

**CURRICULUM MAP**

**Cluster: Information Technology**

**CTE Program of Study: IT1450 Information Management/Microsoft Computer Applications Specialists**

STANDARD	%	SKILL SET/COMPETENCY	Must select four courses:					
			1411 BCAI	1413 BCAII	1429 DTP	1431 DI I	1432 DI II	1455 WP
<b>Communication:</b>	<b>24%</b>		X	X	X	X	X	X
<b>Communicate in multiple modes to address needs within the career technical field</b>		Apply strategies to enhance effectiveness of all types of communications in the workplace	X	X	X	X	X	X
		Apply reading strategies as needed for a variety of purposes	X	X	X	X	X	X
		Evaluate information contained in documents	X	X	X	X	X	X
		Apply basic communication skills when writing	X	X	X	X	X	X
		Write technical materials	X	X	X	X	X	X
		Develop presentations using appropriate technologies (e.g., tables, charts, and visual graphics)	X	X	X	X	X	X
		Apply oral communication skills	X	X	X	X	X	X
		Deliver presentations	X	X	X	X	X	X
		Apply active listening skills	X	X	X	X	X	X
		Apply nonverbal communication skills	X	X	X	X	X	X
		Communicate with others in a workforce of diversity (e.g., age, ethnicity, religion, gender)	X	X	X	X	X	X
		Share information using a range of appropriate communications technologies	X	X	X	X	X	X
<b>Problem Solving and Critical Thinking:</b>	<b>19%</b>		X	X	X	X	X	X
<b>Solve problems using critical thinking</b>		Define the problem	X	X	X	X	X	X
		Analyze the problem	X	X	X	X	X	X
		Research reliable information relevant to the problem	X	X	X	X	X	X
		Investigate alternatives based on reasoned criteria	X	X	X	X	X	X
		Identify appropriate solutions	X	X	X	X	X	X
		Make recommendations	X	X	X	X	X	X

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		Implement solutions	X	X	X	X	X	X
		Evaluate solutions	X	X	X	X	X	X
<b>Information Technology Applications:</b>	<b>8%</b>		X	X	X	X	X	X
<b>Apply information technology resources in the workplace</b>		Identify efficient, effective, and ethical uses of technology in the workplace	X	X	X	X	X	X
		Use information technology tools to access, manage, integrate, and create new information	X	X	X	X	X	X
		Use writing/publishing/presentation applications	X	X	X	X	X	X
<b>Systems:</b>	<b>9%</b>		X	X	X	X	X	X
<b>Work within organizational culture and technological systems</b>		Demonstrate an understanding of how business and industry systems function within the economy	X	X	X	X	X	X
		Demonstrate an understanding of the functions of systems in an organization (e.g., management, human resources, production and services)	X	X	X	X	X	X
		Demonstrate principles of internal/external customer service	X	X	X	X	X	X
		Apply industry quality standards and practices	X	X	X	X	X	X
<b>Safety, Health, and Environment:</b>	<b>9%</b>		X	X	X	X	X	X
<b>Ensure safe and healthful working conditions</b>		Ensure safe working conditions	X	X	X	X	X	X
		Demonstrate safe use of tools and equipment	X	X	X	X	X	X
		Ensure healthful working conditions	X	X	X	X	X	X
		Practice environmental conservation and safety	X	X	X	X	X	X
<b>Leadership and Teamwork:</b>	<b>11%</b>		X	X	X	X	X	X
<b>Enhance work outcomes through leadership, management, and teamwork</b>		Demonstrate leadership skills	X	X	X	X	X	X
		Organize work	X	X	X	X	X	X
		Apply management techniques	X	X	X	X	X	X
		Demonstrate group process techniques	X	X	X	X	X	X

