ACAP

Austin Competency Analysis Profile

Digital Media Development

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Validation Panel

Rob Grady, Consultant
   Bluearchetype, Austin, Texas

Kimberley Mead, Freelance Designer/Interaction Specialist
   Austin, Texas

Cory Ryan, Video Editor
   Austin, Texas

Martin Thomas, Graphic Designer
   Ides of March, Austin, Texas

Carl Settles, Audio Producer
   Austin, Texas

Raymond Stewart, Technical Artist
   NCsoft Corporation, Austin, Texas

Diana Kantor, Software Engineer
   Austin, Texas

Douglas Grounds, Game Software Developer
   Austin, Texas

David Downing, Project Manager
   ARTIA, Leander, Texas

Zachary D. Sadecki, Electrical Engineer
   Austin, Texas

Facilitated by:
   Teresa S. Moore and Lynn Persyn Schmitz
      Curriculum Development Specialists/Job Profilers
      Austin Community College, Austin, Texas

AUSTIN COMMUNITY COLLEGE

What's Inside?

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Preface
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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 Curriculum Development Office of Instructional Technology and Faculty Development 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 our students with the entry skills required in a workplace environment.

Time did not allow for the subject matter experts to establish WorkKeys® Levels (academic skills) for this report.

ACAP Process Overview
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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, academic, 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.

Within the competency list are two levels of items: core and advancing. Core items, which are essential for entry-level employment, are required to be taught—only the concept of advancing items will be introduced to students. Advancing items are those needed beyond entry level in a given occupation, and are designated as "Advanced." If core competencies or competency builders are present in an "Advanced" unit, then they are designated as "Core."

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.

Target Job Titles

ACAP: Digital Media Development

Web Producer	Jr. Project Manager
Asset Manager	Jr. Web Producer
Assistant Producer	Line Producer
Associate Producer	Production Manager
Audio Engineer	Programmer (web, audio, video)
Compression Specialist	Sound Designer
Creative Producer	Sound Engineer
Design Specialist	Technical Writers
Game Designer	Technician (test, network, design, quality assurance)
Game Scripter	Wrangler
Jr. Programmer	

O ccupational Competencies

The following Occupational Competencies have been identified and verified by a panel of subject matter experts currently employed in the field of Digital Media Development. 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: Digital Media Development

Unit 1	Perform Analysis (Advanced)
Unit 2	Produce Visual and Functional Design (Advanced)
Unit 3	Perform Media Pre-production and Acquisition
Unit 4	Implement and Test Design
Unit 5	Specific Digital Media Applications
Unit 6	Programming/Development Tools and Processes

Source: *Building a Foundation for Tomorrow: Skill Standards for Information Technology*. The Millennium Edition. National Workforce Center for Emerging Technologies, through Bellevue Community College. Bellevue, WA: Bellevue Community College Printing Services, 1999.

During validation of the Northwest Center's skill standards for the Digital Media career path, it was determined that the ACAP report would be a more usable end product divided into two separate reports: Digital Media Design and Digital Media Development. Design is more conceptual, artistic, and project-oriented. Development is the actual development and implementation of a solution. The Digital Media Design report will be developed at a later date. In the attached report, an asterisk (*) indicates skills that are primarily for design, but may have some overlap in the development area.

Our industry experts determined that the skills and competencies required in the Digital Media career path tend to be extremely vertical. For example, skills used in a Video position will be very different from those in Audio or Streaming Media. We have dedicated a section of this report to "Specific Digital Media Applications," which provides greater depth to these vertical groups.

Unit 1 Perform Analysis (Advanced)

Competency 1.1   *Gather data to identify client/market requirements

Competency Builders:
1.1.1   Identify sources and methods for gathering requirements that are affordable and relevant
1.1.2   Ensure sources of requirements are reliable and current
1.1.3   Ensure information is accurate and complete
1.1.4   Gather information in interviews following appropriate company practices
1.1.5   Gather historical data relevant to project
1.1.6   Inventory reusable assets and/or solutions
1.1.7   Analyze features and functionality of current product
1.1.8   Gather information on industry/competitive products/solutions

