This document contains 143 competencies, grouped into 25 units, for tech prep programs in the interactive media technologies cluster. The competencies were developed through collaboration of Ohio business, industry, and labor representatives and secondary and associate degree educators. The competencies are rated either "essential" (necessary to ensure minimal levels of employability by entry employees, must be included in all new tech prep programs), or "recommended." Competency builders are included for each competency. Some of the groups of competencies covered in the units include the following: employability skills; professionalism; teamwork; professional practices; workplace safety; project management; problem analysis; general administrative functions; economic and business principles; basic computer concepts and applications; customer relations; market research; business management; business law; writing; appreciation of the arts; programming; introduction to interactive media; graphic design fundamentals; photography; computer graphics, digital imaging, and animation; video and film production; audio production; web page design; and interactive media production. (KC)
Interactive Media Technologies

State Competency Profile

January 29, 1998
Lorain Community College
Interactive Media Technologies
State Competency Profile

This document is the result of collaboration between a number of individuals and organizations. The Ohio Department of Education and the Ohio Board of Regents provided financial and staff support for the development of the document. Ms. Linda Fauber, Lakeland Tech Prep Consortium, coordinated the development of the initial document upon which the current document is based and drafted key units on interactive media technology. Guidance in document development was provided by a futuring panel composed of Ohio Business, Industry and Labor Representatives. (See attached list of Futuring Panel Members.)

The current document is a result of a review by a state panel of business/industry/labor representatives and secondary/associate degree educators on January 29, 1998. (The name and institutional affiliation of each panel member is provided on the following pages.) Jan Eley, Akron Area Tech Prep Consortium and Linda Fauber, Lakeland Tech Prep Consortium served as meeting facilitators. They were assisted by Julie Daugherty, Eastern Ohio Valley Tech Prep Consortium, Larry Casterline, Tech Prep Curriculum Services Consultant, and Erma Brobst, Tech Prep Curriculum Services.

As you review the document, keep in mind the following:

**Essential Competencies**
Those competencies marked *Essential* in the State Competency Profile were determined by the statewide business/industry/labor panel to be necessary to ensure minimal levels of employability. Entry level employees should be able to perform this competency without supervision; therefore, students must be proficient in these competencies at least by the end of the Associate Degree.

*Essential* competencies must be included in all new Tech Prep programs. Tech Prep consortia with current programs in this area will be expected to phase-in essential competencies into their programs as well.

Wording of essential competencies may not be altered. The leveling may only be changed to deliver the competency earlier during the educational process. For example, the leveling of an
essential competency in the State Competency Profile may be altered locally from a P or Proficiency leveling at the end of the Associate Degree to a P or Proficiency by the end of the 12th grade. The reverse is not permissible. For example, a competency leveled P or Proficient by the end of the 12th grade in the State Competency Profile cannot be changed locally to a P or Proficiency by the end of the Associate Degree. For additional information on leveling of competencies, refer to the Leveling Code Sheet in your booklet.

Competency builders are intended to help define each competency; therefore, the builders may be modified as long as that modification does not change or dilute the intent of the State Panel.

Issues which arise regarding delivery of the essential competencies once the program is implemented will be addressed by a State review panel of business/industry/labor and education representatives with possible revisions to the State Competency Profile at a later date. Any issues identified during the local verification meeting should be conveyed to Tech Prep Curriculum Services by the consortium coordinator.

**Recommended Competencies**

The competencies marked Recommended are suggested additions to the State Competency Profile. Each of these competencies should be reviewed during a local competency profile meeting; with a joint panel of business/industry/labor and education representatives deciding whether to include each competency in the local curriculum. The decision should be based upon a consideration of local business needs, as well as priorities and time constraints of the educational process. Wording and leveling of all recommended competencies and builders may be modified.

**Additional Units/Competencies/Builders**

Competencies and/or builders may be added to any unit in the State Competency Profile. Additional units may also be added.

**Occupation Definitions**

Skills may be added to the occupational definitions based on the modifications made during the competency review. Because the definition is based on the skills detailed in the competency profile, only minor modifications should be necessary.

For additional information about this State Tech Prep Competency Profile contact:

Tech Prep Curriculum Services  
Center on Education and Training for Employment  
The Ohio State University  
1900 Kenny Road  
Columbus, Ohio 43210-1090  
(614) 292-8404
Interactive Media Technologies Futuring Panel
January 12, 1998
Columbus, Ohio

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Panel Facilitator

Bob Hill, Adjunct Instructor
Music and Multimedia Departments
Lakeland Community College
Kirtland, Ohio

Barbara L. Helfer, Director
College of the Arts Emerging Technologies Studio
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Fitch, Inc.
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Jim Morrison, Director
Multimedia Production
American Greetings
Cleveland, Ohio

Harry Searles, Supervisor
Multimedia Production Curator and Design Division
Ohio Historical Society
Columbus, Ohio

Marsh Williams, Director
New Media and Internet Solutions
Mills James Productions
Columbus, Ohio
Interactive Media Technologies
State Competency Profile Meeting

Business Participants

Sandy LaCorte, Owner
Lacorte & Company, North Olmsted, Ohio

Steve Sullivan
NCR Multimedia Resources, Dayton, Ohio

Jeffrey Bulter, Manager
American Greetings, Cleveland Ohio

David Watkins, President
Impact Communications, Cleveland, Ohio

Mike Neider, Marketing Director
Marinar Technology Company, Painsville, Ohio

Ed Skimin, Owner
Emerge Inc., Elyria, Ohio

Chris Fregetto, Art Director
Adlink, Elyria, Ohio
Interactive Media Technologies
State Competency Profile Meeting

