 4.13.2 4.13.3 4.13.4 4.13.5	



## Networking

Subject Code: 145035

Students will install, configure, and troubleshoot network hardware and peripherals. Students will learn networking by exploring the OSI model, network topologies, and cabling. Students will design simple networks, know how to select physical devices, and be able to configure the equipment. Knowledge and skills relating to the operation and usage of network protocols will be developed.

## Network Management

Subject Code: 145045

Students will perform network administrator duties by installing and configuring network hardware, software, and peripherals. Abiding by IEEE standards and the Open Source Interconnection (OSI) model, students will create advanced networks, assign user rights, and develop knowledge and skills of network hierarchy. Students will demonstrate mastery of topologies, remote connectivity, wireless networking, TCP/IP, network security, and network troubleshooting.

Competition Name		Strand 1	Strand 2			Strand 3	Strand 4		
<b>Management Information Systems Events</b>									
300	Computer Network Technology	1.1.6 1.3.3	2.1.7 2.2.1 2.2.2 2.2.3 2.2.4 2.2.5 2.2.6 2.2.8 2.7.1 2.7.3	2.7.5 2.10.3 2.11.1 2.11.2 2.11.3 2.11.4 2.11.5 2.11.6 2.11.7 2.11.8			4.1.1 4.1.2 4.1.3 4.1.4 4.1.5 4.1.6 4.2.1 4.2.2 4.2.3 4.2.4 4.2.5 4.2.6 4.3.1	4.3.2 4.3.3 4.3.4 4.3.5 4.3.6 4.3.7 4.3.8 4.6.1 4.6.2 4.6.3 4.6.4 4.6.5 4.6.6	4.6.8 4.7.1 4.7.2 4.7.3 4.7.4 4.7.5 4.7.6 4.7.7 4.7.8 4.7.9 4.7.10
310	Network Administration Using Microsoft	1.1.6 1.3.3	2.1.1 2.1.7 2.2.4 2.2.8 2.7.1 2.7.3 2.7.5 2.11.1	2.11.2 2.11.3 2.11.4 2.11.5 2.11.6 2.11.7 2.11.8		3.2.1 3.2.2 3.2.3 3.2.4 3.2.5 3.3.1 3.3.2 3.3.3 3.3.4 3.3.5 3.3.6 3.3.7	4.9.1 4.9.2 4.9.3 4.9.4 4.9.5 4.9.6 4.9.7 4.9.8		
315	Systems Administration Using Cisco	1.1.6 1.3.3	2.2.1 2.2.2 2.2.3 2.2.5			3.2.1	4.1.1 4.1.2 4.1.3 4.1.4 4.1.5 4.1.6 4.2.1 4.2.2	4.2.3 4.2.4 4.2.5 4.2.6 4.6.1 4.6.2 4.6.3 4.6.4	4.6.5 4.6.6 4.6.8 4.8.1 4.8.2 4.8.3
325	Network Design Team	1.1.6 1.1.7 1.2.2 1.2.3 1.2.4 1.2.6 1.2.7 1.3.3	2.2.1 2.2.2 2.2.4 2.2.5 2.9.1 2.9.2 2.9.3 2.9.4 2.9.5 2.9.6	2.11.1 2.11.2 2.11.3 2.11.4 2.11.5 2.11.6 2.11.7 2.11.8	2.12.3 2.12.4 2.12.5 2.12.6 2.13.1 2.13.2 2.13.3 2.13.4 2.13.5 2.13.6		4.3.1 4.3.2 4.3.3 4.3.4 4.3.5 4.3.6 4.3.7 4.8.1 4.8.2 4.8.3		

## Network Operating Systems

Subject Code: 145040

Students will perform desktop client administrator duties by providing support for users in various work environments including professional offices, small businesses, work groups, departments, and/or corporate information services (IS). Students will learn to install, configure, and update commercial and open source network operating systems.

## Network Security

Subject Code: 145050

This course will address securing networks and operating systems. Students will learn to secure network communications, computer hardware, and network software. Topics included are network security theory, cryptography, security architecture, firewalls, VPNs, IP Security, and methods of protection.

Competition Name		Strand 1	Strand 2	Strand 3	Strand 4				
<b>Management Information Systems Events</b>									
300	Computer Network Technology	1.1.6 1.3.3	2.1.7 2.2.1 2.2.2 2.2.3 2.2.4 2.2.5 2.2.6 2.2.8 2.3.1 2.3.2	2.10.3 2.11.1 2.11.2 2.11.3 2.11.4 2.11.5 2.11.6 2.11.7 2.11.8		4.1.1 4.1.2 4.1.3 4.1.4 4.1.5 4.1.6 4.2.1 4.2.2 4.2.3 4.2.4 4.2.5 4.2.6 4.6.1 4.6.2 4.6.3	4.6.4 4.6.5 4.6.6 4.6.8 4.7.1 4.7.2 4.7.3 4.7.4 4.7.5 4.7.6 4.7.7 4.7.8 4.7.9 4.7.10		
310	Network Administration Using Microsoft	1.1.6 1.3.3	2.1.1 2.1.7 2.2.4 2.2.8 2.11.1 2.11.2 2.11.3	2.11.4 2.11.5 2.11.6 2.11.7 2.11.8	3.2.1 3.2.2 3.2.3 3.2.4 3.2.5 3.3.1 3.3.2	3.3.3 3.3.4 3.3.5 3.3.6 3.3.7	4.9.1 4.9.2 4.9.3 4.9.4 4.9.5 4.9.6 4.9.7 4.9.8		
315	Systems Administration Using Cisco	1.1.6 1.3.3	2.2.1 2.2.2 2.2.3 2.2.5		3.2.1		4.1.1 4.1.2 4.1.3 4.1.4 4.1.5 4.1.6 4.2.1 4.2.2 4.2.3 4.2.4 4.2.5 4.2.6 4.6.1 4.6.2 4.6.3	4.6.4 4.6.5 4.6.6 4.6.7 4.6.8 4.8.1 4.8.2 4.8.3 4.10.1 4.10.2 4.10.3 4.10.4 4.10.5 4.10.6 4.10.7	4.10.8 4.10.9 4.10.10 4.10.11 4.10.12 4.12.1 4.12.2 4.12.3 4.12.4 4.12.5 4.12.6 4.12.7 4.12.8 4.12.9
320	Computer Security	1.1.6 1.2.6 1.3.3	2.1.1 2.1.2 2.1.3 2.1.4 2.1.5 2.1.7 2.1.10 2.2.5		3.1.1 3.1.2 3.1.3 3.1.4 3.1.5 3.2.1 3.2.5	3.2.6 3.2.8 3.4.1 3.4.2 3.4.3 3.4.4	4.13.1 4.13.2 4.13.3 4.13.4 4.13.5		

## Routing and Switching

Subject Code: 145055

Student will learn the functions, characteristics, and operations of routers and switches. Students will learn about wireless network standards, components, and the role that routers play in enabling communications across multiple networks. Students will troubleshoot the routing process. Students will examine the use of Virtual Local Area Networks (VLANs) to create logically separate networks.

Competition Name		Strand 1	Strand 2				Strand 3	Strand 4				
Management, Marketing & Communication Events												
300	Computer Network Technology	1.1.6 1.3.3	2.2.1 2.2.2 2.2.3 2.2.4 2.2.5 2.2.6	2.28 2.3.2 2.10.3 2.11.1 2.11.2 2.11.3	2.11.4 2.11.5 2.11.6 2.11.7 2.11.8			3.1.1	4.1.1 4.1.2 4.1.3 4.1.4 4.1.5 4.1.6 4.2.1 4.2.2 4.2.3	4.2.4 4.2.5 4.2.6 4.3.1 4.3.2 4.3.3 4.3.4 4.3.5 4.3.6	4.3.7 4.3.8 4.6.1 4.6.2 4.6.3 4.6.4 4.6.5 4.6.6 4.6.8	4.7.1 4.7.2 4.7.3 4.7.4 4.7.5 4.7.6 4.7.7 4.7.8 4.7.9 4.7.10
305	PC Servicing & Troubleshooting	1.1.6 1.3.3	2.2.3 2.2.6 2.3.2 2.10.1 2.10.2 2.10.4	2.10.7 2.10.9 2.11.1 2.11.2 2.11.3	2.11.4 2.11.5 2.11.6 2.11.7 2.11.8							
310	Network Administration Using Microsoft	1.1.6 1.3.3	2.2.4 2.2.8 2.11.1 2.11.2 2.11.3	2.11.4 2.11.5 2.11.6 2.11.7 2.11.8				3.1.1 3.3.1 3.3.2 3.3.3 3.3.4 3.3.5 3.3.6 3.3.7				
315	Systems Administration Using Cisco	1.1.6 1.3.3	2.2.1 2.2.2 2.2.3 2.2.5					3.1.1	4.1.1 4.1.2 4.1.3 4.1.4 4.1.5 4.1.6 4.2.1 4.2.2 4.2.3 4.2.4 4.2.5	4.2.6 4.6.1 4.6.2 4.6.3 4.6.4 4.6.5 4.6.6 4.6.8 4.8.1 4.8.2 4.8.3	4.10.1 4.10.2 4.10.3 4.10.4 4.10.5 4.10.6 4.10.7 4.10.8 4.10.9 4.10.1 4.10.1	4.10.1 2 4.12.1 4.12.2 4.12.3 4.12.4 4.12.5 4.12.6 4.12.7 4.12.8 4.12.9
320	Computer Security	1.1.6 1.2.6 1.3.3	2.2.5					3.1.1 3.1.2 3.1.3 3.1.4 3.1.5 3.4.1 3.4.2 3.4.3 3.4.4	4.13.1 4.13.2 4.13.3 4.13.4 4.13.5			
325	Network Design Team	1.1.6 1.1.7 1.2.2 1.2.3 1.2.4 1.2.6 1.2.7 1.3.3	2.2.1 2.2.2 2.2.4 2.2.5 2.9.1 2.9.2 2.9.3	2.11.1 2.11.2 2.11.3 2.11.4 2.11.5 2.11.6 2.11.7	2.9.4 2.9.5 2.9.6 2.11.8 2.12.1 2.12.2 2.12.3	2.12.4 2.12.5 2.12.6 2.13.1 2.13.2 2.13.3 2.13.4 2.13.5	2.13.6		4.3.1 4.3.2 4.3.3 4.3.4 4.3.5 4.3.6 4.3.7	4.3.8 4.8.1 4.8.2 4.8.3		

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## Programming

Subject Code: 145060

In this course, students will learn the basics of building simple interactive applications. Students will learn the basic units of logic: sequence, selection, and loop. Students will apply algorithmic solutions to problem-domain scenarios. Students will gain experience in using commercial and open source languages, programs, and applications.

