

# ACAP

## Austin Competency Analysis Profile

### Graphic Arts Technology

---

#### Conducted

September 14, 2013

#### Validation Panel

Matthew Bickers, Head Photo Specialist

*Walgreens, Austin, TX*

Jeff Borchman, Owner

*Borchman.com, Austin, TX*

Tim Entress, Production Artist

*Austin, TX*

Mark Glannon, Freelancer

*Austin, TX*

Lorena Gonzalez, Graphic Designer

*NFP, Austin, TX*

Ellen Lazaretti, Graphic Designer

*Independent Insurance Agents of Texas, Austin, TX*

Ruby Pinon, Graphic Designer

*Granite Publication, Taylor, TX*

#### Facilitated by

Laura Lucas, Instructional Designer,

Instructional Development Services

*Austin Community College, Austin, Texas*

Jennifer Gray, Instructional Designer,

Instructional Development Services

*Austin Community College, Austin, Texas*

---

---

**For information regarding the ACAP process, contact:**

Austin Community College  
Instructional Resources and Technology  
Instructional Development Services

Eastview Campus

3401 Webberville Road  
Austin, Texas 78702

512.223.5230 <http://irt.austincc.edu/ids/curriculum/acap.html>

---

## What's Inside

---

Preface.....	i
Introduction.....	1
ACAP Process Overview.....	2
ACAP: User Experience Design	
Target Job Titles.....	3
Occupational Competencies.....	4
Employability Competencies.....	13
Glossary.....	24

# Preface

Austin Community College would like to express our sincere appreciation to our business, industry, labor, and community partners who donated their time and expertise toward the identification and validation of competencies in the following Austin Competency Analysis Profile.

# Introduction

The ACAP (Austin Competency Analysis Profile) initiative comes out of the Instructional Development Services of Instructional Resources and Technology at Austin Community College. This initiative is ACC's primary source for Competency-Based Curriculum development, providing a connection between our academic and workforce programs and the needs of business and industry.

The ACAP is a process for analyzing an occupation to develop curriculum. The product is a competency list, employability skills, and academic skill levels that have been developed and validated by subject matter experts who perform the occupation. This list will be used to develop programs that address the needs of business and industry by equipping current and aspiring supervisors with the entry skills required in a workplace environment.

# **A** CAP Process Overview .....

## ***What are Austin Competency Analysis Profiles (ACAPs)?***

Austin Competency Analysis Profiles (ACAPs) are competency lists for academic and workforce programs verified by expert workers, or Subject Matter Experts. These lists evolve from a well-established job analysis process involving business, industry, labor, and community agency representatives from throughout the Austin area.

## ***How is an Austin Competency Analysis Profile used?***

Each ACAP identifies the occupational and employability skills (or competencies) needed to enter a given occupation or occupational area. The ACAP not only lists the competencies but also clusters those competencies into broader units and details the knowledge, skills, and attitudes (competency builders) needed to perform each competency.

Educational institutions may add as many units, competencies, and/or competency builders as desired to reflect local employment needs, trends, and specialties. Local advisory committees are actively involved in the identification and verification of additional items. Faculty members formulate their courses of study using the varied contents of the ACAP. Faculty also monitor gains using many forms of assessment.

## ACAP: Graphic Arts Technology

Production Artist

Graphic Designer

Web Designer

Graphic/Web Designer

Front End Web Designer

Multimedia Designer

Visual Communication Designer

# Occupational Competencies

The following Occupational Competencies have been identified and verified by a panel of subject matter experts. This panel of experts has determined that these skills will adequately prepare students for *entry level* positions in this field. The *Competencies* are grouped into units. *Competency Builders* are included to help identify the knowledge, skills and attitudes students need to perform each competency. These *Competencies* and *Competency Builders* are designed to be the basis for curriculum development to ensure business and industry input that is relative and meaningful to the workplace. These *Competencies* are intended to include all basic, necessary skills for this occupational area, but may be supplemented with additional competencies as faculty and advisory committee members see the need to do so.

## **Key Terms:**

*Competency*—an observable and measurable behavior that has a definite beginning and end; can be performed within a limited amount of time; consists of two or more competency builders; and leads to a product, service, or decision.

*Competency Builders*—the skills, knowledge, and attitudes (written in measurable terms) needed to perform a given competency.

*Entry Level*—position of employment that requires no previous experience, but may require some training and/or specific skills, knowledge, or attitudes.