Educator Participants

Cathy Armetta, Instructor, Math
Auburn Career Center, Concord, Ohio

Barbara Bates, Associate Professor, Physical Science Department
Lakeland Community College, Kirtland, Ohio

Karl Bremer, Instructor, English & Multimedia
Kettering Fairmont High School, Dayton, Ohio

Lovette Chinwah, Assistant Professor of Communication Arts
Sinclair Community College, Dayton, Ohio

Bruce Cline, Department Chair, Photography Department
Lakeland Community College, Kirtland, Ohio

Laurie Crowther, Instructor, English
Marion L. Steele High School, Amherst, Ohio

Donald Davis, Assistant Professor, Mathematics Department
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Karen Erisman, Instructor, Math
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Bob Hill, Adjunct Instructor, Music and Multimedia Departments
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Tracy Jayne, Web Graphics Specialist
Sinclair Community College, Dayton, Ohio

Jeff Koleno, Instructor, Developmental Education Department
Lorain County Community College, Elyria, Ohio

Peter Oberson, Superintendent
Auburn Career Center, Concord, Ohio
Dino Pappas, Instructor, Graphic Arts
Lorain Southview High School, Lorain, Ohio

Sue Roseum, Instructor, Physics
Auburn Career Center, Concord, Ohio

Dennis Ryan, Instructor, Arts & Humanities Department
Lorain County Community College, Elyria, Ohio

Philip Skerry, Professor, Composition/Language/Literature Department
Lakeland Community College, Kirtland, Ohio

Mike Smith, Associate Professor, Developmental Math & Science
Sinclair Community College, Dayton, Ohio

Bill Struhar, Faculty Consultant, Center for Interactive Learning
Sinclair Community College, Dayton, Ohio

Tim Sumser, Instructor, Math/Computer
Marion L. Steele High School, Amherst, Ohio

Carol Wagner, Instructor, English
Lorain Southview High School, Lorain, Ohio

Jean Upson, Instructor, Multimedia
Lorain County Community College, Elyria, Ohio
LEVELING CODES

**GRADE LEVEL**
12 = by the end of grade 12
AD = by the end of the Associate Degree

**DEPTH**
I = Introduce (applies to at least three or 25% of the competency builders)
R = Reinforce or add depth (after introducing or proficiency)
P = Proficient (achievement of the competency without supervision)

**ACADEMIC CODES**
C = Communications related
M = Mathematics related
S = Science related

**OTHER**
WS = Worksite learning during the course of the Tech Prep program is recommended

**Example:**
P12, RAD, WS
Competency: XXXXXXX C

**Example:**
I-12, PAD
Competency: YYYYYY
Competency Builders:
  YYY
  XXX
  ZZZ M
Interactive Media Specialist

An individual who applies various techniques to produce media for corporate video departments, educational institutions, and the information and entertainment industries. Technical skills should include, but not be limited to:

- television production
- computer graphics
- interactive media production
- graphic design
- recording
- digital imaging
- digital audio technology
- photography
- studio equipment maintenance
- web page design
- content research
- application design
## Tech Prep
**Interactive Media Technology**
**State Competency Profile**

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Unit: Employability Skills

BIL: Essential

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Competency: Develop a career plan

Competency Builders:
Identify current interests and aptitudes
Identify common barriers to employment
Describe strategies to overcome employment barriers
Locate resources for finding employment
Research job trends
Identify career options
Identify advantages and disadvantages of career options (in addition to monetary)
Identify job requirements
Investigate education/training opportunities (including speaking with someone in the trade)
Evaluate personal strengths and weaknesses
Refine a written educational plan which leads to a specific career field
Create career passport
Competency: Prepare for employment

Competency Builders:
Identify employment sources
Identify advantages and disadvantages of self-employment
Identify present and future employment opportunities (by geographic location)
Research job opportunities
Compare salary ranges and benefit packages
Compile occupational profile
Identify rights and responsibilities of equal employment opportunity laws
Demonstrate ability to accurately complete a job application
Design resume and cover letter
Target resume
Secure references
Investigate generic and specific employment tests (e.g., civil service exam; drug screening)
Use follow-up techniques to enhance employment potential
Demonstrate legible written communication skills using correct grammar, spelling, punctuation, and concise wording
Use proper diction in interviews
Describe methods for handling illegal questions on job application forms and during interviews
Write letter of application
Research prospective employer and services performed
Explain critical importance of personal appearance, hygiene, and demeanor
Interpret job description
Demonstrate appropriate interview question and answer techniques
Demonstrate methods for handling difficult interview questions using simulated role playing exercises
Describe procedures for following up after an interview
Evaluate job offers
Give notice to employer of job change
Write letter of acceptance
Write letter of declination
Demonstrate good listening skills
Ask for the job tactfully
Participate in extracurricular activities (e.g., student government, community projects)
Competency: Evaluate the importance of self-esteem as an employability skill

Competency Builders:
Identify factors that affect self-esteem
Compare effects of low self-esteem and high self-esteem
Identify strategies to promote positive self-esteem
BIL: Essential

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Competency: Demonstrate job retention skills

Competency Builders:
- Identify employer expectations regarding job performance, work habits, attitudes, personal appearance, and hygiene
- Exhibit appropriate work habits and attitude
- Demonstrate ability to set priorities
- Identify behaviors to establish successful working relationships
- Identify alternatives for dealing with harassment, bias, and discrimination based on race, color, national origin, sex, religion, handicap, or age
- Identify opportunities for advancement
- List reasons for termination
- List consequences of being absent frequently from job
- List consequences of frequently arriving late for work
- Demonstrate interpersonal relations skills (e.g., verbal and written)
- Demonstrate negotiation skills
- Demonstrate teamwork
- Follow chain-of-command
- Exhibit appropriate job dedication
BIL: Essential