## Object Oriented Programming

Subject Code: 145065

Students will learn to represent programming concepts as "objects" that have data fields and associated procedures known as methods. Students will implement classes such as support static, instance method, inheritance, polymorphism, exception handling, and object serialization. A variety of commercial and open source programs and applications will be used.

## Visual Programming

Subject Code: 145070

Students will create event-driven programs using object oriented programming techniques for use in web based and standalone applications. Students will map out, design, and test computer applications, web applications, and mobile applications. Both commercial and open source programs and applications will be used.

Competition Name		Strand 1	Strand 2			Strand 5					Strand 8	
Management Information Systems Event												
330	Visual Basic/C# Programming	1.1.6 1.1.7 1.2.6 1.2.7 1.3.3	2.3.1 2.3.2			5.1.1 5.1.2 5.1.3 5.1.4 5.1.5 5.1.6 5.1.7 5.1.8 5.2.1 5.2.2 5.2.3 5.2.4	5.2.5 5.3.1 5.3.2 5.3.3 5.3.4 5.3.5 5.3.6 5.3.7 5.3.8 5.3.9 5.3.10 5.3.11	5.3.12 5.4.1 5.4.2 5.4.3 5.4.4 5.4.5 5.4.6 5.4.7 5.5.1 5.5.2 5.5.3 5.5.4	5.5.5 5.5.6 5.6.1 5.6.2 5.6.3 5.6.4 5.6.5 5.6.6 5.6.7 5.6.8 5.6.9 5.6.10	5.6.11 5.6.12 5.6.13 5.6.14 5.6.17		
335	C++ Programming	1.1.6 1.1.7 1.2.6 1.2.7 1.3.3	2.3.1 2.3.2			5.1.1 5.1.2 5.1.3 5.1.4 5.1.5 5.1.6 5.1.7 5.1.8 5.2.1 5.2.2 5.2.3 5.2.4	5.2.5 5.3.1 5.3.2 5.3.3 5.3.4 5.3.5 5.3.6 5.3.7 5.3.8 5.3.9 5.3.10 5.3.11	5.3.12 5.4.1 5.4.2 5.4.3 5.4.4 5.4.5 5.4.6 5.4.7 5.5.1 5.5.2 5.5.3 5.5.4	5.5.5 5.5.6 5.6.1 5.6.2 5.6.3 5.6.4 5.6.5 5.6.6 5.6.7 5.6.8 5.6.9 5.6.10	5.6.11 5.6.12 5.6.13 5.6.14 5.6.17		
340	Java Programming	1.1.6 1.1.7 1.2.6 1.2.7 1.3.3	2.3.1 2.3.2			5.1.1 5.1.2 5.1.3 5.1.4 5.1.5 5.1.6 5.1.7 5.1.8 5.2.1 5.2.2 5.2.3 5.2.4	5.2.5 5.3.1 5.3.2 5.3.3 5.3.4 5.3.5 5.3.6 5.3.7 5.3.8 5.3.9 5.3.10 5.3.11	5.3.12 5.4.1 5.4.2 5.4.3 5.4.4 5.4.5 5.4.6 5.4.7 5.5.1 5.5.2 5.5.3 5.5.4	5.5.5 5.5.6 5.6.1 5.6.2 5.6.3 5.6.4 5.6.5 5.6.6 5.6.7 5.6.8 5.6.9 5.6.10	5.6.11 5.6.12 5.6.13 5.6.14 5.6.17		
Virtual Competitive Events												
V03	Software Engineering Team	1.1.6 1.3.3				5.1.1 5.1.2	5.2.5 5.3.1	5.3.12 5.4.1	5.5.5 5.5.6	5.6.11 5.6.12		

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		1.4.2				5.1.3	5.3.2	5.4.2	5.6.1	5.6.13		
		1.4.4				5.1.4	5.3.3	5.4.3	5.6.2	5.6.14		
		1.4.8				5.1.5	5.3.4	5.4.4	5.6.3	5.6.17		
						5.1.6	5.3.5	5.4.5	5.6.4	5.7.1		
						5.1.7	5.3.6	5.4.6	5.6.5	5.7.2		
						5.1.8	5.3.7	5.4.7	5.6.6	5.7.3		
						5.2.1	5.3.8	5.5.1	5.6.7			
						5.2.2	5.3.9	5.5.2	5.6.8			
						5.2.3	5.3.10	5.5.3	5.6.9			
						5.2.4	5.3.11	5.5.4	5.6.10			

## Systems Analysis and Design

Subject Code: 145075

Students will learn the theory and practice of software testing and develop an understanding of the analysis and design phases of software development. Students will effectively use appropriate programming languages and software patterns to improve software development. A variety of commercial and open source programs, applications, and tools will be used.

## Database Administration

Subject Code: 145080

Students will learn about user rights and responsibilities, concurrency security, reliability, backup and recovery to perform tasks involved in the administration and management of a database system. Students will design, extract and transform data ensuring data quality. Knowledge and skills relating to reporting systems, data warehouses, and data mining will be developed.

## Database Applications Development

Subject Code: 145085

Students will use developer strategies to manipulate data, present database systems theory, and develop database applications. Students will learn to import and export data, manipulate table properties, make advanced queries, and run basic SQL forms and reports. Students will develop macros for automating database tasks and building menu-driven applications. Knowledge and skills of data modeling, diagraming, query writing, and design theory will be developed.

Competition Name	Strand 1	Strand 2				Strand 5				Strand 8		
Management Information Systems Event												
325	Network Design Team	1.1.6 1.3.3 1.4.1 1.4.2 1.4.3 1.4.4 1.4.5 1.4.6 1.4.7 1.4.8	2.3.1 2.3.2 2.9.1 2.9.2 2.9.3 2.9.4 2.9.5 2.9.6 2.11.1 2.11.2	2.11.3 2.11.4 2.11.5 2.11.6 2.11.7 2.11.8 2.12.1 2.12.2 2.12.3 2.12.4	2.12.5 2.12.6 2.13.1 2.13.2 2.13.3 2.13.4 2.13.5 2.13.6							
330	Visual Basic/C# Programming	1.1.6 1.1.7 1.2.6 1.2.7 1.3.3	2.3.1 2.3.2			5.1.1 5.1.2 5.1.3 5.1.4 5.1.5 5.1.6 5.1.7 5.1.8 5.2.1 5.2.2 5.2.3 5.2.4	5.2.5 5.3.1 5.3.2 5.3.3 5.3.4 5.3.5 5.3.6 5.3.7 5.3.8 5.3.9 5.3.10 5.3.11	5.3.12 5.4.1 5.4.2 5.4.3 5.4.4 5.4.5 5.4.6 5.4.7 5.5.1 5.5.2 5.5.3 5.5.4	5.5.5 5.5.6 5.6.1 5.6.2 5.6.3 5.6.4 5.6.5 5.6.6 5.6.7 5.6.8 5.6.9 5.6.10	5.6.11 5.6.12 5.6.13 5.6.14 5.6.17		
335	C++ Programming	1.1.6 1.1.7 1.2.6 1.2.7 1.3.3	2.3.1 2.3.2			5.1.1 5.1.2 5.1.3 5.1.4 5.1.5 5.1.6 5.1.7 5.1.8 5.2.1 5.2.2 5.2.3 5.2.4	5.2.5 5.3.1 5.3.2 5.3.3 5.3.4 5.3.5 5.3.6 5.3.7 5.3.8 5.3.9 5.3.10 5.3.11	5.3.12 5.4.1 5.4.2 5.4.3 5.4.4 5.4.5 5.4.6 5.4.7 5.5.1 5.5.2 5.5.3 5.5.4	5.5.5 5.5.6 5.6.1 5.6.2 5.6.3 5.6.4 5.6.5 5.6.6 5.6.7 5.6.8 5.6.9 5.6.10	5.6.11 5.6.12 5.6.13 5.6.14 5.6.17		
340	Java Programming	1.1.6 1.1.7 1.2.6 1.2.7 1.3.3	2.3.1 2.3.2			5.1.1 5.1.2 5.1.3 5.1.4 5.1.5	5.2.5 5.3.1 5.3.2 5.3.3 5.3.4	5.3.12 5.4.1 5.4.2 5.4.3 5.4.4	5.5.5 5.5.6 5.6.1 5.6.2 5.6.3	5.6.11 5.6.12 5.6.13 5.6.14 5.6.17		

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						5.1.6	5.3.5	5.4.5	5.6.4			
						5.1.7	5.3.6	5.4.6	5.6.5			
						5.1.8	5.3.7	5.4.7	5.6.6			
						5.2.1	5.3.8	5.5.1	5.6.7			
						5.2.2	5.3.9	5.5.2	5.6.8			
						5.2.3	5.3.10	5.5.3	5.6.9			
						5.2.4	5.3.11	5.5.4	5.6.10			
345	SQL Database Fundamentals	1.1.6	2.3.1								8.1.1	8.2.4
		1.3.3	2.3.2								8.1.2	8.3.1
		1.4.1	2.8.1								8.1.3	8.3.2
		1.4.2	2.8.2								8.1.4	8.3.3
		1.4.3	2.8.3								8.1.5	8.3.4
		1.4.4	2.8.4								8.1.6	8.3.5
		1.4.5	2.8.5								8.1.7	8.3.6
		1.4.6	2.8.6								8.1.8	8.4.1
		1.4.7	2.8.7								8.1.9	8.4.2
		1.4.8	2.8.8								8.2.1	8.4.3
			2.8.9								8.2.2	8.4.4
											8.2.3	

## Game Design

Subject Code: 145090

This course will prepare students to design and program games using commercial and open source programs and applications. Students will learn industry standard programming language constructs to write programs that integrate classes, class methods, and class instances. Students will learn input method handling, animation, collision detection, game physics and basic artificial intelligence.