# ACAP: Graphic Arts Technology

Unit 1	Design Concepts
Unit 2	Design Projects
Unit 3	Industry Standard Tools
Unit 4	Client Relations

## ***Resources***

### **Austin Community College Visual Communications Department**

Existing course descriptions and student learning objectives

### **Department of Labor Occupational Outlook Handbook**

<http://www.bls.gov/ooh/arts-and-design/graphic-designers.htm#tab-2>

### **Graphic Artists Guild Tools and Resources**

[https://www.graphicartistsguild.org/tools\\_resources/browse](https://www.graphicartistsguild.org/tools_resources/browse)

### **National Association of Schools of Art and Design Handbook 2012-13**

[http://nasad.arts-accredit.org/site/docs/Handbook/NASAD\\_HANDBOOK\\_2012-13.pdf](http://nasad.arts-accredit.org/site/docs/Handbook/NASAD_HANDBOOK_2012-13.pdf)

### **ONET**

<http://www.onetonline.org/link/summary/27-1024.00>

<http://www.onetonline.org/link/summary/43-9031.00>

# Occupational Competencies

## ACAP: Graphic Arts Technology

### Unit 1: Design Concepts

#### **Competency 1.1 Analyze design using basic principles and theory applicable to all forms of visual art**

##### *Competency Builders:*

- 1.1.1 Define basic design terminology
- 1.1.2 Identify techniques and media used in graphic art
- 1.1.3 Describe the use of perspective, value and basic human proportions
- 1.1.4 Summarize the principles of design that guide the form and function of design work
- 1.1.5 Describe the social and cultural impact of design
- 1.1.6 Apply principles of illustration in design

#### **Competency 1.2 Compose a well-designed drawing**

##### *Competency Builders:*

- 1.2.1 Define basic drawing terminology
- 1.2.2 Identify basic drawing techniques
- 1.2.3 Draw using a full range of values with the intended media (e.g. charcoal, paint)
- 1.2.4 Recognize and manipulate negative/positive space
- 1.2.5 Vary line quality to represent depth and space
- 1.2.6 Use expressive line quality of a contour line drawing
- 1.2.7 Utilize basic principles of perspective

#### **Competency 1.3 Apply color theory to select appropriate colors for design work**

##### *Competency Builders:*

- 1.3.1 Differentiate between RGB, CMYK, and spot/Pantone colors
- 1.3.2 Analyze color relationships
- 1.3.3 Use knowledge of the color wheel to achieve visual harmony and optical effects

## **Competency 1.4 Apply typography for design**

### *Competency Builders:*

- 1.4.1 Define typographic terminology and specifications
- 1.4.2 Identify major classifications of typefaces
- 1.4.3 Describe characteristics of the various families of typefaces
- 1.4.4 Identify the anatomical aspects of type
- 1.4.5 Select appropriate typographic metrics when typesetting (i.e. kerning and tracking)
- 1.4.6 Describe characteristics of well-designed typographic work
- 1.4.7 Create custom type
- 1.4.8 Manipulate typeface
- 1.4.9 Maintain the integrity of typeface
- 1.4.10 Combine complementary typefaces within a project

## **Competency 1.5 Apply the fundamentals of print layout**

### *Competency Builders:*

- 1.5.1 Define terminology specific to print design
- 1.5.2 Explain principles of organization, composition, and information hierarchy (i.e. Grid)
- 1.5.3 Select appropriate layout for print design

## **Competency 1.6 Apply the fundamentals of web layout**

### *Competency Builders:*

- 1.6.1 Define terminology specific to web design
- 1.6.2 Describe the evolution of web design and web usage
- 1.6.3 Explain principles of organization, composition, and information hierarchy (i.e. Grid)
- 1.6.4 Explain principles of information architecture (i.e. wireframe)
- 1.6.5 Select appropriate layout for web design

## **Competency 1.7 Concepting ideas**

### *Competency Builders:*

- 1.7.1 Employ graphic and communication design fundamentals
- 1.7.2 Develop a creative brief (i.e. identify target audience, research previous work, research competitors)
- 1.7.3 Identify strategies for generating ideas (research, sketching, word mapping, brain storming)
- 1.7.4 Utilize visual experiences to create design ideas
- 1.7.5 Articulate design ideas
- 1.7.6 Collaborate with peers and/or stakeholders to improve ideas

## Unit 2: Design Projects

### Competency 2.1 Use industry standards in the production of design work

#### *Competency Builders:*

- 2.1.1 Outline the design process
- 2.1.2 Identify purpose of design project
- 2.1.3 Identify potential design problems
- 2.1.4 Concepting ideas
- 2.1.5 Produce effective communication for an audience
- 2.1.6 Generate alternative solutions
- 2.1.7 Evaluate and assess design work before publishing

### Competency 2.2 Create designs, concepts, and layouts

#### *Competency Builders:*

- 2.2.1 Determine the message the design should communicate
- 2.2.2 Apply layout principles and aesthetic design concepts
- 2.2.3 Develop graphics and/or images for product illustrations, logos, and websites
- 2.2.4 Determine size and arrangement of design elements
- 2.2.5 Create or adhere to style guide
- 2.2.6 Select proper tools to produce desired effects (e.g. software)
- 2.2.7 Combine type and images to effectively communicate message

