Missouri
DEPARTMENT OF ELEMENTARY & SECONDARY
EDUCATION™

Information Technology Sequence 5

Code: 8145

MISSOURI INFORMATION TECHNOLOGY
SEQUENCE 5
Test Code: 8145
Version: 01

Computer Applications 25%
Desktop Publishing 25%
Multimedia 25%
Web Design 25%

Specific competencies and skills tested in this assessment:

Computer Applications

Execute Basic Computer Operations
Manage and transfer files
Identify file formats and extensions
Perform basic troubleshooting and maintenance
Identify hardware and software specifications to purchase a computer (e.g., RAM, processor, hard drive, software, and price)
Save files to various storage devices (e.g., CDs, USB, hard drive, DVD)
Determine appropriate software applications for tasks

Construct Business Documents using Word Processing Applications
Create and format business documents (e.g., letters, memos, outlines, newsletters, and reports)
Set printer specifications
Proofread and edit documents
Manipulate the features of word processing software to enhance documents (e.g., headers, footers, tabs)
Create and format tables
Insert and manipulate graphics
Create documents using templates
Prepare envelopes and labels
Illustrate the use of enhancement features (e.g., borders, lines, shading, bold, bullets)
Demonstrate use of automatic features (e.g., AutoCorrect, spell-check, and thesaurus)

Construct Business Documents using Spreadsheet Applications

Create, design, and edit spreadsheets
Create basic formulas with addition, subtraction, multiplication, and division
Format cell, column, and row contents (e.g., font, color, alignment, shading, decimal)
Format columns and rows
Use basic functions/formulas (e.g., auto sum, average, IF)
Create, format, and edit charts and graphs
Set print specifications for formulas, graphs, worksheets
Use relative and absolute cell references

Construct Business Documents using Database Applications

Create and manipulate a database
Distinguish between different field types (e.g., text, numeric)

Construct Business Documents using Presentation Applications

Create, format, and edit presentations
Enhance presentations (e.g., sound, animation, graphics, transitions, and video)
Set print specifications for outline, slides, handouts, etc.
Utilize proper presentation etiquette (e.g., number of bullets, lines, words, and notes)
Integrate input from various software applications

Explore the Internet and Online Classroom Portals

Demonstrate principal usages of online communication (e.g., upload, download, attaching files)
Identify copyright principles (e.g., public domain, copy protection, licensing)

Desktop Publishing

Discuss Foundational Concepts

Identify and apply tools and palettes.
Explain copyright issues related to graphic arts/desktop publishing (e.g., legal, ethical)
Demonstrate sensitivity to bias (e.g., culture, gender, age)
Plan a preliminary layout for a publication using manual or digital tools
Develop a work schedule to meet deadlines
Use correct grammar, punctuation, and spelling

Perform Publication Layout

Set appropriate page layout options (margins, columns, double-sided, facing pages, page
    numbering)

Demonstrate Typography Concepts
Compose text (e.g., headings, captions, body text)
Import text files and other word processing documents into publications
Explain the usage of font types (e.g., serif, sans serif, decorative)
Manipulate text features and formats (e.g., wordwrap, hyphenations, drop cap, color, gradient, text path)

Manage Images Appropriately
Create images
Determine appropriate image file formats (e.g., bmp, tiff, jpeg, gif, pict, eps)

Demonstrate Design Concepts
Plan the proper use of white space
Apply the proper use of color
Create an effective focal point (e.g., primary, secondary)
Create appropriate headlines
Position captions
Apply design principles (e.g., movement, balance, symmetry)
Apply layering techniques in publications
Match the design to the appropriate audience

Create Business Promotional Materials
Create a flyer and advertisement
Create stationery sets (e.g., labels, business cards, notepads, invoices, letterhead)
Create multi-page, multi-column documents (e.g., newsletters, magazines, menus, programs)
Create brochures (single/multiple)
Create promotional items (e.g., CD covers, T-shirts, bumper stickers)

Perform Print Process
Use print preview or WYSIWYG layout before printing
Select an appropriate printer and printer attributes (e.g., duplexing, tray size, paper size)
Convert desktop publication to format for exporting/Web posting (e.g., PDF, HTML)

Develop a Portfolio
Explain ways portfolios can be used

Multimedia

Apply Foundational Concepts
Utilize hardware to manipulate various types of media (e.g., cameras, microphones, graphic tablets)
Use organizational skills to plan multimedia products (e.g., storyboarding, outlining, scripting, task delegation)
Create text using typography principles