Competency 1.2   Develop and present concept alternatives to client

Competency Builders:
1.2.1   Design concept of project
1.2.2   Test concept of project (focus group, surveys, interviews, market analysis, etc.)
1.2.3   Ensure concept meets overall client requirements and fits technology constraints
1.2.4   Ensure concept is congruent with scope of project and resources
1.2.5   Present concept to all relevant stakeholders
1.2.6   Obtain approval of concept by all relevant stakeholders
1.2.7   Ensure your product meets the needs of the client/market

Competency 1.3   *Define scope of work

Competency Builders:
1.3.1   Identify project objectives, scope and deliverables

1.3.2   Ensure project objectives, scope and deliverables are agreed upon by defined stakeholders

1.3.3   Identify criteria for successful completion

1.3.4   Identify major project tasks and interdependencies

1.3.5   Estimate time, materials and capabilities accurately

1.3.6   Prepare schedule based on resource availability and project timeline

1.3.7   Document scope of work in an accurate, complete and succinct form

1.3.8   Define time technology and resource constraints accurately

1.3.9   Discuss conflicts, risks, tradeoff analysis and contingency plans with key stakeholders

1.3.10   Educate clients diplomatically regarding realistic technological expectations

1.3.11   Obtain client review and approval

Competency 1.4   *Create design specifications

Competency Builders:

1.4.1   Draft design specifications based on marketing/customer analysis and usability considerations

1.4.2   Validate design specifications against project scope and resources

1.4.3   Secure approval by stakeholders

Competency 1.5   *Research content

Competency Builders:

1.5.1   Qualify supplied or required editorial pieces for appropriateness

1.5.2   Research rights of usage and copyrights for content

1.5.3   Select content considering quality and usability

1.5.4   Secure content from reliable and respected sources

1.5.5   Organize content into manageable sections

Competency 1.6   Present cost benefit data and ROI (Return On Investment)

Competency Builders:

1.6.1   Prepare analysis comparing make-and-buy options for each element

1.6.2   Ensure that recommendations are reviewed by relevant personnel

1.6.3   Make decisions congruent with project goal, scope and budget

1.6.4   Quantify cost and benefit data results for decision makers

1.6.5   Ensure accessibility to all media necessary for the application

1.6.6   Identify outsource requirements

1.6.7   Evaluate benefits and risks related to outsource requirement

1.6.8   Evaluate content sources based on cost and value

Competency 1.7   Create features/functionality overview document

Competency Builders:

1.7.1   Validate all functional requirements are complete and free of conflicts

1.7.2   Document requirements in an accurate and complete form

1.7.3　　Prepare functional requirements in accordance with overall project and client requirements

1.7.4　　Present functional requirements to client

Competency 1.8　　　Prepare specifications within identified technical constraints

Competency Builders:

1.8.1　　Identify technological constraints
1.8.2　　Identify appropriate hardware and software
1.8.3　　Complete functional specifications
1.8.4　　Ensure approval of functional specifications by all relevant parties
1.8.5　　Ensure specifications are free of conflicts
1.8.6　　Assess specifications for feasibility
1.8.7　　Document specifications indicating how they meet overall user requirements
1.8.8　　Identify resources
1.8.9　　Match resources to the tasks at hand

Unit 2　Produce Visual and Functional Design (Advanced)

Competency 2.1　　　*Determine media types and delivery platform

Competency Builders:

2.1.1　　Choose media elements and delivery platform that support the project goals and scope
2.1.2　　Choose media elements that can be acquired and developed within the allotted budget and with available resources and expertise
2.1.3　　Ensure that media elements are compatible with the project's intended feel, look and message
2.1.4　　Ensure that media elements meet specifications
2.1.5　　Select media elements that the platform will support and is congruent with user environment

Competency 2.2　　　*Complete basic design and storyboard

Competency Builders:

2.2.1　　Use appropriate design elements and principles
2.2.2　　Ensure user interface elements are functional and aesthetically pleasing
2.2.3　　Conform navigation to functional and interface requirements
2.2.4　　Use detailed and complete storyboards
2.2.5　　Support functional design, selected media types and navigation schema in storyboard
2.2.6　　Create storyboard, design concepts and navigation schema with input from relevant team members
2.2.7　　Review storyboard, design concepts and navigation schema with stakeholders for approval