### Competency 2.3 Create design for digital media

#### *Competency Builders:*

- 2.3.1 Identify the purpose and message of the design
- 2.3.2 Identify the deliverables (e.g. web banners, website, digital ads)
- 2.3.3 Analyze the target audience
- 2.3.4 Apply design techniques in the creation and optimization of graphics and other embedded elements
- 2.3.5 Apply basics of video editing techniques
- 2.3.6 Describe basics of backend development (e.g. content management systems)
- 2.3.7 Identify end medium (e.g. monitor, TV, mobile device, tablets)
- 2.3.8 Develop a structure (e.g. wire frame, mock up, prototype)
- 2.3.9 Apply basics of html and CSS
- 2.3.10 Troubleshoot for potential problems

### Competency 2.4 Create design for print media

#### *Competency Builders:*

- 2.4.1 Identify the purpose and message of the design
- 2.4.2 Identify the deliverables (e.g. banner, print ad, poster, brochure)
- 2.4.3 Analyze the target audience

- 2.4.4 Apply design techniques in the creation and optimization of graphics and other elements (e.g. prepress)
- 2.4.5 Describe printing processes
- 2.4.6 Troubleshoot for potential printing problems
- 2.4.7 Develop a structure (e.g. grid, composition layout)
- 2.4.8 Identifying end medium (e.g. paper, vinyl, cloth)
- 2.4.9 Select proper tools to produce desired effects (e.g. software)
- 2.4.10 Adapt to client-specified software
- 2.4.11 Make design press ready

## **Competency 2.5 Apply industry processes to solve user interface and user experience problems**

### *Competency Builders:*

- 2.5.1 Describe human perception principles that influence user interface design
- 2.5.2 Use flowcharts to determine navigation and content organization
- 2.5.3 Analyze the target audience
- 2.5.4 Create effective navigation methods for screen composition for digital projects
- 2.5.5 Create effective content flow for print composition

## **Competency 2.6 Create and manage multi-piece branding**

### *Competency Builders:*

- 2.6.1 Target design to specific audiences
- 2.6.2 Describe the role of the logo as the foundation of visual identity
- 2.6.3 Describe how type and visuals integrate to communicate a message
- 2.6.4 Explain the purpose of branding
- 2.6.5 Implement brand guidelines
- 2.6.6 Integrate images with typography in short form pieces (e.g. logos, posters and book covers)
- 2.6.7 Select or adhere to paper system
- 2.6.8 Implement strategies to effectively promote the brand

## **Competency 2.7 Adhere to copyright, trademark and other relevant laws and restrictions on creative work**

### *Competency Builders:*

- 2.7.1 Describe trademark laws
- 2.7.2 Describe copyright laws
- 2.7.3 Describe licensing
- 2.7.4 Locate sources of additional information on legal use and protection of design work
- 2.7.5 Identify contractual issues (e.g. ownership of creative work, non-disclosure agreements)

## Unit 3: Industry Tools

### Competency 3.1 Utilize industry standard digital imaging tools to produce design work

#### *Competency Builders:*

- 3.1.1 Define terminology specific to digital imaging software
- 3.1.2 Identify advantages and limitations of different image editing software programs
- 3.1.3 Differentiate between graphics file formats for print and web
- 3.1.4 Distinguish image resolution from resolution of input and output devices
- 3.1.5 Explain bit depth and image modes (bit map, grayscale, RGB and CMYK)
- 3.1.6 Utilize various scanning techniques
- 3.1.7 Use retouching tools (e.g. healing brush, clone tool, patch tool) to edit images
- 3.1.8 Use selection tools (e.g. wand, marquee, lasso, quick selection)
- 3.1.9 Utilize layers (naming, organizing sets, styles, adjustment layers)
- 3.1.10 Create and edit masks (quick, channel, pixel, vector, clipping)
- 3.1.11 Distinguish between vector and raster graphics
- 3.1.12 Utilize various functions of the pen tool (Bezier curves)
- 3.1.13 Optimize images for output for print and web
- 3.1.14 Control use of selected filters
- 3.1.15 Manage different color spaces
- 3.1.16 Compare the capabilities and functions of basic drawing tools in vector applications
- 3.1.17 Use the tools and transformation options of current industry software
- 3.1.18 Manipulate both text and graphics
- 3.1.19 Manage font library software
- 3.1.20 Manage file compatibility (e.g. software versions, operating systems)
- 3.1.21 Manage file accessibility
- 3.1.22 Identify keyboard shortcuts (A)