Manage Media Files
Develop electronic file management systems (project folders, file naming)
Convert files to various formats (e.g., .flv to .avi, .mov to .wmv, .psd to .jpg)

Manage Images
Acquire and import images from a variety of sources (e.g., scanners, cameras, phones)
Apply appropriate image mode for intended application (e.g., convert RGB, CMYK, grayscale)
Compose images using layers and selections
Edit images (e.g., color, filter, tint, contrast, brightness)
Manipulate images (e.g., mask, resize, crop, scale, group/ungroup, zoom, and pan)
Create original artwork using illustrative software

Create Audio Files
Compare and contrast audio formats common size and quality (mp3, .wav, midi)
Rip and import audio from a variety of sources (e.g., CD/DVD, video, Internet)
Create original audio (e.g., voice, instrument)
Mix audio (e.g., layering, trimming, level adjustments)
Apply effects to audio (e.g., noise reduction, amplify, echo)
Apply editing techniques

Create Animations
Create frame-by-frame animations
Apply motion and shape tweens
Modify bitmaps (trace bitmap, convert to symbol)
Use layers and object modification techniques (e.g., transform, alpha transparency, filters)
Add interactivity to animations with buttons, menus, and scripting

Create Video Files
Develop pre-production documents (e.g., storyboard, shot list)
Apply basic filming techniques (e.g., camera angles, camera movement, lighting, sound)
Access, capture, and import a variety of file sources converting file types, if necessary (e.g., audio, video, graphics)
Arrange video clips, audio clips, titles, and still images on timeline
Manipulate clips (e.g., link/unlink, adjust transparency, set properties, trim, adjust speed/duration)
Synchronize audio with video

Create and Deliver Electronic Presentations
Identify components of effective electronic presentations
Import files into a presentation (e.g., text, images, audio, video)
Apply advanced editing techniques (e.g., build, effects, timing, animation, transitions)

Create and Utilize Emerging Technologies
Utilize and create collaborative electronic tools (e.g., wikis, blogs, forums)
Utilize web-based technologies to publish media (e.g., screencasts, podcasts, vodcasts, itunes)

Develop Workplace Readiness Skills
Compare copyright and patent laws for multiple media between educational and workplace
    settings (e.g., video, text, sound, pictures)
Identify career/self-employment opportunities in multimedia production

Web Design

Apply Introductory Principles
Explain how resolution affects Web page creation

Design an Effective Website
Define Web page design principles and elements
Evaluate Websites based on design elements and principles (e.g., alignment, color, navigation,
    user feedback)
Plan an organized layout
Select an appropriate navigational structure
Use Web-safe colors and fonts
Employ proofreading and editing techniques
Apply Web accessibility standards

Demonstrate Image Creation and Manipulation Skills
Recognize the different image types and their extensions (e.g., gif, jpg)
Use layering techniques in image editing program to better manage images (e.g., ordering,
    arranging, naming)
Optimize an image to improve load time

Demonstrate Page Creation Skills
Use Web authoring software to create Web pages
Identify and apply HTML tags and attributes for basic Web page design (e.g., title, metadata,
    table, link)
Create and use a template

Apply Effective Web Page Management Techniques
Organize all content files into folder management
Create meta tags to be utilized by a variety of search engines
Apply copyright laws in all Web-related projects

Use Advanced Web Creation Techniques
Create interactive design elements (e.g., rollover, swap image, slideshow)
Use Cascading Style Sheets (CSS) to control page elements (e.g., external, internal, inline)

Written Assessment:

Administration Time: 3 hours
Number of Questions: 152

Areas covered:

25%	Computer Applications
25%	Desktop Publishing
25%	Multimedia
25%	Web Design

Sample Questions:

To navigate to the next cell horizontally and then vertically in a word processing table, press the
_____ key.
   A.   tab
   B.   enter
   C.   alt
   D.   command

Which of the following fields would be considered a text data type?
   A.   (231) 555-1212
   B. $137.89
   C.   3/2/2013
   D.   24

Converting information from one program to another is called
   A.   importing
   B.   exporting
   C.   copying and pasting
   D.   cutting and pasting

A tilt is a motion of the camera head which moves it
   A.   left and right
   B.   up and down
   C.   in and out
   D.   side to side

Two types of hyperlinks are
   A.   internal and external
   B.   inside and outside
   C.   primary and secondary
   D.   private and public