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Competency: Demonstrate knowledge of work ethic

Competency Builders:
Define work ethic
Identify factors that influence work ethic
Differentiate law and ethics
Describe how personal values are reflected in work ethic
Describe how interactions in the workplace affect personal work ethic
Describe how life changes affect personal work ethic
**BIL:** Essential

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**Competency:** Exhibit appropriate work ethic

**Competency Builders:**
- Use time-management techniques
- Avoid personal activity during work hours
- Attend work as scheduled
- Adhere to company and/or governmental policies, procedures, rules, and regulations
- Exercise confidentiality
- Demonstrate appropriate human relations skills
- Adhere to rules of conduct
- Accept constructive criticism
- Offer constructive criticism
- Take pride in work
- Resolve conflict
- Manage stress
- Avoid sexual connotations and harassment
- Adjust to changes in the workplace
- Demonstrate punctuality
- Assume responsibility for personal decisions and actions
- Take responsibility for assignments
- Follow chain-of-command
BIL: Essential

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Competency: Apply decision-making techniques

Competency Builders:
Identify decision to be made
Identify possible alternatives and their consequences
Make decisions based on facts, legality, ethics, goals, and culture
Apply time factor(s)
Present decision to be implemented
Evaluate decision made
Take responsibility for decision
Identify ownership of decision to be made
Competency: Apply problem-solving techniques

Competency Builders:
Identify problem
Select appropriate problem solving tools/techniques
Identify root problem cause(s)
Track root problem cause(s)
Identify possible solutions and their consequences (e.g., long term, short term, crisis)
Use resources to explore possible solutions to problem
Contrast advantages and disadvantages of each solution
Identify appropriate action
Evaluate results
Identify post-preventive action
BIL: Essential

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Competency: Exhibit characteristics for job advancement

Competency Builders:
Display positive attitude
Demonstrate knowledge of position
Perform quality work
Adapt to changing situations and technology
Demonstrate capability/responsibility for different positions
Identify characteristics of effective leaders
Identify opportunities for leadership in workplace
Demonstrate initiative to affect change in workplace
Participate in continuing education/training program
Respond appropriately to criticism from employer, supervisor, or other employees
Exhibit awareness of corporate culture
Prepare for job setbacks
Exhibit continual growth based on performance evaluation
Set realistic goals
Unit: Professionalism

BIL: Essential

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Competency: Project professional image

Competency Builders:
Define professionalism
Exhibit professional appearance
Exhibit professional manners
Project professional attitude
Identify individual's vital role in organization
Exhibit proper etiquette in professionally-related situations
BIL: Essential

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Competency: Formulate individual and professional goals

Competency Builders:
Set flexible, realistic, and measurable goals
Identify potential barriers to achieving goals
Identify strategies for addressing barriers to goal achievement
Breakdown long-term goals into short-term goals
Prioritize goals
Commit to goals
Adjust goals
Obtain support for goals
Reward goal achievement
BIL: Recommended

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Competency: Organize personal finances

Competency Builders:
- Explain need for personal management records
- Balance checkbook
- Identify tax obligations
- Analyze how credit affects financial security
- Compare types and methods of investments
- Compare types and methods of borrowing
- Compare types and methods of insurance
- Compare types of retirement options/plans
- Identify discretionary vs. non-discretionary expenditures
BIL: Recommended

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Competency: Support community well-being

Competency Builders:
Identify environmental, educational, and social issues
Participate in social and/or community/industry activities
Participate in industry activities and organization
BIL: Essential

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Competency: Achieve organizational goals

**Competency Builders:**
- Evaluate personal goals in relation to organizational goals
- Monitor progress by evaluating feedback
- List responsibilities in relation to organizational goals
- Accomplish assigned tasks
- Exercise responsibility in relation to organizational goals
- Set appropriate personal performance standards
- Communicate goals with supervisor and peers
- Demonstrate knowledge of products and services
- Promote organizational image and mission
Competency: Demonstrate positive relations in the workplace

Competency Builders:
- Identify personality types
- Identify methods of working with various personalities
- Identify various management styles
- Support organization expectations
- Support organization decisions
- Accept constructive criticism
- Give constructive feedback
- Adapt to changes in workplace
- List factors to consider before resigning
- Write letter of resignation
BIL: Essential

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Competency: Manage stressful situations

Competency Builders:
Accept stress as part of daily life
Identify personal and professional factors contributing to stress
Describe physical and emotional responses to stress
Evaluate positive and negative effects of stress on productivity
Identify strategies for reducing stress
Identify positive methods to channel stress
Implement strategies to manage stress
Create strategies for developing and maintaining support systems
BIL: Recommended

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Competency: Analyze effects of family on work and work on family

Competency Builders:
Identify how family values, goals, and priorities are reflected in work place
Identify responsibilities and rewards associated with paid and non-paid work
Identify responsibilities and rewards associated with families
Explain how family responsibilities can conflict with work
Explain how work can conflict with family responsibilities
Explain how work-related stress can affect families
Explain how family-related stress can affect work
Identify family support systems and resources
Identify work-related support systems and resources
Communicate with family regarding work
Competency: Apply lifelong learning skills

Competency Builders:
Define lifelong learning
Identify factors that cause need for lifelong learning
Analyze effects of change
Identify reasons why goals change
Describe importance of flexibility and adaptability
Evaluate need for continuing education/training
BIL: Essential

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Competency: Manage professional development

Competency Builders:
Identify career opportunities
Modify career plan
Participate in continuing education/training opportunities
Document continuing education/training
Read profession-related manuals, technical journals, and periodicals
Attend meetings, workshops, seminars, conferences, and demonstrations
Participate in professional organizations
Build personal/professional mentor relationship
Build personal/professional support system
Build professional network
Strengthen communication skills
Strengthen leadership skills
Strengthen management skills
Unit: Teamwork