### Competency 3.2 Utilize industry standard page layout software

#### *Competency Builders:*

- 3.2.1 Define terminology specific to page layout software
- 3.2.2 Identify advantages and limitations of different page layout programs
- 3.2.3 Describe best practices of document construction (e.g. layers, naming conventions)
- 3.2.4 Import text and graphics into page layout programs
- 3.2.5 Create and use master pages and styles
- 3.2.6 Integrate grids
- 3.2.7 Combine multiple files to create one publication
- 3.2.8 Format according to print specifications
- 3.2.9 Export for various formats
- 3.2.10 Manage font library software
- 3.2.11 Manage file compatibility (e.g. software versions, operating systems)
- 3.2.12 Manage file accessibility

### **Competency 3.3 Utilize industry standard software/programs to create and edit web pages**

#### *Competency Builders:*

- 3.3.1 Define terminology specific to web design software
- 3.3.2 Describe how the Internet functions with specific attention to the Web and file transfer
- 3.3.3 Use file transfer protocols
- 3.3.4 Identify advantages and limitations of different web design programs
- 3.3.5 Construct web pages with essential HTML, CSS, and web based tools and applications
- 3.3.6 Follow web naming conventions
- 3.3.7 Select appropriate tools to achieve desired user experience
- 3.3.8 Create and use templates
- 3.3.9 Embed web fonts
- 3.3.10 Manage file accessibility

### **Competency 3.4 Prepare documents for printing**

#### *Competency Builders:*

- 3.4.1 Optimize document elements for print
- 3.4.2 Follow quality assurance process prior to printing
- 3.4.3 Select appropriate paper for finished product
- 3.4.4 Inspect proofs
- 3.4.5 Adhere to company specifications (e.g. file size, binding format, colors, dpi, print resolution)
- 3.4.6 Troubleshoot in-house printing
- 3.4.7 Prepare final layouts for printer

### **Competency 3.5 Maintain archive of files and previous work products**

#### *Competency Builders:*

- 3.5.1 Describe methods for file organization and management
- 3.5.2 Utilize a system for file organization and backup
- 3.5.3 Maintain naming conventions
- 3.5.4 Adhere to company standards for archiving
- 3.5.5 Collect elements for archiving

### **Competency 3.6 Prepare presentation materials**

#### *Competency Builders:*

- 3.6.1. Use basic cutting/scoring and measuring tools (e.g. blade, t-square)
  - 3.6.2. Prepare mockups (e.g. packaging, brochures)
  - 3.6.3. Implement proper mounting techniques (e.g. spray mount, double-sided tape)
  - 3.6.4. Create digital presentation (e.g. PowerPoint, PDF)
-

## Unit 4: Client Relations

### **Competency 4.1    Communicate with clients to ensure that designs accurately reflect the desired message and effectively express information**

#### *Competency Builders:*

- 4.1.1. Determine the scope of a project
- 4.1.2. Establish timelines and production schedules
- 4.1.3. Advise clients on strategies to reach a particular audience
- 4.1.4. Confer with clients to discuss elements of the design
- 4.1.5. Prepare illustrations or rough sketches
- 4.1.6. Present the design to clients or the art director utilizing effective communication strategies
- 4.1.7. Articulate design decisions to clients
- 4.1.8. Incorporate changes and feedback recommended by clients into the final design
- 4.1.9. Maintain continuous dialogue with clients

### **Competency 4.2    Coordinate with other industry specialists (e.g. coworkers, writers, marketers, business analysts, art services, printers, programmers) to complete projects**

#### *Competency Builders:*

- 4.2.1. Exchange ideas with other industry specialists
- 4.2.2. Articulate design decisions to peers
- 4.2.3. Interpret the design decisions / point-of-view of others
- 4.2.4. Incorporate changes and feedback recommended by industry specialists into the final design
- 4.2.5. Prepare notes and instructions for peers working on other elements of a project
- 4.2.6. Utilize variety of collaboration techniques (i.e. email, webinars)
- 4.2.7. Establish timelines and production schedules

### **Competency 4.3    Outline design estimates/contract specifications**

#### *Competency Builders:*

- 4.3.1. Differentiate between hourly and project based fees
- 4.3.2. Utilize revision schedules
- 4.3.3. Track time specific to jobs
- 4.3.4. Estimate time allotted per project
- 4.3.5. Establish scope of project (e.g. project management, deliverables)
- 4.3.6. Identify content rights
- 4.3.7. Develop contract as needed
- 4.3.8. Delineate boundaries of job description

# **E**mployability Competencies .....

Employability Competencies are underlying skills, including work habits and ethics, essential to the workplace and personal growth. SCANS (Secretary's Commission on Achieving Necessary Skills) are the basis for these competencies and are included in all programs based on an ACAP (Austin Competency Analysis Profile). These skills are taught with the intention of providing the student with a well-rounded understanding of workplace expectations in areas not specific to a particular occupation, in an attempt to develop a valuable employee.