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		Perform work tasks in a team	X	X	X	X	X	X
<b>Ethics and/or Legal Responsibilities:</b>	<b>6%</b>		X	X	X	X	X	X
<b>Practice professional, ethical, and legal behavior consistent with workplace standards</b>		Apply professional and ethical standards to workplace conduct	X	X	X	X	X	X
		Adhere to established laws, policies, and procedures	X	X	X	X	X	X
<b>Employability and/or Career Development:</b>	<b>14%</b>		X	X	X	X	X	X
<b>Progress on a purposeful career path through application of employability skills</b>		Develop a career plan	X	X	X	X	X	X
		Seek employment	X	X	X	X	X	X
		Apply for employment	X	X	X	X	X	X
		Evaluate job offers	X	X	X	X	X	X
		Demonstrate employability skills needed to keep a job	X	X	X	X	X	X
		Demonstrate personal qualities appropriate to the work environment	X	X	X	X	X	X
		Assess alternative occupational opportunities (e.g., working conditions, benefits, and opportunities for change)	X	X	X	X	X	X

**\*Note:** Workplace Readiness skill sets should be integrated throughout the IT 1450 Information Management Program of Study as individual course skill sets are delivered.

STANDARD	SKILL SET/COMPETENCY	Must select four courses:					
		1411 Bus Comp App Word/PowerPoint	1413 Bus Comp App Excel/Access	1429 Desktop Publishing	1431 Digital Imaging I	1432 Digital Imaging II	1455 Webpage Publishing
<a href="#"><u>MICROSOFT WORD - EXAM 77-725</u></a>							
<b>Create and Manage Documents</b>	Create a Document	X					
	Navigate Through a Document	X					
	Format a Document	X					
	Customize Options and Views for Documents	X					
	Print and Save Documents	X					
<b>Format Text, Paragraphs, and Sections</b>	Insert Text and Paragraphs	X					
	Format Text and Paragraphs	X					
	Order and Group Text and Paragraphs	X					
<b>Create Tables and Lists</b>	Create a Table	X					
	Modify a Table	X					
	Create and Modify a List	X					
<b>Create and Manage References</b>	Create and Manage Reference Markers	X					
	Create and Manage Simple References	X					
<b>Insert and Format Graphic Elements</b>	Insert Graphic Elements	X					
	Format Graphic Elements	X					
	Insert and Format SmartArt Graphics	X					

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<a href="#"><u>MICROSOFT WORD EXPERT - EXAM 77-726</u></a>							
<b>Manage Document Options and Settings</b>	Manage Documents and Templates	X					
	Prepare Documents for Review	X					
	Manage Document Changes	X					
<b>Design Advanced Documents</b>	Perform Advanced Editing and Formatting	X					
	Create Styles	X					
<b>Create Advanced References</b>	Create and Manage Indexes	X					
	Create and Manage References	X					
	Manage Forms, Fields, and Mail Merge Operations	X					
<b>Create Custom Word Elements</b>	Create and Modify Building Blocks, Macros, and Controls	X					
	Create Custom Style Sets and Templates	X					
	Prepare a document for Internationalization and Accessibility	X					

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<b><u>MICROSOFT POWERPOINT - EXAM 77-729</u></b>							
<b>Create and Manage Presentations</b>	Create a Presentation	X					
	Insert and Format Slides	X					
	Modify Slides, Handouts, and Notes	X					
	Order and Group Slides	X					
	Change Presentation Options and Views	X					
	Configure a Presentation for Print	X					
	Configure and Present a Slide Show	X					
<b>Insert and Format Text, Shapes, and Images</b>	Insert and Format Text	X					
	Insert and Format Shapes and Text Boxes	X					
	Insert and Format Images	X					
	Order and Group Objects	X					
<b>Insert Tables, Charts, SmartArt, and Media</b>	Insert and Format Tables	X					
	Insert and Format Charts	X					
	Insert and Format SmartArt graphics	X					
	Insert and Manage Media	X					
<b>Apply Transitions And Animations</b>	Apply Slide Transitions	X					
	Animate Slide Content	X					
	Set Timing for Transitions and Animations	X					
<b>Manage Multiple Presentations</b>	Merge Content from Multiple Presentations	X					
	Finalize Presentations	X					