BIL: Essential

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Competency: Demonstrate knowledge of teamwork

Competency Builders:
Define self-direction
Define responsibility
Define accountability
Differentiate work groups and teams (e.g., internal, external)
Identify conditions essential to teamwork (e.g., problem solving)
Explain influence of culture on teamwork (e.g., corporate, community)
Identify appropriate situations for using teams
Define team structures (e.g., cross functional, quality improvement, task force, quality circles)
Identify team building concepts
Describe characteristics and dynamics of teams
Identify characteristics of effective team leaders and members
Identify responsibilities of team members
Identify methods of involving each member of a team
Explain how individuals from various backgrounds contribute to work-related situations (e.g., technical training, cultural heritage)

Explain the purpose of facilitators

Define consensus

Define reward/recognition system

Define mutual respect

Define equality

Define "group think"

Provide feedback

Receive feedback

Define communication styles

Define management styles

Define social style
Competency: Demonstrate teamwork

Competency Builders:
- Identify purpose of team and intended goal (include time frames)
- Structure team around purpose
- Define responsibilities of team members (e.g., talents, skills, abilities)
- Contribute to efficiency and success of team
- Work toward individual and team milestones
- Analyze results of team project
- Facilitate a team meeting
- Assist team member(s) with problem
- Monitor time frame
- Stress continuous improvement
- Recognize failure as part of learning
BIL: Essential

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Competency: Use teamwork to solve problems

Competency Builders:
Identify appropriate situations for using teams
Identify quality management processes/techniques
Identify quality assurance processes/techniques
Prepare presentation (e.g., business plan & procedure)
Identify problem
Use problem-solving process in a team setting (e.g., Brainstorm, Paredo, Fishbone)
Identify resources
Gather data
Analyze data
Describe solution options
Implement solution options
Review solution
Review case studies
Competency: Conduct team meetings

Competency Builders:
Plan agenda
Set ground rules
Schedule meeting and location
Set time limitations
Invite appropriate personnel
Set next team meeting
Solicit outside speakers as needed
Select scribe
Select meeting leader
Facilitate ground rules
Select facilitator
Invite questions and comments and group participation
Focus team on agenda items
Assign appropriate action, budget, time frame and accountability to tasks
Monitor time
Overcome team impasse
Close meeting on time
Publish minutes in timely manner
Avoid placing individual agendas above the group's agenda
Unit: Professional Practices

BIL: Essential

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Competency: Explain professional responsibilities

Competency Builders:
- Explain the need for professional and ethical standards
- Explain responsibility of the individual to apply ethical standards
- Identify responsibility to client(s) and employer(s)
- Explain consequences of unprofessional and/or unethical behavior
- Explain importance of conflict resolution in the workplace
BIL: Essential

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Competency: Identify legal and ethical behavior

Competency Builders:
Differentiate between legal and ethical behavior
Explain terms, principles, and characteristics of legal and ethical behavior (e.g., loyalty, discretion, solicitation, competitor, supplier)
Explain legal ramifications of breaching rules and regulations
Explain effects of unethical and/or unlawful behavior
Practice within scope of the profession
BIL: Essential

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Competency: Function as a self-managed employee

Competency Builders:
Propose project (C)
Organize tasks
Manage time
Meet deadlines
Maintain business records (C)
Make long-term and short-term plans
Evaluate progress
Report progress (C)
Delegate project
Acquire appropriate licenses/registrations
Obtain permits and releases
**BIL:** Essential

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**Competency:** Follow intellectual property rights and copyright laws

**Competency Builders:**
- Explain purpose of patent
- Explain purpose of copyright
- Explain purpose of licenses
- Explain purpose of trademarks
- Explain rights of the originator
- Explain rights of the public
- Define confidentiality
- Define proprietary
- Explain legal ownership of proprietary material
- Describe stock image/text usage rights
- Explain negotiation of contracts
- Explain reproduction licensing and residual usage
Unit: Workplace Safety

BIL: Essential

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Competency: Maintain safe working environment

Competency Builders:
Describe what an MSDS sheet is
Comply with HMIS material safety data sheets (MSDS) and OSHA regulations
Comply with all MSDS regulations regarding hazardous materials
Maintain clean work area by removing waste, keeping alleyways clear, cleaning tools, and preventing spills
Minimize workplace causes of environmental burdening, pollutants, and poisoning
Describe pollution solution limits imposed by permits and regulations
Comply with regulatory guidelines in handling, labeling, and disposal of solutions (e.g., fountain chemicals, inks, wash-up solutions, drum grounding)
Identify visual equipment controls (e.g., monitors, read outs)
Identify auditory equipment controls
Comply with workplace safety rules and procedures
Comply with personal safety rules and procedures
Comply with applicable electrical, mechanical, hydraulic and pneumatic safety rules and procedures
Recycle appropriate materials
Use preventive maintenance checklists
Identify location of control panels, shut-off valves, and fire extinguishers
BIL: Recommended

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Competency: Demonstrate knowledge of ergonomics

Competency Builders:
Define ergonomics
Define risk factor
Define maximum permissible limit (MPL) and action limit (AL) for lifting
Define cumulative trauma disorder (CTD)
Identify susceptibility factors for CTD
Minimize extreme joint movement
Minimize use of excessive muscle/physical force
Minimize repetitive tasks
Minimize mechanical stresses (e.g., sharp edges, heat, cold, hard surfaces, weights, vibration)
Minimize awkward body positions
Explain use of rest pauses
Explain need for mats and footrest for standing jobs
Explain need for appropriate working heights of chairs, stools, workbenches, equipment
Explain need for adequate lighting
Explain use of anthropocentric design (e.g., centering one's view of everything around man)
Unit: Project Management