## **ACAP: User Experience Design**

Unit 1:	Resources
Unit 2:	Interpersonal
Unit 3:	Information
Unit 4:	Systems
Unit 5:	Technology
Unit 6:	Basic Skills
Unit 7:	Thinking Skills
Unit 8:	Personal Qualities

## Unit 1: Resources

### Competency 1.1 Manage time effectively

#### *Competency Builders:*

- 1.1.1 Select relevant, goal-related activities
- 1.1.2 Rank activities in order of importance
- 1.1.3 Allocate time to activities
- 1.1.4 Identify tasks to be completed
- 1.1.5 Develop and follow an effective, workable schedule based on accurate estimates of such things as importance of tasks, time to complete tasks, time available for completion, and task deadlines, without wasting time
- 1.1.6 Identify possible impact of schedules on other activities
- 1.1.7 Evaluate and adjust a schedule

### Competency 1.2 Manage money effectively

#### *Competency Builders:*

- 1.2.1 Prepare or use budgets including making cost and revenue forecasts
- 1.2.2 Record details to track budget performance
- 1.2.3 Adjust budget appropriately when needed
- 1.2.4 Allocate money to include accurately preparing and using a budget according to a consistent and orderly accounting method
- 1.2.5 Calculate future budgetary needs based on projected costs and revenues
- 1.2.6 Track the extent to which actual costs and revenues differ from the estimated budget, and take appropriate and effective action

### Competency 1.3 Manage material and facility resources effectively

#### *Competency Builders:*

- 1.3.1 Store resources such as materials, supplies, parts, equipment, space or final products in an order that makes the best use of them
- 1.3.2 Allocate materials and facility resources to include carefully planning the steps involved in the acquisition, storage, and distribution of resources
- 1.3.3 Acquire, transport, and store material and facility resources safely and efficiently
- 1.3.4 Maintain material and facility resources in good condition
- 1.3.5 Distribute material and resources to the end user

### Competency 1.4 Manage human resources efficiently

#### *Competency Builders:*

- 1.4.1 Assess people's knowledge, skills and potential
- 1.4.2 Identify present and future work load
- 1.4.3 Match individual talents and workload effectively
- 1.4.4 Monitor performance and provide feedback actively

## Unit 2: Interpersonal Skills

### Competency 2.1 Participate as a member of a team

#### *Competency Builders:*

- 2.1.1 Work cooperatively with others
- 2.1.2 Contribute to group with ideas, suggestions, and efforts
- 2.1.3 Complete personal share of tasks necessary to complete a project
- 2.1.4 Encourage team members by listening and responding appropriately to their contributions
- 2.1.5 Build on individual team members' strengths
- 2.1.6 Resolve differences for the benefit of the team
- 2.1.7 Take personal responsibility for accomplishing goals
- 2.1.8 Challenge existing procedures, policies, or authorities responsibly

### Competency 2.2 Teach others

#### *Competency Builders:*

- 2.2.1 Coach or otherwise teach others to apply related concepts and theories to tasks
- 2.2.2 Convey job information to allow others to see its applicability and relevance to tasks
- 2.2.3 Identify training needs of others
- 2.2.4 Assess performance of others
- 2.2.3 Provide feedback on others' performance in a constructive manner
- 2.2.4 Provide solutions to observed problems

### Competency 2.3 Serve clients/customers

#### *Competency Builders:*

- 2.3.1 Identify customers/clients expectations through surveys, questions, body language, or expressions
- 2.3.2 Communicate and work with clients/customers to satisfy their expectations
- 2.3.3 Listen actively to customers to avoid misunderstanding and to identify needs
- 2.3.4 Provide alternatives to clients/customers to satisfy their expectations
- 2.3.5 Provide services and goods in a timely, positive manner
- 2.3.6 Obtain additional resources to satisfy client needs efficiently

### Competency 2.4 Exercise leadership

#### *Competency Builders:*

- 2.4.1 Communicate thoughts, feelings, and ideas to justify a position
- 2.4.2 Motivate and/or convince individuals or groups through encouragement or persuasion
- 2.4.3 Challenge existing procedures, policies or authorities responsibly
- 2.4.4 Use rules/values followed by others

- 2.4.5 Justify a position logically and appropriately
- 2.4.6 Consider minority viewpoints in making decisions or taking action

### **Competency 2.5 Negotiate to arrive at a decision**

#### *Competency Builders:*

- 2.5.1 Achieve agreement through exchanging specific resources or resolving divergent interests
- 2.5.2 Research opposition and the history of the conflict
- 2.5.3 Set realistic, obtainable goals
- 2.5.4 Present facts and arguments
- 2.5.5 Listen to and reflect upon what has been said
- 2.5.6 Clarify problems and resolve conflicts
- 2.5.7 Propose and examine possible options
- 2.5.8 Make reasonable compromises