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<a href="#"><u>MICROSOFT EXCEL - EXAM 77-727</u></a>							
<b>Create and Manage Worksheets and Workbooks</b>	Create Worksheets and Workbooks		X				
	Navigate in Worksheets and Workbooks		X				
	Format Worksheets and Workbooks		X				
	Customize Options and Views for Worksheets and Workbooks		X				
	Configure Worksheets and Workbooks for Distribution		X				
<b>Manage Data Cells and Ranges</b>	Insert Data in Cells and Ranges		X				
	Format Cells and Ranges		X				
	Summarize and Organize Data		X				
<b>Create Tables</b>	Create and Manage Tables		X				
	Manage Table Styles and Options		X				
	Filter and Sort a Table		X				
<b>Perform Operations with Formulas and Functions</b>	Summarize Data by using Functions		X				
	Perform Conditional Operations by using Functions		X				
	Format and Modify Text by using Functions		X				
<b>Create Charts and Objects</b>	Create Charts		X				
	Format Charts		X				
	Insert and Format Objects		X				

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<b>MICROSOFT EXCEL EXPERT - EXAM 77-728</b>							
<b>Manage Workbook Options and Settings</b>	Manage Workbooks		X				
	Manage Workbook Review		X				
<b>Apply Custom Data Formats and Layouts</b>	Apply Custom Data Formats and Validation		X				
	Apply Advanced Conditional Formatting and Filtering		X				
	Create and Modify Custom Workbook Elements		X				
	Prepare a Workbook for Internationalization		X				
<b>Create Advanced Formulas</b>	Apply Functions in Formulas		X				
	Look up data by using Functions		X				
	Apply Advanced Date and Time Functions		X				
	Perform Data Analysis and Business Intelligence		X				
	Troubleshoot Formulas		X				
	Define Named Ranges and Objects		X				
<b>Create Advanced Charts and Tables</b>	Create Advanced Charts		X				
	Create and Manage PivotTables		X				
	Create and Manage Pivot Charts		X				



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<a href="#"><u>MICROSOFT ACCESS - EXAM 77-730</u></a>							
<b>Create and Manage a Database</b>	Create and Modify Databases		X				
	Manage Relationships and Keys		X				
	Navigate through a Database		X				
	Protect and Maintain Databases		X				
	Print and Export Data		X				
<b>Build Tables</b>	Create Tables		X				
	Manage Tables		X				
	Manage Records in Tables		X				
	Create and Modify Fields		X				
<b>Create Queries</b>	Create a Query		X				
	Modify a Query		X				
	Create Calculated Fields and Grouping within Queries		X				
<b>Create Forms</b>	Create a Form		X				
	Configure Form Controls		X				
	Format a Form		X				
<b>Create Reports</b>	Create a Report		X				
	Configure Report Controls		X				
	Format a Report		X				

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		1411 BCAI	1413 BCAII	1429 DTP	1431 DI I	1432 DI II	1455 WP	
<b>DESKTOP PUBLISHING</b>								
<b>Design techniques, tools, technical plans, and drawings</b>	Demonstrate knowledge of standard copyright rules.			X				
	Comply with software licensing agreements associated with desktop publishing.			X				
	Create designs, concepts and sample layouts based on knowledge of layout principles and esthetic design concepts.			X				
	Position text and art elements from a variety of databases in a visually appealing way to design print or web pages, using knowledge of type styles and size and layout patterns.			X				
	Determine size and arrangement of illustrative material, copy and select style and size of type.			X				
	Study layout or other design instructions to determine work to be done and sequence of operations.			X				
	Select number of colors and determine color separations.			X				
	Edit graphics and photos using pixel or bitmap editing, airbrushing, masking or image retouching.			X				
	Develop graphics and layouts for product illustrations, company logos and Internet websites.			X				
	Enter data, such as coordinates of images and color specifications, into system to retouch and make color corrections.			X				
	Mark up, paste and assemble final layouts to prepare layouts for printer.			X				
	<b>Media productions and desktop publishing communications</b>	Draw and print charts, graphs, illustrations and other artwork, using computer.			X			
		Identify the purpose, audience and audience needs for preparing image(s) and video(s).			X			
Confer with clients to discuss and determine layout design.				X				
Collaborate with graphic artists, editors and writers to produce master copies according to design specifications.				X				
Review final layouts and suggest improvements as needed.				X				
Check preliminary and final proofs for errors and make necessary corrections.				X				
<b>Desktop publishing applications and camera-ready photos</b>	Prepare illustrations or rough sketches of material, discussing them with clients or supervisors and making necessary changes.			X				
	Key information into computer equipment to create layouts for client or supervisor.			X				
	Operate desktop publishing software and equipment to design, lay out and produce camera-ready copy.			X				