BIL: Essential

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Competency: Explain project management

Competency Builders:
- Identify project purpose/goal
- Identify project objectives
- Identify work breakdown structure (WBS)
- Identify resource requirements
- Identify project economics/funding
- Identify risks
BIL: Recommended

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Competency: Plan projects

Competency Builders:
- Apply responsibility assignment matrix (RAM)
- Apply Gantt or bar charts
- Apply network diagrams
- Apply critical path method (CPM)
- Apply project education and review techniques (PERT)
- Apply software programs
BIL: Essential

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Competency: Implement projects

Competency Builders:
- Monitor project
- Control project
- Modify project
BIL: Essential

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Competency: Evaluate projects

Competency Builders:
- Analyze performance
- Perform critical review of project
- Draw project management conclusions
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Competency: Write project summary

Competency Builders:
List project goals
Document project’s key successes
Document project’s key failures
Analyze costs vs. accomplishments
Unit: Problem Analysis

BIL: Essential

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Competency: Appraise situations

Competency Builders:
Identify concerns
Set priorities
Identify resolution process
Plan resolution
BIL: Recommended

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Competency: Analyze problems

Competency Builders:
- Identify potential problems
- Identify likely causes
- Test for probable causes
- Verify cause
- Identify preventive actions
- Identify contingent actions
**BIL:** Recommended

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**Competency:** Analyze decisions

**Competency Builders:**
- Identify objective(s)
- Identify alternatives
- Evaluate alternatives
- Assess risks
- Make final choice
- Determine effectiveness of decision
- Document results
Unit: General Administrative Functions

BIL: Essential

Competency: Maintain work flow

Competency Builders:
Organize work
Prioritize work
Apply time-management techniques
Complete assigned tasks in a timely manner
Coordinate with team members

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Competency: Perform telecommunications operations

Competency Builders:
Display telephone etiquette
Operate equipment
Listen assertively
Verify information
Record messages
Place calls
Organize teleconferences
Use voice mail/messaging systems
Operate fax/modem machine
Use e-mail systems
Use Internet communications services
Use videoconference facilities
**BIL:**  Recommended

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**Competency:**  Perform scheduling functions

**Competency Builders:**
Create calendar/schedule
Maintain and use appointment calendars with accurate addresses and phone numbers
Process requests for appointments
Verify appointments
BIL: Recommended

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Competency: Manage records

Competency Builders:
- Implement filing system
- Implement retention system
- Perform electronic filing operations
- Maintain inventory records
- Retrieve files
Unit: Economic and Business Principles

BIL: Essential

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Competency: Describe basic economic concepts

Competency Builders:
Identify importance of economic resources
Explain concept of economic resources
Explain importance of economic resources
Explain concept of economic goods and services
Differentiate between economic goods and services
Differentiate between needs and wants
Explain concept of supply and demand
Explain concept of price
Explain how supply, demand, and price are related
Explain concept of private enterprise and business ownership
Explain concept of profit
Explain concept of risk
Explain concept of competition
Explain relationship among risk, competition, and profit
Describe global economic and world markets
Describe economic cycles (e.g., unemployment, recession, inflation, budget deficits)
Describe economic arena's effect on business (e.g., financial, competitor indicators, industry)
**BIL:** Essential

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**Competency:** Describe economic systems

**Competency Builders:**
- Describe free enterprise system
- Describe relationship between government and business
- Describe relationship between labor and management
- Compare types of economic systems
**BIL:** Essential

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**Competency:** Understand income statement data

**Competency Builders:**
- Identify revenue
- Identify overhead expenses
- Identify fixed expenses
- Identify direct labor
- Identify indirect labor
- Identify direct and indirect materials
- Identify general and administrative expenses
- Identify selling expenses
- Identify net income
**BIL:** Recommended

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**Competency:** Explain equipment depreciation

**Competency Builders:**
- Explain straight line
- Explain sum of year's digits
- Explain declining balance
- Explain IRS strategies
**BIL:** Essential

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**Competency:** Identify cost and profit influences

**Competency Builders:**
- Explain importance of loss prevention
- Explain importance of maximizing quality
- Explain importance of maximizing productivity
- Differentiate between specialized training and cross training
- Explain labor, management, and government influences on cost/profit
- Explain cost/profit influences of retraining
- Define impact of seasonal business cycles
BIL:  Recommended

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Competency:  Describe economic indicators and trends

Competency Builders:
Define gross national product and gross domestic product
Define national debt
Define impact of interest rates
Define impact of government spending
Define impact of seasonal business cycles
Define impact of inflation, growth, recession, and unemployment
Define impact of national and world events
Define impact of the growth of international trade
Competency: Explain international trade

Competency Builders:
Describe nature and importance of international trade
Explain marketing in international trade
Explain balance of trade concepts
Describe impact of foreign investment
Describe the influence of national debt
Describe the effect of currency exchange rates on international trade
**BIL:** Essential

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**Competency:** Explain basic business concepts

**Competency Builders:**
- Identify functions of business
- Explain role of management
- Explain role of labor
- Explain concept of service as a product
- Explain role of administration
- Explain role of operations
- Identify role of company objectives
- Identify importance of ethical business practices
- Identify types of ownership
- Identify components of a business plan
- Calculate break even and payback
- Explain role of depreciation in business decisions
- Explain role of capital gains
- Describe business reporting and information flow
- Map interface of departmental functions
- Describe business communication channels (e.g., formal, informal)
- Explain basic total quality management (TQM/ISO) principles
- Explain the effects of bankruptcy
BIL: Essential

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Competency: Explain legal concepts