### **Competency 2.6 Work with cultural diversity**

#### *Competency Builders:*

- 2.6.1 Work with men and women, and a variety of ethnic, social and educational backgrounds
- 2.6.2 Compare one's own culture and that of others
- 2.6.3 Respect the rights of others while helping them make cultural adjustments when necessary
- 2.6.4 Base impression upon individual performance, not stereotypes
- 2.6.5 Understand concerns of members of other ethnic and gender groups

## **Unit 3: Information**

### **Competency 3.1 Acquire and evaluate information**

#### *Competency Builders:*

- 3.1.1 Pose analytic questions to determine specific information needs
- 3.1.2 Select appropriate information sources
- 3.1.3 Determine when new information must be created and do so
- 3.1.4 Evaluate data for relevance and accuracy

### **Competency 3.2 Organize and maintain information**

#### *Competency Builders:*

- 3.2.1 Organize a variety of information forms or sources in a systemic fashion
- 3.2.2 Maintain written or other forms of information to keep up-to-date information available in a systemic fashion
- 3.2.3 Organize information from computer, visual, oral and physical sources in readily accessible formats, such as computerized data bases, spreadsheets, microfiche,

video disks, paper files, etc.

- 3.2.4 Transform data into different formats in order to organize them by the application of various methods such as sorting, classifying, or more formal methods

### **Competency 3.3 Interpret and communicate information**

#### *Competency Builders:*

- 3.3.1 Select information to be communicated
- 3.3.2 Identify best methods to present information (e.g., overheads, handouts, etc.)
- 3.3.3 Communicate results to others in desired format
- 3.3.4 Convey information to others through a variety of means including oral, written, graphic, pictorial or multi-media methods

### **Competency 3.4 Process information using computer**

#### *Competency Builders:*

- 3.4.1 Acquire information from the internet and other computer based resources
- 3.4.2 Organize information, using spreadsheets, word processor, and data bases effectively
- 3.4.3 Analyze information to identify trends, make projections, etc.
- 3.4.4 Enter, modify, retrieve, store and verify data and other information in a computer
- 3.4.5 Choose format for display (e.g., line graphs, bar graphs, tables, pie charts, narrative)
- 3.4.6 Convey information into the chosen format
- 3.4.7 Communicate information using e-mail, list serves, word processor, or other computer based communication functions

## **Unit 4: Systems**

### **Competency 4.1 Apply appropriate techniques to function within social, organizational, and technological systems to attain goals effectively and ethically**

#### *Competency Builders:*

- 4.1.1 Identify dynamics and components of social, organizational and technological systems
- 4.1.2 Recognize acceptable behavior and attitudes within social, organizational and technological systems
- 4.1.3 Communicate through acceptable methods to interact with social, organizational, and technological systems effectively, efficiently, and ethically
- 4.1.4 Recognize how a system's structures relate to goals
- 4.1.5 Recognize the right of people to ask for information and where to get resources

## **Competency 4.2 Monitor and correct performance of a system**

### *Competency Builders:*

- 4.2.1 Distinguish trends
- 4.2.2 Predict impact of actions on system operations
- 4.2.3 Diagnose deviations in the function of a system/organization
- 4.2.4 Correct performance through necessary action
- 4.2.5 Detect deviations from systems intended purpose
- 4.2.6 Troubleshoot the system
- 4.2.7 Make changes to the system to rectify system function and to ensure quality of product

## **Competency 4.3 Improve and design systems**

### *Competency Builders:*

- 4.3.1 Make suggestions to modify or improve existing products or services
- 4.3.2 Implement approved improvements in systems
- 4.3.3 Evaluate the benefits of the improvements
  
- 4.3.4 Develop/recommend new or alternative system designs based on relevant feedback
- 4.3.5 Communicate the results of the evaluations

# Unit 5: Technology

## **Competency 5.1 Select appropriate technology**

### *Competency Builders:*

- 5.1.1 Determine the desired results or outcomes and applicable restraints
- 5.1.2 Visualize the necessary methods and applicable technology
- 5.1.3 Evaluate specifications
- 5.1.2 Judge which procedures, tools, machines or programs will produce the desired results

## **Competency 5.2 Apply technology to task**

### *Competency Builders:*

- 5.2.1 Set up tools such as machines, computers, and programming systems, using proper procedures, to get desired results
- 5.2.2 Analyze how different parts of machines interact and how machines interact with broader production systems
- 5.2.3 Install machines including computers
- 5.2.4 Interpret machine output accurately
- 5.2.5 Detect errors from program output

