

Technology Competencies

(August 2004)

Fifteen Competency Areas

Competency 1 -Basic Computer Operations
Competency 2 -Printing
Competency 3 -Maintenance and Troubleshooting
Competency 4 -Word Processing/Desktop Publishing
Competency 5 -Spreadsheet/Graphing Competency 6 -Database
Competency 7 -Networking
Competency 8 -Telecommunications
Competency 9 -E-Mail
Competency 10 -Web Browsing
Competency 11 -Online Research
Competency 12- Audio/Visual Media Communications
Competency 13 -Electronic Presentations and Web Sites
Competency 14- Multimedia Resources
Competency 15- Social, Legal, and Ethical Issues

Four Sets of Skills

Core Skills
Advanced Skills
Skills for Instructors and Teaching Assistants
Skills for Web Masters

All personnel will demonstrate the Core Skills and Advanced Skills in each competency area.

Competency 1 - Basic Computer Operations

Demonstrate these skills:

Core Skills

- c 1.1 Start up a computer and related equipment (printer, scanner, etc)
- c 1.2 Shut down and Restart the computer; use Standby, if available; know when to use each choice
- c 1.3 Use a mouse: point, click, double-click, drag and drop; right-click and left-click; use wheel, if available
- c 1.4 Insert and eject/remove diskettes, CD-ROMs, and other media or mass storage devices (such as flash drives, etc)
- c 1.5 Initialize disks, drives and other media; name/re-name
- c 1.6 Know/Determine storage capacity of floppy/hard disks, CD-ROM's, and other media or mass storage devices (such as flash drives, etc)
- c 1.7 Identify and use icons and menus: click and double-click on icons; use pull-down menus; use pop-up menus; move an icon
- c 1.8 Identify and use windows: select, open, and move a window; resize a window; scroll in a window; activate and de-activate a window
- c 1.9 Create and name folders
- c 1.10 Start an application and create a new document
- c 1.11 Open and move among more than one application at a time

Advanced Skills

- a 1.1 Share folders with others
- a 1.2 Use special operating features for people with disabilities
- a 1.3 Identify adaptive/assistive hardware and software for people with special needs
- a 1.4 Understand the differences between various file formats and extensions
- a 1.5 Save files to compensate for software version compatibility issues or to use in other programs
- a 1.6 Identify file attributes such as read only, hidden, etc
- a 1.7 Install an application
- a 1.8 Identify similarities/differences and advantages/disadvantages of various operating systems
- a 1.9 Exchange disks and files between Macintosh and Windows computers
- a 1.10 Make more memory available
- a 1.11 Install/reinstall and update system software and printer drivers
- a 1.12 Use terms such as *graphical user interface, document, application, K (kilobyte), hierarchical file system, directory, operation system, system software, RAM* correctly
- a 1.13 Use technology terminology appropriate to the task
- a 1.14 Transfer skills and knowledge to new technology equipment and applications
- a 1.15 Use non-computer technologies (e.g., graphing calculators, probes, etc) when appropriate

Competency 2 - Printing

Demonstrate these skills:

Core Skills

- c 2.1 Setup and operate printer
- c 2.2 Choose printer (use default printer, select printer on network, if available)
- c 2.3 Use printing options (print preview, portrait/landscape, multiple copies, etc)
- c 2.4 Load paper, letterhead, envelopes in printer

Advanced Skills

- a 2.1 Change printer cartridge

Competency 3 - Maintenance and Troubleshooting

Demonstrate these skills:

Core Skills

- c 3.1 Protect and care for floppy disks, CD-ROMs and other media
- c 3.2 Clean computer components (screen, keyboard, mouse, etc)
- c 3.3 Create and maintain backup copies of key documents

- c 3.4 Perform basic scheduled maintenance, including operating system updates, cleaning of temporary files, etc
- c 3.5 Protect against viruses; schedule regular updates and manually update
- c 3.6 Scan for viruses on drives, floppy disks, and other media
- c 3.7 Perform basic troubleshooting techniques: check cables; quit and restart the program; restart the computer, etc
- c 3.8 Identify local resources for technical assistance
- c 3.9 Be able to complete an online Work Order for reporting problems and requesting installation of software