Competency Builders:
Define legal terminology
Explain business law concepts
Identify contracts and/or legal documents
Explain relationship of laws and regulations to company contracts, policies, and procedures
Identify laws relating to working conditions, wages and hours, civil rights, social security, disability, unemployment insurance, and exempt vs. nonexempt
Competency: Explain role of marketing

Competency Builders:
Identify aspects of sound business image
Explain purposes of marketing
Describe functions of marketing
Describe effects of marketing
Identify target markets
Define sales potential
Explain pricing strategies
Differentiate among advertising campaigns
Explain functions of advertising agencies
Describe sales incentive programs
Differentiate among types of marketing strategies (e.g., phone, mail, person)
Unit: Basic Computer Concepts and Applications

BIL: Essential

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Competency: Describe personal computer operations

Competency Builders:
- Explain how data is stored in main computer memory
- Explain how computer system executes program instruction
- Explain computer storage capacity
- Explain how data is represented
- Describe data storage devices
- Identify types of memory
- Describe back-up and archival disciplines
BIL: Essential

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Competency: Explain information processing cycle

Competency Builders:
Describe computer languages and their use (e.g., machine, postscript, proprietary, graphic description)
Describe difference between data files and program files
Explain PC/Mac layout
Explain PC/Mac network layout
Explain mini/mainframe network layout
Differentiate among hardware, software, and firmware
Differentiate between open from proprietary architecture
Explain upload/download
BIL: Essential

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Competency: Explain operating systems

Competency Builders:
Identify operating systems and their attributes (e.g., DOS, Unix, Macintosh, Windows)
Describe compatibility issues
Identify cross-platform file conversion tools
Describe how commands handle tasks in operating systems
Describe various input/output systems
Describe the purpose of operating system utilities
Differentiate between a compiler and an interpreter
BIL: Essential

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Competency: Demonstrate basic computer literacy

Competency Builders:
Create directories/folders and sub-directories
Format disks
Manipulate files (e.g., copy, rename, delete)
Keyboard proficiently by touch
BIL: Essential

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Competency: Operate computer hardware

Competency Builders:
Practice proper media handling techniques (e.g., magnetic fields, dust, liquids)
Identify hardware and its use
Use hardware (e.g., printers, modems, touch screen, digitizers, plotters, graphic tablets, scanners, film recorders, video, laser image setters)
Demonstrate basic care of hardware
Explain need for and application of security levels/procedures
Perform basic hardware troubleshooting
Explain hardware addressing techniques
Maintain usage and maintenance logs
Competency: Explain operation of peripheral devices

Competency Builders:
- Identify peripherals and operating requirements of each
- Identify primary devices used for personal computer auxiliary storage
- Describe how data is stored on diskettes and hard drives
- List speed and storage capacities of computer auxiliary storage devices
- Describe attributes of diskettes and hard disks regarding speed and storage capacity
- List types of disk storage used with large computer systems
- Define role of tape storage in relation to personal and large computers
- Describe security issues
- Explain purpose of input devices (e.g., keyboard, mouse, scanners, pens, bar code readers, credit/debit/smart cards, voice, video, gloves)
- Describe operation of output devices (e.g., voice, speaker output devices, printers, plotters, printer sharing units, SCSI interface, video display)
Describe operation of multimedia (e.g., video, audiosound)
Describe operation of storage devices (e.g., tape, disk, CD-ROM)
BIL: Essential

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Competency: Operate peripheral devices

Competency Builders:
Use appropriate reference materials
Load media devices
Start media devices
Unload media devices
Import, edit, and export video and audio
Set up print devices
Operate scanner devices
Operate print devices
Maintain print devices
Monitor peripheral equipment operations
Perform routine maintenance on peripheral devices
List appropriate control procedures
Transmit via modem
Receive via modem
Search a CD-ROM library
Print information from a CD-ROM library
Describe device driver
BIL: Essential

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Competency: Store media

Competency Builders:
Identify need for data library
Retrieve stored media (e.g., on-line, off-line, permanent, off-site)
File stored media (e.g., on-line, off-line, permanent, off-site)
Initialize media
Catalog media
Competency: Explain software applications

Competency Builders:
Define software types and functions
Describe need for application software
Describe different types of software applications
Explain advantages and disadvantages of integrated and dedicated software
List software sources
Explain software copyright laws
Explain data compression techniques
Explain use of passwords/security
BIL: Essential

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Competency: Use word processing packages

Competency Builders:
Define word processing terminology
Explain functions of word processing software
Explain word processing applications
Use appropriate reference materials
Keyboard efficiently by touch
Use mouse
Initialize diskette
Prepare backup file
Maintain backup file
Update spelling dictionary and spell check
Perform document functions (e.g., locate, rename, delete, save, retrieve, copy)
Perform formatting functions (e.g., center, underline, bold, cut and paste)
Use edit features
Use sort features
Add page numbers to document
Add headers and footers
Print files, pages, screens and blocks of text
Verify accuracy of output
Create a document
Save a document to disk
Retrieve a document from disk
Edit an existing document
Describe word-wrap
Print a document
Store boilerplate material (e.g., templates, stationary files)
Compose documents at keyboard
Tabulate multiple columns
Prepare new documents from existing ones
Merge selected copy with new information
Prepare various types of table options
Format text
Integrate database, spreadsheet and graphic files
Convert documents from one system to another
Demonstrate use of computer thesaurus
Use multimedia techniques/resources
Perform merge functions
BIL: Essential

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Competency: Use spreadsheet packages