### **Competency 5.3      Maintain and troubleshoot technology**

#### *Competency Builders:*

- 5.3.1 Prevent problems in machines, computers, and other technologies
- 5.3.2 Identify problems in machines, computers and other technologies
- 5.3.3 Perform routine maintenance and service of machines, computers, and other technologies
- 5.3.4 Detect more serious problems
- 5.3.5 Generate workable solutions to correct deviations
- 5.3.6 Recognize need for additional help

## **Unit 6: Basic Skills**

### **Competency 6.1      Read written information in prose and documents, such as manuals, graphs, and schedules with understanding**

#### *Competency Builders:*

- 6.1.1 Determine the main idea or essential message
- 6.1.2 Identify relevant details, facts, and specifications
- 6.1.3 Infer or locate the meaning of unknown or technical vocabulary
- 6.1.4 Judge the accuracy, appropriateness, style, and plausibility of reports, proposals, or theories of other writers

### **Competency 6.2      Communicate thoughts, ideas, information, and messages in writing**

#### *Competency Builders:*

- 6.2.1 Record information completely and accurately
- 6.2.2 Compose and create documents such as letters, directions, manuals, reports, proposals, graphs, and flow charts
- 6.2.3 Use language, style, organization and format appropriate to the subject matter, purpose, and audience
- 6.2.3 Include supporting documentation where appropriate
- 6.2.4 Attend to level of detail
- 6.2.5 Check, edit, and revise for correct information, appropriate emphasis, form, grammar, spelling, and punctuation

### **Competency 6.3      Perform arithmetic computations and concepts with appropriate technology and/or paper and pencil to solve simple work problems**

#### *Competency Builders:*

- 6.3.1 Perform basic computations

- 6.3.2 Use basic numerical concepts such as whole numbers and percentages in practical situations
- 6.3.3 Make reasonable estimates of arithmetic results without a calculator
- 6.3.4 Use tables, graphs, diagrams, and charts to obtain or convey quantitative information

**Competency 6.4 Perform mathematics in a variety of techniques to approach practical problems appropriately**

*Competency Builders:*

- 6.4.1 Choose appropriate technique to solve problem
- 6.4.2 Use quantitative data to construct logical explanations for real world situations
- 6.4.3 Express mathematical ideas and concepts orally and in writing
- 6.4.4 Predict an event considering the role of chance in the occurrence

**Competency 6.5 Listen and react appropriately to verbal messages**

*Competency Builders:*

- 6.5.1 Receive, attend to, interpret, and respond to verbal messages appropriately
- 6.5.2 Receive, attend to, interpret, and respond to other cues such as body language appropriately
- 6.5.3 Listen to comprehend, learn, critically evaluate, appreciate, or support the speaker

**Competency 6.6 Deliver oral messages appropriately to listeners**

*Competency Builders:*

- 6.6.1 Organize ideas and communicates orally as appropriate for the situation and listeners
- 6.6.2 Participate in conversation, discussion, and group presentations
- 6.6.3 Select an appropriate medium for conveying a message
- 6.6.4 Use verbal language and other cues, such as body language, in a way appropriate in style, tone, and level of complexity to the audience and the occasion
- 6.6.5 Speak clearly and communicate a message
- 6.6.6 Respond to listener feedback in a way that indicates understanding
- 6.6.7 Ask questions when needed

## Unit 7: Thinking Skills

**Competency 7.1 Generate new ideas using creative thinking**

*Competency Builders:*

- 7.1.1 Change or reshapes goals using nonlinear or unusual connections
- 7.1.2 Imagine new ideas by combining ideas or information in new ways
- 7.1.3 Connect seemingly unrelated ideas
- 7.1.4 Reshape goals in ways that reveal new possibilities

## **Competency 7.2      Make decisions**

### *Competency Builders:*

- 7.2.1 Specify goals and constraints
- 7.2.2 Generate alternatives
- 7.2.3 Consider risks
- 7.2.4 Evaluate and choose best alternatives
- 7.2.5 Analyze how personal, family, and social factors influence decisions, behaviors, and lifestyles
- 7.2.6 Utilize a decision-making process to develop future career goals

## **Competency 7.3      Apply problem solving skills appropriate to situation**

### *Competency Builders:*

- 7.3.1 Recognize a problem exists (i.e., that there is a discrepancy between what is and what should be)
- 7.3.2 Identify possible reasons for the problem
- 7.3.3 Devise and implement a plan of action to resolve the problem
- 7.3.4 Evaluate and monitor progress
- 7.3.5 Revise the plan as indicated by the findings
- 7.3.6 Communicate in both oral and written language while working with others to identify/resolve problems
- 7.3.7 Reason inductively and deductively to solve problems
- 7.3.8 Select and apply problem-solving methods