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		1411 BCAI	1413 BCAII	1429 DTP	1431 DI I	1432 DI II	1455 WP
	Enter text into computer keyboard and select the size and style of type, column width and appropriate spacing for printed materials.			X			
	Convert various types of files for printing or for the Internet, using computer software.			X			
	Transmit, deliver or mail publication master to printer for production into film and plates.			X			
	Enter digitized data into electronic prepress system computer memory, using scanner, camera, keyboard or mouse.			X			
	View monitors for visual representation of work in progress and for instructions and feedback throughout process, making modifications as necessary.			X			
	Import text and art elements such as electronic clip-art or electronic files from photographs that have been scanned or produced with a digital camera, using computer software.			X			
	Prepare sample layouts for approval, using computer software.			X			
	Use computer software to generate new images.			X			
	Maintain archive of images, photos or previous work products.			X			

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<b>DIGITAL IMAGING I</b>							
<b>Current copyright, creative commons, and fair use laws</b>	Define the various types of create commons licenses				X		
	Describe the purpose of copyright, creative commons, public domain, etc.				X		
	Adhere to copyright and creative commons laws				X		
	Locate digital images and multimedia published under various copyright and creative commons licenses				X		
<b>Digital Safety</b>	Maintain digital safety, including personal and computer safety				X		
<b>Digital Media Communication</b>	Identify the purpose, audience and audience needs for preparing image(s).				X		
	Communicate with others (such as peers and clients) about design plans.				X		
	Describe how the design plans are meeting the purpose, and target audience needs				X		
<b>Software applications, design tools, and techniques in Digital Imaging</b>	Utilize multiple platforms for creating and enhancing digital images				X		
	Apply layout and design principles.				X		
	Create layouts for ease of readability and attractiveness.				X		
	Take pictures using various features on a digital camera.				X		
	Transfer images from a camera to computers or other electronic equipment.				X		
	Utilize filters, tools, and features within digital imaging software application to enhance photographs				X		
	Produce images using layers and layer styles.				X		
	Demonstrate application of typography.				X		
	Import, export, organize and save images.				X		
	Choose correct file format for each project.				X		
	Differentiate between common image file types: jpeg, gif, bmp, png				X		
	Describe software specific image file types				X		
	Use guides and rulers.				X		

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		1411 BCAI	1413 BCAII	1429 DTP	1431 DI I	1432 DI II	1455 WP
	Demonstrate application of drawings and paintings.				X		
	Incorporate color techniques, including gradient, grayscale, opacity, blending, etc.				X		
	Utilize paths to modify objects, shapes, and text				X		
	Design a digital imaging/multimedia project.				X		
<b>Media Production Communications</b>	Create graphics for business professional use: logos, letterheads, business cards, brochures, posters, billboards, cards, etc.				X		
	Create basic designs, drawings and illustrations for multimedia use in commercials, animations, advertisements, infographics, etc.				X		
	Keep abreast of new imaging software and hardware technologies, and industry trends by reviewing current literature, talking with others, participating in educational programs, or participating in professional organizations, workshops or conferences				X		
	Utilize multiple platforms for creating and enhancing digital multimedia projects				X		
	Apply layout and design principles for attractiveness and readability				X		
	Transfer video from a camera to computers or other electronic equipment.				X		
	Use digital video software to cut, edit, apply effects, add titles and transitions to video clips.				X		
	Create animations utilizing frames and keyframes on a timeline				X		
	Create an animated walk cycle				X		
	Integrate original audio digital elements (voice/sound clips, music) into a project.				X		
	Integrate audio digital elements (voice/sound clips, music) from the web into a project.				X		
	Enhance a voice/sound clip with lip sync				X		
	Utilize tweening and symbols				X		
	Describe publication procedures				X		
	Keep abreast of new multimedia software and hardware technologies, and industry trends by reviewing current literature, talking with others, participating in educational programs, or participating in professional organizations, workshops or conferences				X		