Competition Name		Strand 1	Strand 2		Strand 5				Strand 6	Strand 7
<b>Digital Communication &amp; Design Events</b>										
405	Fundamentals of Web Design	1.1.6 1.1.7 1.2.5 1.2.6 1.2.7 1.2.9 1.3.8 1.4.2 1.4.4	2.11.1 2.11.2 2.11.3 2.11.4 2.11.5 2.11.6 2.11.7 2.11.8						6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 6.2.6 6.2.7	
410	Graphic Design Promotion	1.1.6 1.1.7 1.2.2 1.2.3 1.2.5 1.2.6 1.2.7 1.2.9 1.2.11 1.2.12	2.9.1 2.9.2 2.9.3 2.9.6 2.11.1 2.11.2 2.11.3 2.11.4 2.11.5 2.11.6	2.11.7 2.11.8						
420	Digital Media Production	1.1.6 1.1.7 1.2.2 1.2.3 1.2.5 1.2.6 1.2.7 1.2.9 1.3.8 1.4.2 1.4.4 1.10.2	2.9.1 2.9.2 2.9.3 2.9.4 2.9.5 2.9.6 2.11.1 2.11.2 2.11.3 2.11.4 2.11.5 2.11.6	2.11.7 2.11.8						
425	Computer Modeling	1.1.6 1.1.7 1.2.1 1.2.2 1.2.3 1.2.5 1.2.6 1.2.7 1.3.3 1.3.8 1.4.2 1.4.4	2.9.1 2.9.2 2.9.3 2.9.4 2.9.5 2.9.6 2.11.1 2.11.2 2.11.3 2.11.4 2.11.5 2.11.6	2.11.7 2.11.8						
430	Video Production Team	1.1.6 1.1.7 1.2.1 1.2.2 1.2.3 1.2.4 1.2.5 1.2.6 1.2.7 1.2.10 1.3.8 1.4.2 1.4.4	2.9.1 2.9.2 2.9.3 2.9.4 2.9.5 2.9.6 2.11.1 2.11.2 2.11.3 2.11.4 2.11.5 2.11.6 2.11.7							

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			2.11.8									
435	Web Site Design Team	1.1.6 1.1.7 1.2.1 1.2.2 1.2.3 1.2.4 1.2.5 1.2.6 1.2.7 1.2.10 1.3.3 1.3.8 1.4.2 1.4.4 1.10.2	2.7.1 2.7.2 2.7.3 2.7.4 2.7.5 2.7.6 2.7.7 2.7.8 2.9.1 2.9.2 2.9.3 2.9.4 2.9.5 2.9.6 2.11.1	2.11.2 2.11.3 2.11.4 2.11.5 2.11.6 2.11.7 2.11.8							6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 6.2.6 6.2.7 6.3.1 6.3.2 6.3.3	7.2.1 7.2.2 7.2.3 7.2.4
<b>Management Information Systems Events</b>												
330	Visual Basic/C# Programming	1.1.6 1.1.7 1.2.6 1.2.7 1.3.3	2.3.1 2.3.2			5.1.1 5.1.2 5.1.3 5.1.4 5.1.5 5.1.6 5.1.7 5.1.8 5.2.1 5.2.2 5.2.3 5.2.4	5.2.5 5.3.1 5.3.2 5.3.3 5.3.4 5.3.5 5.3.6 5.3.7 5.3.8 5.3.9 5.3.10 5.3.11	5.3.12 5.4.1 5.4.2 5.4.3 5.4.4 5.4.5 5.4.6 5.4.7 5.5.1 5.5.2 5.5.3 5.5.4	5.5.5 5.5.6 5.6.1 5.6.2 5.6.3 5.6.4 5.6.5 5.6.6 5.6.7 5.6.8 5.6.9 5.6.10	5.6.11 5.6.12 5.6.13 5.6.14 5.6.17		
335	C++ Programming	1.1.6 1.1.7 1.2.6 1.2.7 1.3.3	2.3.1 2.3.2			5.1.1 5.1.2 5.1.3 5.1.4 5.1.5 5.1.6 5.1.7 5.1.8 5.2.1 5.2.2 5.2.3 5.2.4	5.2.5 5.3.1 5.3.2 5.3.3 5.3.4 5.3.5 5.3.6 5.3.7 5.3.8 5.3.9 5.3.10 5.3.11	5.3.12 5.4.1 5.4.2 5.4.3 5.4.4 5.4.5 5.4.6 5.4.7 5.5.1 5.5.2 5.5.3 5.5.4	5.5.5 5.5.6 5.6.1 5.6.2 5.6.3 5.6.4 5.6.5 5.6.6 5.6.7 5.6.8 5.6.9 5.6.10	5.6.11 5.6.12 5.6.13 5.6.14 5.6.17		
340	Java Programming	1.1.6 1.1.7 1.2.6 1.2.7 1.3.3	2.3.1 2.3.2			5.1.1 5.1.2 5.1.3 5.1.4 5.1.5 5.1.6 5.1.7 5.1.8 5.2.1 5.2.2 5.2.3 5.2.4	5.2.5 5.3.1 5.3.2 5.3.3 5.3.4 5.3.5 5.3.6 5.3.7 5.3.8 5.3.9 5.3.10 5.3.11	5.3.12 5.4.1 5.4.2 5.4.3 5.4.4 5.4.5 5.4.6 5.4.7 5.5.1 5.5.2 5.5.3 5.5.4	5.5.5 5.5.6 5.6.1 5.6.2 5.6.3 5.6.4 5.6.5 5.6.6 5.6.7 5.6.8 5.6.9 5.6.10	5.6.11 5.6.12 5.6.13 5.6.14 5.6.17		

## Design Techniques

Subject Code: 145095

Students will learn techniques for transforming photographic images, through use of digital cameras, computers, and mobile devices. To accomplish this, they will learn software photo editing techniques including layering, color correction, masking, and special effects using current commercial and open source programs and applications.

Competition Name		Strand 1	Strand 2			Strand 6	Strand 7	
<b>Digital Communication &amp; Design Events</b>								
400	Fundamental Desktop Publishing	1.1.6	2.11.1				7.4.1	7.4.9
		1.1.7	2.11.2				7.4.2	7.4.10
		1.2.6	2.11.3				7.4.3	7.4.11
		1.2.7	2.11.4				7.4.4	7.5.1
		1.4.2	2.11.5				7.4.5	7.5.2
		1.4.4	2.11.6				7.4.6	7.5.3
			2.11.7				7.4.7	7.5.4
			2.11.8				7.4.8	
405	Fundamentals of Web Design	1.1.6	2.11.1			6.1.1	7.4.1	
		1.1.7	2.11.2			6.1.2	7.4.2	
		1.2.6	2.11.3			6.1.3	7.4.3	
		1.2.7	2.11.4			6.1.4	7.4.4	
		1.4.2	2.11.5			6.1.6	7.4.5	
		1.4.4	2.11.6			6.1.7	7.4.6	
			2.11.7			6.2.1	7.4.7	
			2.11.8			6.2.2	7.4.8	
						6.2.3	7.4.9	
						6.2.4	7.4.10	
						6.2.5	7.4.11	
						6.2.6		
						6.2.7		
410	Graphic Design Promotion	1.1.6	2.9.1				7.4.1	7.5.1
		1.1.7	2.9.2				7.4.2	7.5.2
		1.2.6	2.9.3				7.4.3	7.5.3
		1.2.7	2.9.6				7.4.4	7.5.4
		1.4.2	2.11.1				7.4.5	
		1.4.4	2.11.2				7.4.6	
			2.11.3				7.4.7	
			2.11.4				7.4.8	
			2.11.5				7.4.9	
			2.11.6				7.4.10	
	2.11.7				7.4.11			
	2.11.8							
415	Digital Publishing Pilot	1.1.6	2.11.1				7.1.1	7.4.7
		1.1.7	2.11.2				7.1.2	7.4.8
		1.2.6	2.11.3				7.1.3	7.4.9
		1.2.7	2.11.4				7.1.9	7.4.10
		1.4.2	2.11.5				7.4.1	7.4.11
		1.4.4	2.11.6				7.4.2	7.5.1
			2.11.7				7.4.3	7.5.2
			2.11.8				7.4.4	7.5.3
							7.4.5	7.5.4
							7.4.6	
420	Digital Media Production	1.1.6	2.9.1	2.11.4			7.1.1	7.4.9
		1.1.7	2.9.2	2.11.5			7.1.2	7.4.10
		1.2.6	2.9.3	2.11.6			7.1.3	7.4.11
		1.2.7	2.9.4	2.11.7			7.1.7	7.5.1
		1.4.2	2.9.5	2.11.8			7.1.9	7.5.2
		1.4.4	2.9.6				7.4.1	7.5.3
			2.11.1				7.4.2	7.5.4
			2.11.2				7.4.3	7.9.1
			2.11.3				7.4.4	7.9.2
							7.4.5	7.9.3
							7.4.6	7.9.4
							7.4.7	7.9.5
							7.4.8	7.9.6