Advanced Skills

- a 3.1 Identify proper operating environments for computers
- a 3.2 Install an upgrade for an application
- a 3.3 Use self-help resources to diagnose and correct common hardware/printing problems

Competency 4 - Word Processing/Desktop Publishing

Demonstrate these skills:

Core Skills

- c 4.1 Enter and edit text and use the following functions: clipboard, cut, copy, paste, delete, and insert
- c 4.2 Insert and delete text; select and type over text
- c 4.3 Copy and move blocks of text
- c 4.4 Change text format and styles, margin, line spacing, tabs etc.
- c 4.5 Use the bulleting and numbering features
- c 4.6 Use word processing utilities: Spell checker, Thesaurus, Dictionary
- c 4.7 Create a header or footer
- c 4.8 Insert date, time, page number
- c 4.9 Insert and edit a table; add a variety of information to the cells; add/delete rows and columns; resize columns
- c 4.10 Add clip art and other graphic images to the document
- c 4.11 Use terms such as *curser, format, font, style, header, spell checker* correctly

Advanced Skills

- a 4.1 View and hide various toolbars as appropriate; park toolbar within window
- a 4.2 Add columns to a document
- a 4.3 Produce print-based products (e.g., newsletters, brochures, posters, books) using the following desktop publishing features:

- a 4.3.a *Layout*: multiple-columns, horizontal and vertical guides, column guides and rulers, master page.
- a 4.3.b *Text*: format text, rotate text, use auto page number, use custom text wrap, create banner text, table of contents, apply styles, format tabs and indents
- a 4.3.c *Graphics*: resize and position objects; proportionally scale objects; create, place, format, and position graphic elements

Competency 5 - Spreadsheet/Graphing

Demonstrate these skills:

Core Skills

- c 5.1 Interpret and communicate information in an existing spreadsheet
- c 5.2 Enter data in an existing spreadsheet: enter text and numeric entries in cells; use the entry bar
- c 5.3 Print a spreadsheet; print only selected parts
- c 5.4 Manipulate data within an existing spreadsheet in order to solve a problem
- c 5.5 Create a spreadsheet with rows, columns, headings
- c 5.6 Understand and be able to create the three basic types of cells (label, value, and formula)
- c 5.7 Create/Copy formulas and functions to perform calculations
- c 5.8 Insert a spreadsheet into a word processing document

Advanced Skills

- a 5.1 Format a cell or range of cells for the following: currency, date, time, percentage, fixed decimal
- a 5.2 Create a formula using functions (SUM and AVERAGE) and a range of cells; be aware of other functions available, such as look up tables; create a formula using a formula indicator symbol, cell references, and operations symbols (+-*/); understand order of operations as it relates to writing a spreadsheet formula
- a 5.3 Copy values using fill down and fill across; be aware of relative and absolute value as it relates to copying formulas
- a 5.4 Change the appearance of a spreadsheet by inserting columns and rows, and by using other options such as width/height, gridlines, headers/footers, labels, freeze/split cells, and change borders and shading; protect cells.
- a 5.5 Sort data in the spreadsheet
- a 5.6 Create a graph from spreadsheet data
- a 5.7 Know the three basic types of graphs (bar, pie, line) and their uses
- a 5.8 Using a previously created graph, select a range of data and choose the appropriate graph
- a 5.9 Change and refine a graph's appearance to include headers, legend, labels, series, axes, color, etc
- a 5.10 Print a graph
- a 5.11 Use terms such as *spreadsheet, cell, data entry bar, formula, function* correctly

Competency 6 - Database

Demonstrate these skills:

Core Skills

- c 6.1 Use information from an existing database; search a dataset for specific information
- c 6.2 Enter data, add a record, and delete a record from an existing database
- c 6.3 Sort a database by specific fields; search for desired information given 1 criterion and given 2 criteria (using "and", "or", or "not" connectors)
- c 6.4 Insert database fields into word processing document