Competency Builders:
Define spreadsheet
Demonstrate knowledge of basic spreadsheet terminology
Define components of spreadsheets
Describe implementation of spreadsheet operations in business scope
Use spell check
Execute an electronic spreadsheet
Enter data, formulas, and functions
Differentiate between labels and numbers
Speculate using "what if..." questions
Sequence keystrokes in the creation of a macro
Create database within spreadsheet and perform data query functions
Move around in spreadsheet and correct errors
Format spreadsheet
Create graphs
Print graphs
Save previously saved files
Load previously saved files
Replicate cells using copy commands
Use electronic spreadsheet to complete business application
Use spreadsheet to plan financial strategies
Prepare spreadsheet
Use multimedia techniques/resources
BIL: Essential

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Competency: Use databases

Competency Builders:
Define database
Explain terms used in database systems
Describe common functions of database systems
Use database to create, input, edit, and display fields and records
Analyze structure of database files
Perform calculations with a database file
Alter structure of database file
Sort records based on multiple fields
Identify advanced database technology
Use appropriate reference materials
Utilize relational database
Enter elements into database
Proofread database
Explain database
Design report formats
Transfer data to and from remote database
Print reports using data from multiple databases
Use database files with other application software
Verify accuracy of output (e.g., edit reports)
BIL: Essential

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Competency: Use graphic user interface (GUI) techniques

Competency Builders:
Describe a variety of computer interfaces
Explain multi-tasking environment
Setup data exchange between two different applications
Setup an object link between two different applications
Explain the use of dynamic link libraries
Transfer data from instruments to other computers
BIL: Essential

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Competency: Manage software packages

Competency Builders:
Install software packages
Upgrade software packages
Document installation and upgrade of software packages
Apply security levels/procedures to sensitive data
Understand software memory allocation
Manage software preferences
Manage software conflicts
**BIL:** Essential

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**Competency:** Maintain computer security requirements

**Competency Builders:**
- Apply business ethics
- Follow security rules, regulations, and codes
- Implement security procedures
- Document security procedures
- Perform security checks
BIL: Essential

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Competency: Maintain personal computer systems

Competency Builders:
Monitor system status and performance
Run diagnostics
Report computer system malfunction(s)
Report software malfunction(s)
Fix recoverable files
Maintain security
Maintain computer log
Perform backup procedure(s)
Perform preventive maintenance
Follow log-off and power-down procedure(s)
Follow equipment maintenance procedures
Follow quality control procedures
BIL: Essential

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Competency: Demonstrate basic knowledge of networks

Competency Builders:
- Explain communications standards
- Describe network structures
- Explain network types and protocols
- Explain network connectivity
- Explain the function of servers in a graphic network
- Describe various network operating systems
- Explain the difference between network software and individual use software
- Use a network to access, file, and store files
BIL: Essential

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Competency: Use a shared environment

Competency Builders:
List purposes of a network environment
Define electronic mail
Identify advantages and disadvantages of electronic mail
Describe impact of local & wide area networks on mail delivery
Compose electronic messages
Send electronic messages using appropriate format
List categories of electronic mail service
Transmit document using electronic mail system
Monitor electronic mail
Use networked environments
Search database for properties of materials
Conduct literature searches using a variety of on-line tools
Explain access, security, transmission and retrieval
BIL: Essential

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Competency: Demonstrate knowledge of the Internet

Competency Builders:
Define the Internet
Explain how the Internet works
Explain Internet capabilities and limitations
Explain how to connect to the Internet via modem, ISDN, etc.
Install Internet software
Navigate the World Wide Web
Identify services and tools offered on the Internet
Use services and tools offered on the Internet
Explain bookmarks
**BIL:** Essential

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**Competency:** Use the Internet for research

**Competency Builders:**
Define how the Internet can be used for research
Use services and tools offered on the Internet for research
Identify search engines
Use search engines
Evaluate Internet resources and accuracy of information
Access library catalogs on the Internet
Access commercial and government resources
Download files
Unit: Customer Relations

BIL: Essential

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Competency: Demonstrate positive relations with customer(s)

Competency Builders:
Identify importance of customers to business
Differentiate between customer needs and wants
Explain principles of customer service
Provide prompt and courteous service
Resolve customer inquiries and complaints and/or refer customer to appropriate person
Identify methods of addressing dissatisfied customer(s)
Develop rapport with customer(s)
Identify opportunities to provide additional services to customer(s)
BIL: Essential

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Competency: Meet customer needs and expectations

**Competency Builders:**
- Clarify job requirements with customer(s)
- Prepare quote/estimate
- Create job files
- Serve as liaison between customer(s) and technical staff
- Define appropriate production procedures and processes
- Explain company services, equipment capabilities, limitations, and workflow
- Evaluate project
- Provide feedback to customer(s)
- Differentiate between preliminary proof and contract proof
- Obtain customer(s) approval for all proofs at appropriate stages in the production process
- Document job information (e.g., work orders, quotes, job tickets)
- Notify customer of changes in schedule and costs
- Manage scheduling conflicts in schedule
- Develop continuous customer satisfaction feedback
- Use negotiation skills to resolve conflicts with customers
BIL: Essential

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Competency: Manage project budget and timeline

Competency Builders:
Document customer(s)-requested changes
Communicate impact of requested changes on budget and timeline to customer(s)
Advise customer(s) of alternative production techniques
**BIL:** Essential

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**Competency:** Target account opportunities

**Competency Builders:**
Research the customer
Determine needs through effective questioning
Access right information
Sell benefits of product/service
Draw up sales contract
Resolve mistakes, misunderstandings, and author changes
Set deadlines
Unit: Market Research

BIL: Essential

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Competency: Describe market research

Competency Builders:
Describe market research as both a formal and informal process
Identify common market research activities and the type of information each provides
Differentiate between primary and secondary sources of market research information
Differentiate between qualitative and quantitative sources of market research information
Match primary and secondary sources with their advantages and disadvantages
Explain factors limiting market research (e.g., objectives, level of commitment, resources available)
Identify the steps of market research
BIL: Recommended