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425	Computer Modeling	1.1.6	2.9.1	2.11.4			7.4.1	7.4.10
		1.1.7	2.9.2	2.11.5			7.4.2	7.4.11
		1.2.6	2.9.3	2.11.6			7.4.3	7.5.1
		1.2.7	2.9.4	2.11.7			7.4.4	7.5.2
		1.4.2	2.9.5	2.11.8			7.4.5	7.5.3
		1.4.4	2.9.6				7.4.6	7.5.4
			2.11.1				7.4.7	
			2.11.2				7.4.8	
			2.11.3				7.4.9	
430	Video Production Team	1.1.6	2.9.1				7.3.1	7.4.5
		1.1.7	2.9.2				7.3.2	7.4.6
		1.2.6	2.9.3				7.3.3	7.4.7
		1.2.7	2.9.4				7.3.5	7.4.8
		1.4.2	2.9.5				7.3.6	7.4.9
		1.4.4	2.9.6				7.3.7	7.4.10
			2.11.1				7.3.8	7.4.11
			2.11.2				7.3.9	7.9.1
			2.11.3				7.3.10	7.9.2
			2.11.4				7.4.1	7.9.3
			2.11.5				7.4.2	7.9.4
			2.11.6				7.4.3	7.9.5
			2.11.7				7.4.4	7.9.6
	2.11.8							
435	Web Site Design Team	1.1.6	2.9.1			6.1.1	7.2.1	7.4.11
		1.1.7	2.9.2			6.1.2	7.2.2	7.9.1
		1.2.6	2.9.3			6.1.3	7.2.3	7.9.2
		1.2.7	2.9.4			6.1.4	7.2.4	7.9.3
		1.4.2	2.9.5			6.1.5	7.4.1	7.9.4
		1.4.4	2.9.6			6.1.6	7.4.2	7.9.5
			2.11.1			6.1.7	7.4.3	7.9.6
			2.11.2			6.2.1	7.4.4	
			2.11.3			6.2.2	7.4.5	
			2.11.4			6.2.3	7.4.6	
			2.11.5			6.2.4	7.4.7	
			2.11.6			6.2.5	7.4.8	
			2.11.7			6.2.6	7.4.9	
	2.11.8			6.2.7	7.4.10			
440	Computer Animation Team	1.1.6	2.9.1				7.3.1	7.4.6
		1.1.7	2.9.2				7.3.2	7.4.7
		1.2.6	2.9.3				7.3.3	7.4.8
		1.2.7	2.9.4				7.3.5	7.4.9
		1.4.2	2.9.5				7.3.6	7.4.10
		1.4.4	2.9.6				7.3.7	7.4.11
			2.11.1				7.3.8	
			2.11.2				7.3.9	
			2.11.3				7.3.10	
			2.11.4				7.4.1	
			2.11.5				7.4.2	
			2.11.6				7.4.3	
			2.11.7				7.4.4	
	2.11.8				7.4.5			
445	Broadcast News Production Team	1.1.6	2.9.1	2.11.3			7.3.1	7.4.5
		1.1.7	2.9.2	2.11.4			7.3.2	7.4.6
		1.2.6	2.9.3	2.11.5			7.3.3	7.4.7
		1.2.7	2.9.4	2.11.6			7.3.5	7.4.8
		1.4.2	2.9.5	2.11.7			7.3.6	7.4.9
		1.4.4	2.9.6	2.11.8			7.3.7	7.4.10
			2.11.1				7.3.8	7.4.11
			2.11.2				7.3.9	7.9.1
							7.3.10	7.9.2
							7.4.1	7.9.3
							7.4.2	7.9.4
							7.4.3	7.9.5
							7.4.4	7.9.6

### Creating and Editing Digital Graphics

Subject Code: 145100

Students will learn to design, develop, and produce interactive media projects, web sites, and social media contexts. Students will demonstrate methods of creating professional quality media using commercial and open source software.

### Multimedia and Image Management Techniques

Subject Code: 145105

Students will apply principles of image creation, management procedures, and multimedia techniques as they create, revise, optimize, and export graphics for video, print, and web publishing. The course will address issues related to web based publishing, social media, and security. Students will utilize current commercial and open source languages, programs, and applications.

### Video and Sound

Subject Code: 145110

Students will create professional video and audio productions for distribution in traditional and new media channels. Students will plan, produce, edit, and launch media products. Students will develop scripts and storyboards, compose shots and operate cameras, capture sounds using microphone hardware, apply special effect techniques, and edit to achieve the final product. Students will be able to use animation and graphic design for video.

### Animation

Subject Code: 145115

Students will use animation and storyboarding techniques to plan the production of an animation project. Students will design from script and storyboard actions in the pre-production planning process. Students will use commercial and open source digital animation software to create finished animations, cartoons, and other short movies. They will accomplish this using animated text, character movements, voice, background sound, sound effects, camera movements, and multiple scenes.

### 3-D Techniques

Subject Code: 145120

Students will use current industry standard commercial and open source programming software to create 3-D visual elements in a web or standalone environment. Students will learn aspects of computer visual production, thought, and application; to map out, design, and test three-dimensional elements.

### Interactive Application Development

Subject Code: 145125

Students will learn skills to support and create interactive and engaging components for web and standalone interactive applications. Using commercial and open source programs and applications, students will master web interactivity with advanced techniques.

Competition Name		Strand 1	Strand 2	Strand 6	Strand 7	
Digital Communication & Design Events						
400	Fundamental Desktop Publishing	1.1.6	2.11.1		7.4.1	7.5.1
		1.1.7	2.11.2		7.4.2	7.5.2
		1.2.5	2.11.3		7.4.3	7.5.3
		1.2.6	2.11.4		7.4.4	7.5.4
		1.2.7	2.11.5		7.4.5	
		1.2.11	2.11.6		7.4.6	
		1.2.12	2.11.7		7.4.7	
		1.4.2	2.11.8		7.4.8	
		1.4.4			7.4.9	
					7.4.10	
			7.4.11			
405	Fundamentals of Web Design	1.1.6	2.11.1		6.1.1	7.4.1
		1.1.7	2.11.2		6.1.2	7.4.2
		1.2.5	2.11.3		6.1.3	7.4.3
		1.2.6	2.11.4		6.1.4	7.4.4
		1.2.7	2.11.5		6.1.5	7.4.5
		1.2.9	2.11.6		6.1.6	7.4.6
		1.3.8	2.11.7		6.1.7	7.4.7
		1.4.2	2.11.8		6.2.1	7.4.8

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		1.4.4				6.2.2 6.2.3 6.2.4 6.2.5 6.2.6 6.2.7	7.4.9 7.4.10 7.4.11	
410	Graphic Design Promotion	1.1.6 1.1.7 1.2.2 1.2.3 1.2.5 1.2.6 1.2.7 1.2.9 1.2.11 1.2.12 1.3.8 1.4.2 1.4.4 1.10.2	2.9.1 2.9.2 2.9.3 2.9.6 2.10.1 2.10.2 2.10.4 2.10.5 2.10.6 2.10.7	2.11.1 2.11.2 2.11.3 2.11.4 2.11.5 2.11.6 2.11.7 2.11.8			7.4.1 7.4.2 7.4.3 7.4.4 7.4.5 7.4.6 7.4.7 7.4.8 7.4.9 7.4.10 7.4.11	7.5.1 7.5.2 7.5.3 7.5.4
415	Digital Publishing Pilot	1.1.6 1.1.7 1.2.5 1.2.6 1.2.7 1.2.9 1.2.11 1.2.12 1.3.8 1.4.2 1.4.4	2.11.1 2.11.2 2.11.3 2.11.4 2.11.5 2.11.6 2.11.7 2.11.8				7.1.1 7.1.2 7.1.3 7.1.9 7.4.1 7.4.2 7.4.3 7.4.4 7.4.5 7.4.6 7.4.7 7.4.8 7.4.9 7.4.10 7.4.11	7.5.1 7.5.2 7.5.3 7.5.4
420	Digital Media Production	1.1.6 1.1.7 1.2.2 1.2.3 1.2.5 1.2.6 1.2.7 1.2.9 1.3.8 1.4.2 1.4.4 1.10.2	2.9.1 2.9.2 2.9.3 2.9.4 2.9.5 2.9.6 2.10.1 2.10.2 2.10.4 2.10.5 2.10.6 2.10.7	2.11.1 2.11.2 2.11.3 2.11.4 2.11.5 2.11.6 2.11.7 2.11.8			7.1.1 7.1.2 7.1.3 7.1.7 7.1.9 7.4.1 7.4.2 7.4.3 7.4.4 7.4.5 7.4.6 7.4.7 7.4.8 7.4.9 7.4.10 7.4.11	7.5.1 7.5.2 7.5.3 7.5.4 7.7.1 7.7.2 7.7.3 7.7.4 7.7.5 7.7.6 7.7.7 7.7.8 7.8.1 7.8.2 7.8.3 7.8.4 7.8.5 7.8.6 7.8.7 7.8.8 7.9.1 7.9.2 7.9.3 7.9.4 7.9.5 7.9.6
425	Computer Modeling	1.1.6 1.1.7 1.2.1 1.2.2 1.2.3 1.2.5	2.9.1 2.9.2 2.9.3 2.9.4 2.9.5 2.9.6	2.11.1 2.11.2 2.11.3 2.11.4 2.11.5 2.11.6			7.4.1 7.4.2 7.4.3 7.4.4 7.4.5 7.4.6	7.5.1 7.5.2 7.5.3 7.5.4