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		1411 BCAI	1413 BCAII	1429 DTP	1431 DI I	1432 DI II	1455 WP
<b>DIGITAL IMAGING II</b>							
<b>Advanced Multimedia Design: Design Techniques, Tools, Technical Plans, and Drawings</b>	Comply with software licensing agreements associated with multimedia presentations.					X	
	Demonstrate knowledge of standard copyright rules for images and image use.					X	
	Demonstrate application of image resolution, image size and image file format for web, video and print.					X	
	Create two-dimensional and three-dimensional images depicting objects in motion or illustrating a process, using computer animation or modeling programs.					X	
	Design complex graphics and animation, using independent judgment, creativity and computer equipment.					X	
	Make objects or characters appear lifelike by manipulating light, color, texture, shadow and transparency, or manipulating static images to give the illusion of motion.					X	
	Work with selections and measurements.					X	
	Apply layers and masks.					X	
	Apply story development, directing, cinematography and editing to animation to create storyboards that show the flow of the animation and map out key scenes and characters.					X	
	Develop briefings, brochures, multimedia presentations, web pages, promotional products, technical illustrations and computer artwork for use in products, technical manuals, literature, newsletters and slide shows.					X	
	Script, plan and create animated narrative sequences under tight deadlines, using computer software and hand drawing techniques.					X	
	Produce an electronic portfolio.					X	
	Assemble, typeset, scan and produce digital camera-ready art.					X	

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<b>Advanced Multimedia Communications: Audience, audience needs, and media production</b>	Identify the purpose, audience and audience needs for preparing image(s).					X	
	Participate in design and production of multimedia campaigns, handling budgeting and scheduling and assisting with such responsibilities as production coordination, background design and progress tracking.					X	
	Communicate with others (such as peers and clients) about design plans.					X	
	Prepare images for web, print and video.					X	

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<b>WEBPAGE PUBLISHING</b>							
Coding Procedures and Commands to develop Web pages	Use flowcharts, storyboards, wireframes, site maps, and color logs to plan web pages						X
	Write, design, and edit web page content						X
	Utilize HTML to define the content of a web page						X
	Utilize CSS to define the layout of a web page						X
	Utilize Javascript to define the behavior of a web page						X
	Code a fully functional website including multiple web pages from a blank document						X
	Insert text onto a web page						X
	Insert hyperlinks to external pages						X
	Insert hyperlinks to internal pages						X
	Insert a data table						X
	Define properties of the data table using coding languages						X
	Add tooltips and alternate text onto images						X
	Insert multimedia including videos, sound clips, and animation onto web page						X
	Insert bulleted and numbered lists						X
	Differentiate between relative and absolute links						X
	Link web pages together to form website						X
	Link HTML page to Javascript and CSS documents						X
	Evaluate code to ensure that it is valid and is properly structured						X
	Utilize web page development software programs to design web page content and features						X
	Utilize web page development software programs to publish live web pages						X
Backend Webpage Setup and Maintenance	Run test routines and schedules to ensure that web site is supported on external interfaces and all browser and device types.						X
	Review or update web page content or links in a timely manner, using appropriate tools.						X



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	Develop databases that support web applications and web sites.						X
	Utilize a server to host web pages on internal LAN						X
	Explore domain registrations						X
Web Page Development Principals, Procedures, and Best Practices	Comply with current copyright, creative commons, fair use and patent laws.						X
	Describe web page publishing best practices concerning layout, delivery of content, and functional behaviors of a web page						X
	Make website development decisions based on analysis and interpretation of design specifications						X
	Incorporate technical considerations into web site design plans, such as budgets, equipment, performance requirements, or legal issues including accessibility and privacy						X
Aesthetics and Usability of the Web Page GUI	Analyze user needs (client and audience end) to determine design specifications						X
	Analyze, critique, and evaluate existing web pages for design principals, attractiveness, usability, and functionality						X
	Maintain understanding of current web technologies or programming practices through continuing education, reading or participation in professional conferences, workshops or groups.						X
Evolution of the Internet and Web Sites	Describe the history of the Internet						X
	Identify the creator of the Internet						X
	Explain the purpose of the Internet						X
	Demonstrate how the Internet and Web Pages have evolved as technology (software and hardware) have advanced						X
World Wide Web Consortium	Describe the purpose of the World Wide Web Consortium						X
	Identify World Wide Web Consortium resources						X