Advanced Skills

- a 6.1 Use sorting and searching techniques to solve a specific problem
- a 6.2 Create a database with multiple fields and records
- a 6.3 Create custom layouts: include columnar reports utilizing various word processing skills (including fonts, size, style, alignment, and borders), include headers and footers, match an existing form
- a 6.4 Create a report; create a report with calculated summaries
- a 6.5 Print a database: individual records and/or forms, multiple records, and customized report
- a 6.6 Print a merged word processing/database document
- a 6.7 Use terms such as *database, field, record, layout, sort/arrange, search/select/filter, mail merge* correctly

Competency 7 - Networking

Demonstrate these skills:

Core Skills

- c 7.1 Determine your network Username from the University VIP system
- c 7.2 Reset your University network password

Advanced Skills

- a 7.1 Use a file server (connect/log on, retrieve a program or document, save a document to a specified location, and disconnect/log off)
- a 7.2 Share files with others on a network
- a 7.3 Use terms such as *local area network, wide area network, access rights, security passwords, file server, zone* correctly
- a 7.4 Select/de-select a network zone

Competency 8 - Telecommunications

Demonstrate these skills:

Core Skills

- c 8.1 Connect to the Internet or an on-line service with a user ID and password

Advanced Skills

- a 8.1 Identify how to obtain and maintain an account on the Internet or an on-line service that provides Internet access
- a 8.2 Use FTP to send or retrieve files from remote computers
- a 8.3 Be aware of local Internet Service Providers available for Internet connection outside the University
- a 8.4 Use terms such as *telecommunications*, *direct access*, *dial-in access*, *modem*, *baud rate*, *Internet*, *World Wide Web*, *telnet* correctly

Skills for Instructors and Teaching Assistants

- t 8.1 Effectively use distance learning, desktop video conferencing, and tele-teaching technologies

Competency 9 - E-Mail

Demonstrate these skills:

Core Skills

- c 9.1 Use e-mail: compose, send, retrieve, read, reply to, forward, save, print, and delete messages
- c 9.2 Upload a text file and send as electronic mail attachment
- c 9.3 Use the address book: add contacts to your Frequent Contacts list, find contacts in the USC address book and in your contacts
- c 9.4 Create and use group addresses
- c 9.5 Add and delete folders; move messages to appropriate folders
- c 9.6 Use WebAccess to access your GroupWise account via the web

Advanced Skills

- a 9.1 Archive messages
- a 9.2 Add a signature
- a 9.3 Set vacation rule
- a 9.4 Proxy to another user's account; grant proxy rights to your account, if appropriate
- a 9.5 Practice appropriate netiquette

Skills for Instructors and Teaching Assistants

- t 9.1 Be aware of specialized e-maillists (listservs) relevant to professional information needs; be able to subscribe/unsubscribe and submit a message

Competency 10 - Web Browsing

Demonstrate these skills:

Core Skills

- c 10.1 Access and use resources on the Internet and World Wide Web using a web browser
- c 10.2 Use a web browser to access a specific web site and to perform a specific web search

- c 10.3 Know the URL of the University, College of Education, and your department or office; be able to find information on these sites
- c 10.4 Locate and use forms from the USC e-forms site
- c 10.5 Use a web browser to perform a keyword search for specific information
- c 10.6 Create, delete, organize, use, and save favorites/bookmarks
- c 10.7 Change the web page you will use as the home page in your browser
- c 10.8 Download information from the World Wide Web
- c 10.9 Copy or save images from a web page
- c 10.10 Save a web page
- c 10.11 Comply with copyright and educational fair use policies for using any images or content you save

Advanced Skills

- a 10.1 Set up a web browser with personal preferences
- a 10.2 Identify on-line conferences, discussion boards, newsgroups, and other online areas of information relevant to your professional information needs
- a 10.3 Use of Telnet to connect to a remote computer on the Internet; connect to county or university library
- a 10.4 Put basic information into a Blackboard class web site (add a welcome announcement, post syllabus, and allow guest access)

Skills for Instructors and Teaching Assistants

- t 10.1 Identify on-line conferences, discussion boards, newsgroups, and other online areas of information relevant to your professional information needs
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Competency 11 - Online Research

Demonstrate these skills:

Core Skills

- c 11.1 Use the online University library system: including USCAN, DISCUS, other online databases, and electronic encyclopedias
- c 11.2 Search for a specific book or journal by title
- c 11.3 Search for materials using keywords
- c 11.4 Identify and use primary sources of information
- c 11.5 Choose the appropriate online research tool to use for the specific task
- c 11.6 Use appropriate bibliographic format for citations of electronic resources

Skills for Instructors and Teaching Assistants

- t 11.1 Implement an efficient and effective search strategy
- t 11.2 Evaluate the information for accuracy, credibility, relevancy, timeliness, cultural sensitivity, and appropriateness
- t 11.3 Compare sources for different viewpoints from Internet resources

Competency 12 - Audio/Video Media Communications

Demonstrate these skills:

Core Skills

- c 12.1 Set up and operate audiovisual equipment (videocassette or DVD recorder/player, etc) to a monitor/TV

Advanced Skills

- a 12.1 Understand role of media in effective communication
- a 12.2 Be able to identify characteristics, strengths, and weaknesses of different media
- a 12.3 Understand consumer issues, including identification/evaluation of available media and communication resources
- a 12.4 Use a file compression utility

Skills for Instructors and Teaching Assistants

- t 12.1 Connect a video projector to a computer for large screen display

Competency 13 - Electronic Presentations and Web Sites

Advanced Skills

- a 13.1 Select, use, and modify a template

Skills for Instructors and Teaching Assistants

- t 13.1 Design and create a linear multimedia or hypermedia presentation
- t 13.2 Design and create a non-linear multimedia or hypermedia presentation
- t 13.3 Create a presentation outline and use tools to modify/rearrange content
- t 13.4 Produce electronic slides in a presentation: define/edit color scheme; organize slides; insert appropriate transitions
- t 13.5 Use good design features
- t 13.6 Insert graphics, sounds, and or video
- t 13.7 Use appropriate navigation
- t 13.8 Add links to other slides within the presentation and to web resources
- t 13.9 Use terms linear, non-linear, multimedia and hypermedia correctly

Skills for Web Masters

- w 13.1 Use web authoring software or HTML to change an existing web page
- w 13.2 Use web authoring software or HTML, to create a new web page

Competency 14 - Multimedia Resources

Advanced Skills

- a 14.1 Use scanner to scan graphics
- a 14.2 Use scanner for Optical Character Reading (OCR)

Skills for Instructors and Teaching Assistants

- t 14.1 Identify sources of royalty-free multimedia resources (clip art, photographs, animations, audio clips, videos, etc); identify copyright permission for each resource used
- t 14.2 Download graphic images and other multimedia files
- t 14.3 Model legal and ethical use of multimedia resources
- t 14.4 Record sound from microphone; narrate slides
- t 14.5 Record sound from audiocassette player/recorder
- t 14.6 Edit a sound file
- t 14.7 Create simple animations
- t 14.8 Use painting and drawing tools
- t 14.9 Edit graphics: resize, crop, etc
- t 14.10 Use digital still camera
- t 14.11 Use camcorder
- t 14.12 Edit video from a camcorder
- t 14.13 Produce a video

Competency 15 - Social, Legal, and Ethical Issues

Demonstrate these skills:

Core Skills

- c 15.1 Comply with copyright and educational fair use policies for using all electronic material
- c 15.2 Comply with University rules, regulations, and guidelines
- c 15.3 Ensure equal access to media and technology resources for all users, including those with diverse backgrounds, characteristics, and abilities
- c 15.4 Select and apply appropriate technology resources to address cultural and language differences and affirm diversity
- c 15.5 Promote safe and healthy use of technology resources

- c 15.6 Obtain permission to use copyrighted materials; pay royalty fees, etc
- c 15.7 Understand social, legal, and ethical issues related to technology use, such as network security, Acceptable Use Policy, and personal responsibility
- c 15.8 Understand legal and ethical issues related to software licensing and the illegal copying of programs
- c 15.9 Establish policies and procedures that ensure compliance with copyright law, fair-use guidelines, security, and child protection
- c 15.10 Model and teach legal and ethical practice related to technology use.

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