		1.2.6	2.10.1	2.11.7			7.4.7	
		1.2.7	2.10.2	2.11.8			7.4.8	
		1.3.3	2.10.4				7.4.9	
		1.3.8	2.10.5				7.4.10	
		1.4.2	2.10.6				7.4.11	
		1.4.4	2.10.7					
430	Video Production Team	1.1.6	2.9.1	2.11.1			7.3.1	7.7.1
		1.1.7	2.9.2	2.11.2			7.3.2	7.7.2
		1.2.1	2.9.3	2.11.3			7.3.3	7.7.3
		1.2.2	2.9.4	2.11.4			7.3.5	7.7.4
		1.2.3	2.9.5	2.11.5			7.3.6	7.7.5
		1.2.4	2.9.6	2.11.6			7.3.7	7.7.6
		1.2.5	2.10.1	2.11.7			7.3.8	7.7.7
		1.2.6	2.10.2	2.11.8			7.3.9	7.7.8
		1.2.7	2.10.4				7.3.10	7.8.1
		1.2.10	2.10.5				7.4.1	7.8.2
		1.3.8	2.10.6				7.4.2	7.8.3
		1.4.2	2.10.7				7.4.3	7.8.4
		1.4.4					7.4.4	7.8.5
							7.4.5	7.8.6
							7.4.6	7.8.7
							7.4.7	7.8.8
							7.4.8	7.9.1
							7.4.9	7.9.2
							7.4.10	7.9.3
							7.4.11	7.9.4
								7.9.5
								7.9.6
435	Web Site Design Team	1.1.6	2.7.1	2.10.1		6.1.1	7.2.1	7.9.1
		1.1.7	2.7.2	2.10.2		6.1.2	7.2.2	7.9.2
		1.2.1	2.7.3	2.10.4		6.1.3	7.2.3	7.9.3
		1.2.2	2.7.4	2.10.5		6.1.4	7.2.4	7.9.4
		1.2.3	2.7.5	2.10.6		6.1.5	7.4.1	7.9.5
		1.2.4	2.7.6	2.10.7		6.1.6	7.4.2	7.9.6
		1.2.5	2.7.7	2.11.1		6.1.7	7.4.3	
		1.2.6	2.7.8	2.11.2		6.2.1	7.4.4	
		1.2.7	2.9.1	2.11.3		6.2.2	7.4.5	
		1.2.10	2.9.2	2.11.4		6.2.3	7.4.6	
		1.3.3	2.9.3	2.11.5		6.2.4	7.4.7	
		1.3.8	2.9.4	2.11.6		6.2.5	7.4.8	
		1.4.2	2.9.5	2.11.7		6.2.6	7.4.9	
		1.4.4	2.9.6	2.11.8		6.2.7	7.4.10	
		1.10.2					7.4.11	
440	Computer Animation Team	1.1.6	2.9.1	2.11.1			7.3.1	7.6.1
		1.1.7	2.9.2	2.11.2			7.3.2	7.6.2
		1.2.2	2.9.3	2.11.3			7.3.3	7.6.3
		1.2.3	2.9.4	2.11.4			7.3.5	7.6.4
		1.2.4	2.9.5	2.11.5			7.3.6	7.6.5
		1.2.5	2.9.6	2.11.6			7.3.7	7.6.6
		1.2.6	2.10.1	2.11.7			7.3.8	7.8.1
		1.2.7	2.10.2	2.11.8			7.3.9	7.8.2
		1.2.10	2.10.4				7.3.10	7.8.3
		1.3.3	2.10.5				7.4.1	7.8.4
		1.3.8	2.10.6				7.4.2	7.8.5
		1.4.2	2.10.7				7.4.3	7.8.6
		1.4.4					7.4.4	7.8.7
							7.4.5	7.8.8
							7.4.6	
							7.4.7	
							7.4.8	
							7.4.9	
							7.4.10	
							7.4.11	
445	Broadcast News Production Team	1.1.6	2.9.1	2.11.1			7.3.1	7.7.1
		1.1.7	2.9.2	2.11.2			7.3.2	7.7.2
		1.2.1	2.9.3	2.11.3			7.3.3	7.7.3
		1.2.2	2.9.4	2.11.4			7.3.5	7.7.4

		1.2.3	2.9.5	2.11.5			7.3.6	7.7.5
		1.2.4	2.9.6	2.11.6			7.3.7	7.7.6
		1.2.5	2.10.1	2.11.7			7.3.8	7.7.7
		1.2.6	2.10.2	2.11.8			7.3.9	7.7.8
		1.2.7	2.10.4				7.3.10	7.8.1
		1.2.10	2.10.5				7.4.1	7.8.2
		1.3.3	2.10.6				7.4.2	7.8.3
		1.3.8	2.10.7				7.4.3	7.8.4
		1.4.2					7.4.4	7.8.5
		1.4.4					7.4.5	7.8.6
							7.4.6	7.8.7
							7.4.7	7.8.8
							7.4.8	7.9.1
							7.4.9	7.9.2
							7.4.10	7.9.3
							7.4.11	7.9.4
								7.9.5
								7.9.6
<b>Virtual Competitive Events</b>								
V01	Virtual Multimedia and Promotion – Individual	1.1.6					7.1.1	7.2.11
		1.1.7					7.1.2	7.3.1
		1.2.2					7.1.3	7.3.2
		1.2.3					7.1.4	7.3.4
		1.2.4					7.1.5	7.3.5
		1.2.5					7.1.6	7.3.6
		1.2.6					7.1.7	7.3.7
		1.2.7					7.1.8	7.3.8
		1.2.12					7.1.9	7.3.9
		1.3.3					7.1.10	7.3.10
		1.3.8					7.2.1	7.7.1
		1.4.2					7.2.2	7.7.2
		1.4.4					7.2.3	7.7.3
		1.4.8					7.2.4	7.7.4
							7.2.5	7.7.5
							7.2.6	7.7.6
							7.2.7	7.7.7
							7.2.8	7.7.8
							7.2.9	
							7.2.10	
V02	Virtual Multimedia and Promotion – Team	1.1.6					7.1.1	7.2.6
		1.1.7					7.1.2	7.2.7
		1.2.2					7.1.3	7.2.8
		1.2.3					7.1.4	7.2.9
		1.2.4					7.1.5	7.2.10
		1.2.5					7.1.6	7.2.11
		1.2.6					7.1.7	7.3.1
		1.2.7					7.1.8	7.3.2
		1.2.12					7.1.9	7.3.4
		1.3.3					7.1.10	7.3.5
		1.3.8					7.2.1	7.3.6
		1.4.2					7.2.2	7.3.7
		1.4.4					7.2.3	7.3.8
		1.4.8					7.2.4	7.3.9
							7.2.5	7.3.10
V04	Web Application Team	1.1.6				6.1.1		
		1.1.7				6.1.2		
		1.2.2				6.1.3		
		1.2.3				6.1.4		
		1.2.4				6.1.5		
		1.2.5				6.1.6		
		1.2.6				6.1.7		
		1.2.7				6.2.1		
		1.2.12				6.2.2		
		1.3.3				6.2.3		
		1.3.8				6.2.4		
		1.4.2				6.2.5		
		1.4.4				6.2.6		

		1.4.8				6.2.7		
						6.3.1		
						6.3.2		
						6.3.3		
						6.4.1		
						6.4.2		
						6.4.3		
						6.4.4		
						6.4.5		
						6.4.6		
						6.4.7		
						6.5.1		
						6.5.2		
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						6.5.7		
						6.5.8		
						6.5.9		
						6.5.10		
						6.5.11		
						6.5.12		



## Strand 1. Business Operations/21st Century Skills

Learners apply principles of economics, business management, marketing and employability in an entrepreneur, manager and employee role to the leadership, planning, developing and analyzing of business enterprises related to the career field.

### Outcome 1.1. Employability Skills

Develop career awareness and employability skills (e.g., face-to-face, online) needed for gaining and maintaining employment in diverse business settings.

An “X” indicates that the pathway applies to the outcome.

Business Management and Administrative Services	Finance	Marketing
X	X	X

### Competencies

- 1.1.1. Identify the knowledge, skills and abilities necessary to succeed in careers.
- 1.1.2. Identify the scope of career opportunities and the requirements for education, training, certification, licensure and experience.
- 1.1.3. Develop a career plan that reflects career interests, pathways and secondary and postsecondary options.
- 1.1.4. Describe the role and function of professional organizations, industry associations and organized labor and use networking techniques to develop and maintain professional relationships.
- 1.1.5. Develop strategies for self-promotion in the hiring process (e.g., filling out job applications, résumé writing, interviewing skills, portfolio development).
- 1.1.6. Explain the importance of work ethic, accountability and responsibility and demonstrate associated behaviors in fulfilling personal, community and workplace roles.
- 1.1.7. Apply problem-solving and critical-thinking skills to work-related issues when making decisions and formulating solutions.
- 1.1.8. Identify the correlation between emotions, behavior and appearance and manage those to establish and maintain professionalism.
- 1.1.9. Give and receive constructive feedback to improve work habits.
- 1.1.10. Adapt personal coping skills to adjust to taxing workplace demands.
- 1.1.11. Recognize different cultural beliefs and practices in the workplace and demonstrate respect for them.
- 1.1.12. Identify healthy lifestyles that reduce the risk of chronic disease, unsafe habits and abusive behavior.

## **Outcome 1.2. Leadership and Communications**

Process, maintain, evaluate and disseminate information in a business. Develop leadership and team building to promote collaboration.

An “X” indicates that the pathway applies to the outcome.