Competency 2.3   *Develop and produce rough cuts

Competency Builders:
2.3.1   Integrate proper media elements
2.3.2   Meet defined design specifications
2.3.3   Portray the desired concept, message and image accurately
2.3.4   Use a coordinated color scheme throughout the product
2.3.5   Adhere color rules on color scheme for legibility and readability
2.3.6   Demonstrate consideration of cultural and contextual meanings in color scheme
2.3.7   Ensure that color usage meets specifications of hardware and software
2.3.8   Represent 3D shapes and textures in both simplified and complex renderings as
          appropriate

**Competency 2.4   Design and evaluate user interface, visual appeal and functional
                       design (applies to both areas – Development and Design)**

Competency Builders:
2.4.1   Ensure that design and interface specifications are complete, free of conflicts and
          properly approved
2.4.2   Evaluate strengths and weaknesses, using the elements and principles of design and
          ease and quality of implementation
2.4.3   Include appropriate team members and project stakeholders in the evaluation process
2.4.4   Apply principles of user-centered design
2.4.5   Support human factors in the visual design and user interface specifications as
          outlined in the functional design

Competency 2.5   *Develop, evaluate and refine simulations

Competency Builders:
2.5.1   Represent the phenomena portrayed in the simulation accurately
2.5.2   Design the simulation to be clearly recognizable and easily understood
2.5.3   Adhere to good design, interface and human factors principles in the simulation
2.5.4   Evaluate simulation including strengths and weaknesses
2.5.5   Test simulations for usability

Competency 2.6   *Select appropriate software and hardware tools

Competency Builders:
2.6.1   Ensure that software and hardware support all functional and delivery specifications
2.6.2   Use software and hardware that are the easiest to use and still meet the functional and
          delivery specifications
2.6.3   Use the most cost effective software and hardware that will meet required criteria
2.6.4   Support different software and hardware options in design when appropriate

Competency 2.7   *Document design process

Competency Builders:
2.7.1   Document design process accurately and completely
2.7.2   Reflect the project goals, scope and budget in the design process document
2.7.3   Review design process document with all relevant team members and clients
2.7.4   Secure approval from all relevant team members and clients
2.7.5   Include appropriate testing environments and phases in design process document

Competency 2.8   Create preliminary design

Competency Builders:
2.8.1   Align initial design with the conceptual design process
2.8.2   Ensure design prototype meets design specifications, test preliminary design
2.8.3   Present preliminary design to all relevant team members and client
2.8.4   Secure approval of preliminary design by all relevant team members and client

Unit 3 Perform Media Pre-production and Acquisition

Competency 3.1   *Develop text

Competency Builders:
3.1.1   Complete text and scripts that fulfill the project goal
3.1.2   Ensure text content is free of conflict and inaccuracies
3.1.3   Check script for flow that is congruent with story
3.1.4   Reflect iterative and dynamic aspects of the application and the development process in the script

Competency 3.2   *Create prototypes

Competency Builders:
3.2.1   Reflect the design and client needs accurately in the prototype
3.2.2   Use cost effective means to produce prototypes in a timely manner
3.2.3   Review prototypes with client to secure approval

Competency 3.3   *Identify available media and content sources

Competency Builders:
3.3.1   Locate sources in a timely manner
3.3.2   Match available content to project needs and technical specifications
3.3.3   Select media and content sources that are appropriate and effective
3.3.4   Select content that is accurate and complete
3.3.5   Select media and content sources that are reliable, current and affordable
3.3.6   Secure permission for the use of any copyrighted material

Competency 3.4   *Produce or acquire content elements

Competency Builders:
3.4.1   Complete content of graphic, animation, audio and video elements that is relevant to
         message and script
3.4.2   Evaluate content to ensure freedom of conflict and inaccuracies
3.4.3   Design content in style that is congruent with client image and project goals
3.4.4   Create the feel of the real environment in simulations
3.4.5   Secure permission to use acquired elements

Competency 3.5   Perform project mapping

Competency Builders:
3.5.1   Identify each media element using appropriate naming conventions
3.5.2   Include contingency plan in project map
3.5.3   Identify constraints and interdependencies completely and accurately