## **Competency 7.4      See things in the mind's eye**

### *Competency Builders:*

- 7.4.1 Organize and process symbols, pictures, graphs, objects or other information to visualize actual representation (such as a building from blueprints)
- 7.4.2 Visualize possible options
- 7.4.3 Communicate visualized options verbally

## **Competency 7.5      Apply learning strategies to support life-long learning**

### *Competency Builders:*

- 7.5.1 Apply and adapt existing and new knowledge and skills, using learning techniques, in both familiar and changing situations
- 7.5.2 Evaluate learning style (visual, aural, etc.) to make proper selection of learning techniques
- 7.5.3 Identify various learning techniques including formal learning strategies (note taking or clustering items that share some characteristics) and informal learning strategies (awareness of unidentified false assumptions that may lead to faulty conclusions)

- 7.5.4 Make decisions/plans concerning school to work training and future educational needs using relevant resources

### **Competency 7.6     Apply reasoning to finding solutions or draw conclusions**

#### *Competency Builders:*

- 7.6.1 Discover a rule or principle underlying the relationship between two or more objects
- 7.6.2 Extract rules or principles from a set of objects or a written text
- 7.6.3 Apply principles to solve problems
- 7.6.4 Draw conclusion from available information using logic
- 7.6.5 Apply rules and principles to a new situation
- 7.6.6 Determine which conclusion is correct when given a set of facts and conclusions
- 7.6.7 Evaluate alternatives and assess consequences to achieve personal and social goals

## **Unit 8: Personal Qualities**

### **Competency 8.1     Act responsibly**

#### *Competency Builders:*

- 8.1.1 Persevere toward goal attainment with a high level of effort
- 8.1.2 Set high standards in order to become excellent at doing tasks by setting high standards, paying attention to details, working well and displaying a high level of concentration even when assigned an unpleasant task
- 8.1.3 Display a high standard of attendance, punctuality, enthusiasm, vitality, and optimism in approaching and completing tasks

### **Competency 8.2     Exhibit effective self-esteem**

#### *Competency Builders:*

- 8.2.1 Maintain a positive view of self and believes in own self-worth
- 8.2.2 Identify won skill and abilities possessed
- 8.2.3 Recognize own emotional capacity and needs
- 8.2.4 Identify/Apply effective ways to handle emotional capacity and needs
- 8.2.5 Recognize own impression on others

### **Competency 8.3     Employ appropriate social skills**

#### *Competency Builders:*

- 8.3.1 Demonstrate understanding, friendliness, adaptability, empathy and politeness in new and on-going group settings
- 8.3.2 Assert self in familiar and unfamiliar social situations
- 8.3.3 Relate well to others
- 8.3.4 Respond appropriately as the situation requires
- 8.3.5 Take an interest in what others say and do

## **Competency 8.4     Manage self**

### *Competency Builders:*

- 8.4.1 Assess own knowledge, skills, and abilities accurately
- 8.4.2 Set well-defined and realistic personal goals
- 8.4.3 Monitor progress toward goal attainment
- 8.4.4 Motivate self through goal achievement
- 8.4.5 Exhibit self-control and respond to feedback unemotionally and nondefensively
- 8.4.6 Initiate action

## **Competency 8.5     Apply integrity and honesty to all matters**

### *Competency Builders:*

- 8.5.1 Recognize situations when faced with making a decision or exhibiting behavior that may break with commonly held personal or societal values
- 8.5.2 Understand the impact of violating these beliefs and codes on an organization, self, and others
- 8.5.3 Choose an ethical course of action

# Glossary

**ACAP**—*Austin Competency Analysis Profile*—a well-established job analysis process unique to Austin Community College involving business, industry, labor, and community agency representatives from throughout the Austin area.

**Advanced Competencies**—the occupation and academic competencies needed to advance in a given occupation.

**Competency**—an observable and measurable behavior that has a definite beginning and end; can be performed within a limited amount of time; consists of two or more competency builders; and leads to a product, service, or decision.

**Competency Builders**—the skills, knowledge, and attitudes (written in measurable terms) needed to perform a given competency.

**Core Competencies**—the essential occupational and academic competencies needed to enter and remain in a given occupation.

**Employability Competencies**—underlying skills, abilities, and knowledge as they relate to work ethics, work habits, and personal growth and development.

**Entry Level**—refers to the requirements necessary for someone entering into the occupation (without previous on-the-job experience).

**Performance Level**—refers to the level at which an employee would need to function effectively having gained on-the-job knowledge.

**SME**—*Subject Matter Expert*—incumbent worker in a given occupation that is knowledgeable about the job.

**Target Job Titles**—titles that may be assigned to the types of jobs aligned with an ACAP. Possible titles of jobs for which students would qualify with certificates or degrees in the programs based on an ACAP.