<b>Business Management and Administrative Services</b>	<b>Finance</b>	<b>Marketing</b>
X	X	X

### **Competencies**

- 1.2.1. Extract relevant, valid information from materials and cite sources of information (e.g., medical reports, fitness assessment, medical test results).
- 1.2.2. Deliver formal and informal presentations.
- 1.2.3. Identify and use verbal, nonverbal and active listening skills to communicate effectively.
- 1.2.4. Use negotiation and conflict-resolution skills to reach solutions.
- 1.2.5. Communicate information for an intended audience and purpose.
- 1.2.6. Use proper grammar and expression in all aspects of communication.
- 1.2.7. Use problem-solving and consensus-building techniques to draw conclusions and determine next steps.
- 1.2.8. Identify the strengths, weaknesses and characteristics of leadership styles that influence internal and external workplace relationships.
- 1.2.9. Identify advantages and disadvantages involving digital and/or electronic communications.
- 1.2.10. Use interpersonal skills to provide group leadership, promote collaboration and work in a team.
- 1.2.11. Write professional correspondence, documents, job applications and résumés.
- 1.2.12. Use technical writing skills to complete forms and create reports.
- 1.2.13. Identify stakeholders and solicit their opinions.
- 1.2.14. Use motivational strategies to accomplish goals.

**Outcome 1.3. Business Ethics and Law**

Analyze how professional, ethical and legal behavior contributes to continuous improvement in organizational performance and regulatory compliance.

An “X” indicates that the pathway applies to the outcome.

<b>Business Management and Administrative Services</b>	<b>Finance</b>	<b>Marketing</b>
X	X	X

**Competencies**

- 1.3.1. Analyze how regulatory compliance affects business operations and organizational performance.
- 1.3.2. Follow protocols and practices necessary to maintain a clean, safe and healthy work environment.
- 1.3.3. Use ethical character traits consistent with workplace standards (e.g., honesty, personal integrity, compassion, justice).
- 1.3.4. Identify how federal and state consumer protection laws affect products and services.
- 1.3.5. Access and implement safety compliance measures (e.g., quality assurance information, safety data sheets [SDSs], product safety data sheets [PSDSs], United States Environmental Protection Agency [EPA], United States Occupational Safety and Health Administration [OSHA]) that contribute to the continuous improvement of the organization.
- 1.3.6. Identify deceptive practices (e.g., bait and switch, identity theft, unlawful door-to-door sales, deceptive service estimates, fraudulent misrepresentations) and their overall impact on organizational performance.
- 1.3.7. Identify the labor and practice laws that affect employment and the consequences of noncompliance for both employee and employer (e.g., harassment, labor, employment, employment interview, testing, minor labor laws, Americans with Disabilities Act, Fair Labor Standards Acts, Equal Employment Opportunity Commission [EEOC], human trafficking) and interpret personal safety rights according to the employee Right-to-Know Plan.
- 1.3.8. Verify compliance with computer and intellectual property laws and regulations.
- 1.3.9. Identify potential conflicts of interest (e.g., personal gain, project bidding) between personal, organizational and professional ethical standards.

### **Outcome 1.4. Knowledge Management and Information Technology**

Demonstrate current and emerging strategies and technologies used to collect, analyze, record and share information in business operations.

An “X” indicates that the pathway applies to the outcome.

<b>Business Management and Administrative Services</b>	<b>Finance</b>	<b>Marketing</b>
X	X	X

#### **Competencies**

- 1.4.1. Use office equipment to communicate (e.g., phone, radio equipment, fax machine, scanner, public address systems).
- 1.4.2. Select and use software applications to locate, record, analyze and present information (e.g., word processing, e-mail, spreadsheet, databases, presentation, Internet search engines).
- 1.4.3. Verify compliance with security rules, regulations and codes (e.g., property, privacy, access, accuracy issues, client and patient record confidentiality) pertaining to technology specific to the industry pathway.
- 1.4.4. Use system hardware to support software applications.
- 1.4.5. Use information technology tools to maintain, secure and monitor business records.
- 1.4.6. Use an electronic database to access and create business and technical information.
- 1.4.7. Use personal information management and productivity applications to optimize assigned tasks (e.g., lists, calendars, address books).
- 1.4.8. Use electronic media to communicate and follow network etiquette guidelines.

### **Outcome 1.5. Global Environment**

Evaluate how beliefs, values, attitudes and behaviors influence organizational strategies and goals.

An “X” indicates that the pathway applies to the outcome.

<b>Business Management and Administrative Services</b>	<b>Finance</b>	<b>Marketing</b>
X	X	X

#### **Competencies**

- 1.5.1. Describe how cultural understanding, cultural intelligence skills and continual awareness are interdependent.
- 1.5.2. Describe how cultural intelligence skills influence the overall success and survival of an organization.
- 1.5.3. Use cultural intelligence to interact with individuals from diverse cultural settings.
- 1.5.4. Recognize barriers in cross-cultural relationships and implement behavioral adjustments.
- 1.5.5. Recognize the ways in which bias and discrimination may influence productivity and profitability.
- 1.5.6. Analyze work tasks for understanding and interpretation from a different cultural perspective.
- 1.5.7. Use intercultural communication skills to exchange ideas and create meaning.
- 1.5.8. Identify how multicultural teaming and globalization can foster development of new and improved products and services and recognition of new opportunities.

**Outcome 1.6. Business Literacy**

Develop foundational skills and knowledge in entrepreneurship, financial literacy and business operations.

An “X” indicates that the pathway applies to the outcome.

<b>Business Management and Administrative Services</b>	<b>Finance</b>	<b>Marketing</b>
X	X	X

**Competencies**

- 1.6.1. Identify business opportunities.
- 1.6.2. Assess the reality of becoming an entrepreneur, including advantages and disadvantages (e.g., risk versus reward, reasons for success and failure).
- 1.6.3. Explain the importance of planning your business.
- 1.6.4. Identify types of businesses, ownership and entities (i.e., individual proprietorships, partnerships, corporations, cooperatives, public, private, profit, not-for-profit).
- 1.6.5. Describe organizational structure, chain of command, the roles and responsibilities of the organizational departments and interdepartmental interactions (e.g., following physician’s orders).
- 1.6.6. Identify the target market served by the organization, the niche that the organization fills and an outlook of the industry.
- 1.6.7. Identify the effect of supply and demand on products and services.
- 1.6.8. Identify the features and benefits that make an organization’s product or service competitive.
- 1.6.9. Explain how the performance of an employee, a department and an organization is assessed.
- 1.6.10. Describe the impact of globalization on an enterprise or organization.
- 1.6.11. Describe how all business activities of an organization work within the parameters of a budget.
- 1.6.12. Describe classifications of employee benefits, rights, deductions and compensations.

**Outcome 1.7. Entrepreneurship/Entrepreneurs**

Analyze the environment in which a business operates and the economic factors and opportunities associated with self-employment.

An “X” indicates that the pathway applies to the outcome.

<b>Business Management and Administrative Services</b>	<b>Finance</b>	<b>Marketing</b>
X	X	X

**Competencies**

- 1.7.1. Compare and contrast the four types of business ownership (i.e., individual proprietorships, partnerships, corporations, cooperatives).
- 1.7.2. Explain the role of profit as the incentive to entrepreneurs in a market economy.
- 1.7.3. Identify the factors that contribute to the success and failure of entrepreneurial ventures.
- 1.7.4. Assess the roles of nonprofit and for-profit businesses.
- 1.7.5. Develop a business plan.
- 1.7.6. Describe life cycles of an entrepreneurial business and an entrepreneur.
- 1.7.7. Create a list of personal strengths, weaknesses, skills and abilities needed to be successful as an entrepreneur.
- 1.7.8. Explain pathways used to become an entrepreneur.
- 1.7.9. Conduct a self-assessment to determine entrepreneurial potential.
- 1.7.10. Describe techniques for obtaining experience (e.g., apprenticeship, co-operative [co-op] education, work placement, internship, job shadowing) related to an entrepreneurial objective.
- 1.7.11. Identify initial steps in establishing a business (e.g., limited liability company [LLC], tax ID, permits, insurance, licensing).
- 1.7.12. Identify resources available to entrepreneurs (e.g., Small Business Administration, mentors, information resources, educational opportunities).
- 1.7.13. Protect intellectual property and knowledge (e.g., copyright, patent, trademark, trade secrets, processes).

**Outcome 1.8. Operations Management**

Plan, organize and monitor an organization or department to maximize contribution to organizational goals and objectives.

An “X” indicates that the pathway applies to the outcome.

<b>Business Management and Administrative Services</b>	<b>Finance</b>	<b>Marketing</b>
X	X	X

**Competencies**

- 1.8.1. Forecast future resources and budgetary needs using financial documents (e.g., balance sheet, demand forecasting, financial ratios).
- 1.8.2. Select and organize resources to develop a product or a service.
- 1.8.3. Analyze the performance of organizational activities and reallocate resources to achieve established goals.
- 1.8.4. Identify alternative actions to take when goals are not met (e.g., changing goals, changing strategies, efficiencies).
- 1.8.5. Use inventory and control systems to purchase materials, supplies and equipment (e.g., Last In, First Out [LIFO]; First In, First Out [FIFO]; Just in Time [JIT]; LEAN).
- 1.8.6. Identify the advantages and disadvantages of carrying cost and Just-in-Time (JIT) production systems and the effects of maintaining inventory (e.g., perishable, shrinkage, insurance) on profitability.
- 1.8.7. Collect information and feedback to help assess the organization’s strategic planning and policymaking processes.
- 1.8.8. Identify routine activities for maintaining business facilities and equipment.
- 1.8.9. Develop a budget that reflects the strategies and goals of the organization.
- 1.8.10. Analyze how business management and environmental management systems (e.g., health, safety) contribute to continuous improvement and sustainability.