Competency 3.6   Substantiate make-or-buy decisions

Competency Builders:
3.6.1   Include product quality and cost in make-or-buy decision
3.6.2   Document substantiation including vendor selection criteria
3.6.3   Include appropriate people in make-or-buy decision

**Competency 3.7   Participate in iterative development with clients and team
                        members—(applies to both areas—Design and Development)**

Competency Builders:
3.7.1   Meet specifications in design and production elements
3.7.2   Complete a number of prototypes
3.7.3   Evaluate a number of prototypes
3.7.4   Design prototypes that enhance the development process
3.7.5   Solve problems in the next iteration that moves toward meeting the goals and
         objectives of the project

Unit 4 Implement and Test Design

Competency 4.1   Implement functional and user interface design criteria

Competency Builders:
4.1.1   Specify function/feature availability to the user through an appropriate interface
4.1.2   Operate application in the designated delivery environment in a manner acceptable to
         the client
4.1.3   Meet visual design and functional design specifications in the human factors elements
4.1.4   Meet budgetary requirements in human factors design

Competency 4.2   Identify, create and incorporate reusable components

Competency Builders:
4.2.1   Minimize/Eliminate redundant code modules
4.2.2   Minimize/Eliminate duplicate media
4.2.3   Use standard templates and media when available
4.2.4   Build in new code modules with general use in mind
4.2.5   Make new code modules available to group/enterprise
4.2.6   Update media without manual intervention whenever possible
4.2.7   Incorporate media into the application without manual intervention whenever possible

Competency 4.3   Create and produce finished content

Competency Builders:
4.3.1   Meet design specifications in all media
4.3.2   Balance integrated media elements in relationship to the message
4.3.3   Ensure the review of content by an independent content expert for clarity, structure and accuracy
4.3.4   Secure signed copyrights for each media element
4.3.5   Integrate media elements in a manner consistent with initial design
4.3.6   Combine media in an effective manner for maximum communication of content
4.3.7   Select media and style of integration to match with client/audience media preferences

Competency 4.4   Develop and perform usability and functionality tests

Competency Builders:
4.4.1   Include test plans that are efficient and effective following appropriate company procedures
4.4.2   Design usability and functionality tests to include client expectations
4.4.3   Direct usability and functionality tests toward appropriate audiences
4.4.4   Include adequate numbers of usability and functionality tests using appropriate procedures
4.4.5   Choose affordable and relevant methods for testing
4.4.6   Include summative evaluation
4.4.7   Use testing results in accurate information in the iterative development process
4.4.8   Identify deviations from specifications clearly

Competency 4.5   Resolve defects

Competency Builders:
4.5.1   Identify approaches to finding, managing, and prioritizing errors in design process
4.5.2   Identify defects completely and accurately
4.5.3   Document errors including current status and person responsible for resolutions
4.5.4   Implement a systematic testing program to identify hardware compatibility problems
4.5.5   Map navigation
4.5.6   Check navigation links
4.5.7   Identify critical error areas

4.5.8   Embed error trapping into product
4.5.9   Place a debugging program as the components are developed
4.5.10   Resolve previously identified errors within allotted time and budget

Competency 4.6   Ensure documentation of implementation and testing process and results

Competency Builders:
4.6.1   Document implementation and testing process accurately and thoroughly
4.6.2   Communicate the results of implementation and testing clearly and concisely
4.6.3   Review implementation and testing process with appropriate team members and stakeholders
4.6.4   Outline steps for improvement in the implementation and testing processes

Competency 4.7   Conduct client acceptance testing and deliver product

Competency Builders:
4.7.1   Ensure that testing plan is complete and well coordinated
4.7.2   Include testing results in feedback that can be used in the iterative development process
4.7.3   Include appropriate people in acceptance testing
4.7.4   Ensure client expectations are met in delivered product

Unit 5 Specific Digital Media Applications

Competency 5.1   Digitize video footage

Competency Builders:
5.1.1   Use analog and digital video equipment
5.1.2   Playback source video
5.1.3   Transfer formats to a digital file on the hard drive
5.1.4   Compress video
5.1.5   Identify appropriate codecs for video and audio