### **Outcome 1.9. Financial Management**

Use financial tools, strategies and systems to develop, monitor and control the use of financial resources to ensure personal and business financial well-being.

An “X” indicates that the pathway applies to the outcome.

<b>Business Management and Administrative Services</b>	<b>Finance</b>	<b>Marketing</b>
X	X	X

#### **Competencies**

- 1.9.1. Create, analyze and interpret financial documents (e.g., budgets, income statements).
- 1.9.2. Identify tax obligations.
- 1.9.3. Review and summarize savings, investment strategies and purchasing options (e.g., cash, lease, finance, stocks, bonds).
- 1.9.4. Identify credit types and their uses in order to establish credit.
- 1.9.5. Identify ways to avoid or correct debt problems (e.g., collection agency payments and post-collection agency payments).
- 1.9.6. Explain how credit ratings and the criteria lenders use to evaluate repayment capacity affect access to loans.
- 1.9.7. Review and summarize categories (types) of insurance and identify how insurances can reduce financial risk.
- 1.9.8. Identify income sources and expenditures.
- 1.9.9. Compare and contrast different banking services available through financial institutions.
- 1.9.10. Identify the role of depreciation in tax planning and liability.



**Outcome 1.10. Sales and Marketing**

Manage pricing, place, promotion, packaging, positioning and public relations to improve quality customer service.

An “X” indicates that the pathway applies to the outcome.

<b>Business Management and Administrative Services</b>	<b>Finance</b>	<b>Marketing</b>
X	X	X

**Competencies**

- 1.10.1. Identify how the roles of sales, advertising and public relations contribute to a company’s brand.
- 1.10.2. Determine the customer’s/client’s needs and identify solutions and potential community resources.
- 1.10.3. Communicate features, benefits and warranties of a product or service to the customer/client.
- 1.10.4. Identify the company policies and procedures for initiating product and service improvements.
- 1.10.5. Monitor customer/client expectations and determine product/service satisfaction by using measurement tools.
- 1.10.6. Discuss the importance of correct pricing to support a product’s or service’s positioning in the marketing mix.
- 1.10.7. Describe the importance and diversity of distribution channels (i.e., direct, indirect) to sell a product.
- 1.10.8. Use promotional techniques to maximize sales revenues (e.g., advertising, sales promotions, publicity, public relations).
- 1.10.9. Describe how product mix (e.g., product line, product items) maximizes sales revenues, market, share and profit margin.
- 1.10.10. Demonstrate sales techniques.

**Outcome 1.11. Principles of Business Economics**

Examine and employ economic principles, concepts and policies to accomplish organizational goals and objectives.

An “X” indicates that the pathway applies to the outcome.

<b>Business Management and Administrative Services</b>	<b>Finance</b>	<b>Marketing</b>
X	X	X

**Competencies**

- 1.11.1. Identify the economic principles that guide geographic location of an industry's facilities (e.g., relative scarcity, price, quantity of products and services).
- 1.11.2. Identify the difference between monetary and nonmonetary incentives and explain how changes in incentives cause changes in behavior.
- 1.11.3. Use economic indicators to identify economic trends and conditions (e.g., inflation, interest rate fluctuations, unemployment rates).
- 1.11.4. Determine how the quality, quantity and pricing of goods and services are affected by domestic and international competition in a market economy.
- 1.11.5. Analyze factors that affect currency and exchange rates.
- 1.11.6. Explain how financial markets and government policies influence interest rates (credit ratings/debt ceiling), trade deficits and unemployment.
- 1.11.7. Describe how economic performance and culture are interdependent.
- 1.11.8. Identify the relationships between economy, society and environment that lead to sustainability.
- 1.11.9. Describe how laws and regulations influence domestic and international trade.

## **Interview Skills (515)**

### **Description**

Assess proficiency in job search and interview situations.

### **Eligibility**

Contestant may *not* enter both Interview Skills and Advanced Interview Skills in the same year. This event may *not* be repeated. Contestants participating in national level competition must be registered for the event prior to submission deadline for technical judging.

### **Contestant must supply**

One printed copy of their résumé and cover letter at both Preliminary and Final competition.

**No equipment, supplies, or materials other than those specified for an event will be allowed in the testing area.**  
**No previous Business Professionals of America tests and/or sample tests or facsimiles thereof (handwritten, photocopied, or keyed) may be taken into the testing area. Violation of this rule will result in disqualification.**

### **Competencies**

- Apply technical writing skills to produce cover letter and résumé
- Demonstrate knowledge of employability search
- Apply research to determine qualifications for jobs
- Produce cover letter and résumé
- Complete job application form
- Demonstrate quality grooming through proper dress
- Describe knowledge of job advancement
- Demonstrate interpersonal skills

### **Specifications**

- This is a pre-submitted event. See instructions for submissions.
- Contestant will indicate on his/her résumé the position for which he/she is applying. There are openings in all departments of Professional Business Associates shown on the Organizational Chart found in the [\*Style & Reference Manual\*](#).
- Contestant may interview for any position listed on the organizational chart for which he/she is qualified.
- Information in the cover letter and résumé must be authentic; however, contestants may choose to use a fictitious personal address and telephone number. The use of references on the résumé is optional.
- The application must be submitted by 11:59 pm Eastern Standard Time on April 1, 2016, to the National Center at <http://www.bpa.org/submit>. The [Individual Entry Form](#), resume and cover letter must be uploaded as three separate PDF files at the time of application. Cover letters and resumes cannot be submitted by e-mail, fax or mail.
- Contestants must provide their contestant number (10-digit member number) at the time of application.
- Contestants may apply only once and must complete their application in a single attempt. The online system will time out after 45 minutes (**they cannot save their application mid-way, return to complete it later or apply with revised information after the original application is submitted**).
- Contestants must provide an e-mail address at the time of application in order to receive a confirmation e-mail after the application is submitted.

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- Contestants must be registered for national level competition prior to submission of the application. Due to the nature of the pre-submitted materials, no late registrations/move-ups for Interview Skills can be accepted after April 1, 2016.
- Materials from non-registered contestants, those missing contestant number and/or projects received after the deadline cannot be accepted.
- No changes can be made after the date of submission.
- The application letter must be addressed as follows:
  - Ms. Julie Smith, Manager
  - Human Resources Department
  - Professional Business Associates
  - 5454 Cleveland Avenue
  - Columbus, OH 43231-4021
- When completing the application, put N/A in each section where a statement is not applicable.
- List all paid and non-paid work experiences on the application.
- One copy of the résumé may be used for reference by the contestant during the interview.
- Materials previously submitted to the website will *not* be available at the time of interview.
- An additional copy of the résumé, cover letter and [Individual Entry form, including signatures](#), must be presented at the time of the interview at the NLC at both Preliminary and Final Competition.
- No other materials will be allowed (i.e., business cards, thank you notes, etc.) during the remainder of the Interview Skills contest.

### **Method of evaluation**

Technical Scoring Rubric  
Interview Scoring Rubric

### **Length of event**

No more than 15 minutes for interview  
Finals may be included at state and national levels

### **Entries**

Each state is allowed three (3) entries

**Contestants in all judged events who wish to receive judges' comments must submit a self-addressed, stamped envelope to the event judges before judging takes place.**

**Materials submitted for technical judging cannot be returned and will *not* be available at NLC.**

# Interview Skills (515)

Judge Number \_\_\_\_\_

Contestant Number \_\_\_\_\_

## Technical Scoring Rubric

Contestant Violated the Copyright and/or Fair Use Guidelines	<input type="checkbox"/> Yes (Disqualification)	<input type="checkbox"/> No
If yes, please stop scoring and provide a brief reason for the disqualification below:		

	Below Average	Average	Good	Excellent	Points Awarded
Contestant submitted the correct information and in the correct format. <ul style="list-style-type: none"> <li>Individual Entry Form - .pdf format (must be keyed but does not have to be signed for pre-submission)</li> <li>Cover Letter - .pdf format</li> <li>Resume - .pdf format</li> <li>Application – must complete online application</li> </ul> <p><i>All points or none are awarded by the technical judge.</i></p>				10	
<b>Cover Letter</b> (Does not need to follow the <a href="#">Style and Reference Manual</a> , but should be business letter format)					
Introduction and addressed correctly	1-5	6-10	11-15	16-20	
Skills relevant to position	1-5	6-10	11-15	16-20	
Closing	1-5	6-10	11-15	16-20	
Correct grammar and spelling	1-5	6-10	11-15	16-20	
<b>Résumé</b>					
Position applying for listed	1-5	6-10	11-15	16-20	
Layout	1-5	6-10	11-15	16-20	
Chronological order of work history (all paid and unpaid work experiences)	1-5	6-10	11-15	16-20	
Correct grammar and spelling	1-5	6-10	11-15	16-20	
<b>Application Form</b>					
Completeness	1-5	6-10	11-15	16-20	
Correct grammar and spelling	1-5	6-10	11-15	16-20	
Followed directions	1-5	6-10	11-15	16-20	
<b>TOTAL TECHNICAL POINTS (230 points maximum)</b>					

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## Interview Skills (515)