Competency 5.2   Compress video

Competency Builders:
5.2.1   Identify client requirements (storage, quality and bandwidth requirements)
5.2.2   Identify Final source format
5.2.3   Perform Compression test to determine compression settings
5.2.4   Compress each video clip
5.2.5   Verify settings
5.2.6   Secure approval by stakeholders

Competency 5.3   *Develop the video storyboard

Competency Builders:
5.3.1   Read the script
5.3.2   Visualize script to visual plan
5.3.3   Illustrate script

Competency 5.4   Edit footage

Competency Builders:
5.4.1   Use editing tools and equipment
5.4.2   Watch footage and evaluate
5.4.3   Listen to raw audio
5.4.4   Coordinate audio synchronization
5.4.5   Compile an edit decision list
5.4.6   Produce final cut
5.4.7   Secure approval from stakeholders
5.4.8   Composite video (Motion graphics, add titles)
5.4.9   Chroma key video
5.4.10   Add effects
5.4.11   Incorporate sound track and music

Competency 5.5   Index and manage video assets

Competency Builders:
5.5.1   Group videos and stills into labeled folders
5.5.2   Create asset list
5.5.3   Maintain asset list
5.5.4   Manage access and versions of assets
5.5.5   Backup assets

Competency 5.6   Record analog and digital audio

Competency Builders:
5.6.1   Set up microphones
5.6.2   Read script
5.6.3   Cast talent based on script
5.6.4   Pick appropriate musicians
5.6.5   Direct performance to script and project expectations
5.6.6   Generate proofs using midi
5.6.7   Check levels
5.6.8   Monitor recording signals
5.6.9   Evaluate performance based on script
5.6.10   Record subjects

Competency 5.7   Mix audio elements

Competency Builders:
5.7.1   Use multi track digital software
5.7.2   Use multi track digital and analog hardware
5.7.3   Apply effects to audio clips using appropriate software/hardware
5.7.4   Apply multiple effects to create unique sound
5.7.5   Record/export final sound track
5.7.6   Encode mix for output (Dolby, etc.)
5.7.7   Combine multiple audio sources

Competency 5.8   Edit soundtrack

Competency Builders:
5.8.1   Arrange audio elements in timeline
5.8.2   Synchronize to video
5.8.3   Creating sound loops from existing audio clips
5.8.4   Add foleys to track

Competency 5.9   Prepare Content for Streaming

Competency Builders:
5.9.1   Determine client requirements
5.9.2   Determine delivery format
5.9.3   Acquire content assets
5.9.4   Preprocess content assets
5.9.5   Encode content to appropriate format
5.9.6   Preview quality after encoding
5.9.7   Modify settings as needed

Competency 5.10   Determine appropriate server configuration for streaming

Competency Builders:
5.10.1   Evaluate audience requirements
5.10.2   Select delivery medium
5.10.3   Identify broadcast location requirements
5.10.4   Verify server capabilities are adequate for requirements
5.10.5   Configure server software and/or hardware

Competency 5.11   Analyze client configuration for streaming

Competency Builders:
5.11.1   Determine client requirements
5.11.2   Ensure client software is install
5.11.3   Ensure client software/hardware compatibility
5.11.4   Ensure proper programming configuration

Competency 6.1   Create basic web page with appropriate development tools

Competency Builders:
6.1.1   Use HTML
6.1.2   Use Java Script
6.1.3   Use other client side scripting as appropriate
6.1.4   Discuss server side scripting

Competency 6.2   Create Multimedia interactive presentations

Competency Builders:
6.2.1   Use multimedia authoring software (Director, Flash, Authorware)
6.2.2   Fabricate media
6.2.3   Test media presentation

Competency 6.3   Adhere to a programming methodology

Competency Builders:
6.3.1   Follow company policies and procedures
6.3.2   Apply a methodology that follows industry standards to apply when no other
                guidelines are in place

Employability Competencies
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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: Digital Media Development

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   Connects 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

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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.

Skill Ranking–Refers to the criticality of the WorkKeys skill to the performance of the occupation with one (1) indicating the most critical skill.

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.