Judge Number \_\_\_\_\_

Contestant Number \_\_\_\_\_

### Interview Scoring Rubric

	<b>Below Average</b>	<b>Average</b>	<b>Good</b>	<b>Excellent</b>	<b>Points Awarded</b>
<b>Applicant's Greeting:</b> Proper introduction Positive first impression	1-5	6-10	11-15	16-20	
<b>Applicant's Appearance:</b> Neat, well groomed, and appropriately attired	1-5	6-10	11-15	16-20	
<b>Personality and Poise:</b> Positive, courteous, sincere, and confident Good posture, gestures, and eye contact	1-5	6-10	11-15	16-20	
<b>Communication Skills:</b> Proper grammar Good pronunciation and enunciation Pleasant voice and tone	1-5	6-10	11-15	16-20	
<b>Responses:</b> Responded with appropriate answers Showed knowledge of potential position Indicated knowledge of company Volunteered information Demonstrated initiative and enthusiasm Asked appropriate questions	1-5 1-5 1-5 1-5 1-5 1-5	6-10 6-10 6-10 6-10 6-10 6-10	11-15 11-15 11-15 11-15 11-15 11-15	16-20 16-20 16-20 16-20 16-20 16-20	
<b>Showed evidence of the following skills:</b> Required job skills Good work habits Problem-solving abilities	1-5	6-10	11-15	16-20	
<b>Close of Interview:</b> Expressed a thank you Concluded interview effectively	1-5	6-10	11-15	16-20	
<b>TOTAL INTERVIEW POINTS (240 points maximum)</b>					

Business Professionals of America Workplace Skills Assessment Program

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## Interview Skills (515)

Judge Number \_\_\_\_\_

Contestant Number \_\_\_\_\_

### Specification Scoring Rubric

<b>SPECIFICATION POINTS:</b> All points or none per item are awarded by the proctor per contestant, not per judge.		<b>Points Awarded</b>
Documentation submitted at time of presentation: Keyed and signed <a href="#">Individual Entry Form</a> (1 copy), Cover Letter (1 copy) and Resume (1 copy) <i>Must have copies for preliminaries and finals</i>	10	
<b>TOTAL SPECIFICATION POINTS (10 points maximum)</b>		

**TOTAL MAXIMUM POINTS = 480**

## Professional Business Associates

### Organizational Chart and Company Information

Professional Business Associates develops and sells software, hardware, and services. The services provided are:

1. Systems analysis
2. Software development and design
3. Marketing
4. Training development
5. Hardware and software sales

This large corporation has a branch office in the capital of each membership state. The corporate headquarters is located at 5454 Cleveland Avenue in Columbus, OH 43231-4021, and has 200+ employees. Management includes:

Chief Executive Officer	Nancy Wells
Financial Services Department	Harvey Rosen
Information Technology Department	Tom Carlson
Human Resources Department	Julie Smith
Marketing Department	Roger Meyer
Administrative Support Department	Edna Renick

Chief Executive Officer				
Financial Services	Information Technology	Human Resources	Marketing	Administrative Support
1. Administrative Assistant	1. Data Entry Clerk	1. Human Resources Assistant	1. Information Processing Assistant	1. Administrative Assistant
2. Data Entry Clerk	2. Database Specialist	2. Information Processing Assistant	2. Administrative Assistant	2. Information Processing Specialist
3. Payroll Clerk	3. Information Processing Assistant	3. Administrative Assistant	3. Desktop Publisher	3. Computer Applications Specialist
4. Accounting Clerk	4. Administrative Assistant	4. Medical Support Assistant	4. Graphic Design Assistant	4. Desktop Publishing Assistant
5. Database Assistant	5. Programmer	5. Insurance Benefits Clerk	5. Desktop Publishing/Graphic Assistant	5. Legal Research Assistant
6. Spreadsheet Specialist	6. Software Engineer	6. Management Assistant	6. International Business Coordinator	6. Graphic Design Assistant
7. Accountant	7. PC Servicing/Troubleshooting	7. Payroll Specialist	7. Website Liaison	7. Management Assistant
8. Financial Analyst	8. Network Administrator	8. Wellness Coordinator	8. Management Assistant	
	9. Digital Media Specialist		9. Small Business Liaison	
	10. E-commerce Specialist		10. Research Assistant	
	11. Website Developer			



# Classroom Chapter



## BPA Orientation and Electing Officers

- 1.1.6. Explain the importance of work ethic, accountability and responsibility and demonstrate associated behaviors in fulfilling personal, community and workplace roles.
- 1.1.8. Identify the correlation between emotions, behavior and appearance and manage those to establish and maintain professionalism.
- 1.1.10. Adapt personal coping skills to adjust to taxing workplace demands.
- 1.2.3. Identify and use verbal, nonverbal and active listening skills to communicate effectively.
- 1.2.5. Communicate information for an intended audience and purpose.
- 1.2.6. Use proper grammar and expression in all aspects of communication.
- 1.3.3. Use ethical character traits consistent with workplace standards (e.g., honesty, personal integrity, compassion, justice).
- 1.6.5. Describe organizational structure, chain of command, the roles and responsibilities of the organizational departments and interdepartmental interactions (e.g., following physician's orders).

## Setting Class Goals

- 1.1.7. Apply problem-solving and critical-thinking skills to work-related issues when making decisions and formulating solutions.
- 1.1.8. Identify the correlation between emotions, behavior and appearance and manage those to establish and maintain professionalism.
- 1.1.10. Adapt personal coping skills to adjust to taxing workplace demands.
- 1.2.3. Identify and use verbal, nonverbal and active listening skills to communicate effectively.
- 1.2.4. Use negotiation and conflict-resolution skills to reach solutions.
- 1.2.5. Communicate information for an intended audience and purpose.
- 1.2.6. Use proper grammar and expression in all aspects of communication.
- 1.2.7. Use problem-solving and consensus-building techniques to draw conclusions and determine next steps.

## Regular Meetings

- 1.1.6. Explain the importance of work ethic, accountability and responsibility and demonstrate associated behaviors in fulfilling personal, community and workplace roles.
- 1.1.8. Identify the correlation between emotions, behavior and appearance and manage those to establish and maintain professionalism.
- 1.1.9. Give and receive constructive feedback to improve work habits.
- 1.1.10. Adapt personal coping skills to adjust to taxing workplace demands.
- 1.1.11. Recognize different cultural beliefs and practices in the workplace and demonstrate respect for them.
- 1.2.3. Identify and use verbal, nonverbal and active listening skills to communicate effectively.
- 1.2.5. Communicate information for an intended audience and purpose.
- 1.2.6. Use proper grammar and expression in all aspects of communication.

### **Setting Class Goals**

1.2.14. Use motivational strategies to accomplish goals.

1.3.3. Use ethical character traits consistent with workplace standards (e.g., honesty, personal integrity, compassion, justice).

1.4.2. Select and use software applications to locate, record, analyze and present information (e.g., word processing, e-mail, spreadsheet, databases, presentation, Internet search engines).

1.4.5. Use information technology tools to maintain, secure and monitor business records.

1.4.7. Use personal information management and productivity applications to optimize assigned tasks (e.g., lists, calendars, address books).

1.6.9. Explain how the performance of an employee, a department and an organization is assessed.

1.8.1. Forecast future resources and budgetary needs using financial documents (e.g., balance sheet, demand forecasting, financial ratios).

1.8.9. Develop a budget that reflects the strategies and goals of the organization.

1.9.1. Create, analyze and interpret financial documents (e.g., budgets, income statements).

1.9.8. Identify income sources and expenditures.

1.10.1. Identify how the roles of sales, advertising and public relations contribute to a company's brand.

1.10.10. Demonstrate sales techniques.

### **Regular Meetings**

1.2.10. Use interpersonal skills to provide group leadership, promote collaboration and work in a team.

1.3.3. Use ethical character traits consistent with workplace standards (e.g., honesty, personal integrity, compassion, justice).

1.4.2. Select and use software applications to locate, record, analyze and present information (e.g., word processing, e-mail, spreadsheet, databases, presentation, Internet search engines).

1.4.5. Use information technology tools to maintain, secure and monitor business records.

1.6.9. Explain how the performance of an employee, a department and an organization is assessed.

## Create a Plan for Chapter Activities Award of Excellence

For NATIONAL recognition: All activities must occur between the dates of April 2, 2015 AND April 1, 2016.

For OHIO recognition: All activities must occur between the dates of April 2, 2015 AND March 1, 2016.

OHIO Applications are **DUE by March 4, 2016** for STATE recognition.

### To qualify need to complete BOTH of the following Activities

- BPA Marketing & Public Relations Award (at least one activity)
- Community Service Award (at least one activity equalling 100 hours and/or \$500 donated dollars)

### To qualify need to complete ONE of the following Activities

- Special Olympics

OR

- Safety Awareness

OR

- Environmental Action Awareness

### To qualify the following activities need to be completed and documented

- Local officer installation
- Local officer training
- Attendance at a BPA Leadership Conference (region or state)
- Chapter social activity
- Create a chapter budget
- A Career Development Related Activity

### Create a Plan:

1. BPA Marketing & Public Relations Award - [see page 27 of BPA Cares Handbook](#)

Possible Activities	Describe what your chapter will do to complete the activity	Date to Complete By	Date Application Submitted
Newsletter			
spirit week			

2. Community Service Award - [see page 12 of BPA Cares Handbook](#)

[May need to complete a couple in order to total 100 hours and/or \\$500 donated](#)

Possible Activities	Describe what your chapter will do to complete the activity	Date to Complete By	Date Application Submitted
Special Olympics			

3. Choose **ONE** of the following Awards

- a. Special Olympics - see page 20 of BPA Cares Handbook
- b. Safety Awareness - see page 16 of BPA Cares Handbook
- c. Environmental Action/Awareness - see page 14 of BPA Cares Handbook

Possible Activities	Describe what your chapter will do to complete the activity	Date to Complete By	Date Application Submitted
Special Olympics			

4. **ALL** of the following need to be completed and documented

Activities	Describe what your chapter will do to complete the activity	Date to Complete By	Date Application Submitted
Local Officer Installation			
Local Officer Training			
Attendance at a BPA Leadership Conference (region, state, national)			
Chapter social activity			
Create a chapter budget			
A Career Development Related Activity			