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Competency: Use the steps of market research

Competency Builders:
Identify market research objectives
Identify limiting factors
Identify sources of information (e.g., primary, secondary, qualitative, quantitative)
Record appropriate data classifications
Evaluate statistical market potential
Evaluate non-statistical market potential
Rank the most promising potential markets
Conduct in-depth research
Conduct product/company specific research
Recommend target markets
BIL: Recommended

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Competency: Describe considerations for specific research

Competency Builders:
Identify and assess markets according to current and projected demand for like or similar goods or services
Identify and assess factors that could affect the sales potential of the market
Identify channels of distribution for the target market, including availability of methods and channels
Identify competitors in the target market
Identify potential barriers to profitable sales in the target market
Competency: Explain the use of market research tools

Competency Builders:
Explanation of the basics of sampling
Differentiate among stratified, cluster, systematic, area, and random-digit sampling
Explanation of attitude measurement
Differentiate data among surveys and questionnaires completed over the telephone, by mail, and in person
Explanation of the purpose of experiments
Explanation of the purpose of observations
Differentiate internal from external research and the advantages and disadvantages of each
Identification of errors in market research
BIL: Recommended

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Competency: Perform the research process

Competency Builders:
Identify the need for information
Identify research objectives
Identify data sources
Identify or develop data collection forms
Design the sample
Collect data
Process data
Analyze data
Present results
Unit: Business Management

BIL: Essential

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Competency: Explain entrepreneurship

Competency Builders:
Identify characteristics of entrepreneurs
Identify qualities and skills needed by business owners
Identify means of obtaining technical assistance
Identify advantages and disadvantages of owning a business
Identify personal risks of owning a business
Describe basic factors contributing to business success
Describe a franchise-dealer relationship
BIL: Essential

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Competency: Evaluate entrepreneurship as a personal or corporate goal

Competency Builders:
Evaluate personal interests and resources (e.g., time, energy, skills)
Compare personal interests and skills with those necessary for entrepreneurship
Assess aptitude to become a successful entrepreneur
Identify motives for becoming an entrepreneur
Competency: Develop a business plan

Competency Builders:
List sources of information for starting a business
Classify local and state requirements for starting business
Identify risks of creating a new business
Differentiate among market characteristics
Analyze financing of business ownership
Develop marketing strategies
BIL: Recommended

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Competency: Identify role of small business in the economy

Competency Builders:
Identify factors that contribute to the success and failure of small business
Describe effects of supply, demand, profit, and competition on small business
Explain relationship of small business to a national (USA) and global economy
BIL: Recommended

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Competency: Analyze how legislation affects business

Competency Builders:
- Identify legal issues faced by entrepreneurs
- Describe the relationship between government and entrepreneurs
- Explain the effects of regulation on the business operation
- Identify when and how to obtain appropriate legal assistance
- Participate in the legislative process
- Utilize trade association resources
BIL: Recommended

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Competency: Evaluate factors affecting business management

Competency Builders:
Identify advantages and disadvantage of various types of ownership
Identify cooperative arrangements
Describe legal forms of retail businesses
Differentiate between various types of insuperable business risks
Describe social and ethical problems that affect business
Classify types of government regulations that affect business
Analyze current trends in business
List costs that must be considered when starting a business
Select best location and layout for a business
BIL: Essential

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Competency: Identify marketing mix

Competency Builders:
- Explain importance of having the right product
- Explain importance of having the product at the right place
- Explain importance of having the product with the right promotion
- Explain importance of having the product at the right price
- Explain importance of having the product at the right time
BIL: Essential

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Competency: Promote products and/or services

Competency Builders:
- Explain selling function
- Explain promotion function
- Describe relationship of sales to promotion
- Describe how to plan for special events and public relations activities
- Explain importance of maintaining a check on competitors' promotions
- Identify factors used to select appropriate products
- Prepare merchandise/buying plan
- Maintain vendor information and select appropriate vendors
- Identify selling price (M)
- Keep abreast of merchandising trends
BIL: Essential

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Competency: Manage customer relations

Competency Builders:
Identify advantages of customer services and accommodations
Identify advantages of attractive, comfortable facilities
Explain importance of price, quality, and variety
Use acceptable techniques in handling customer complaints
Develop customer audit
**BIL:** Recommended

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**Competency:** Explain financing methodologies

**Competency Builders:**
- Explain leasing
- Explain stock ownership
- Explain bond ownership
- Explain convertible securities
- Explain bank loans
BIL: Recommended

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Competency: Identify costs of financial services

Competency Builders:
Classify revenue and expenses
Speculate on revenue sources and expenses
Identify start-up costs
Explain means of obtaining financial assistance
Explain importance of a sound credit rating
Outline long-range financial plans
Explain how sources of finance are used in business operations
Compare financial services available from financial institutions
BIL: Recommended

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Competency: Prepare financial records and reports

Competency Builders:
- Record receipts and payments
- Adjust cash flow upon the introduction of a variable
- Justify budget items
- Record income and expenditures
- Report employee records for audit and taxation purposes
BIL: Recommended

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Competency: Comply with government regulations

Competency Builders:
Identify sources of information and assistance
Identify regulations, licensing, and permits affecting business operations
Identify taxes affecting businesses
Develop policies of compliance
Develop emergency procedures
Monitor changing regulations
Unit: Business Law

BIL: Recommended

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Competency: Demonstrate knowledge of labor law

Competency Builders:
Describe rights and responsibilities of parties to an employment contract
Identify state and federal laws dealing with employment
Identify protections available to employees
Identify issues related to casual contract labor
Identify issues related to hiring union employees
Identify relevant worker's compensation issues
Describe the role of OSHA
**BIL:** Recommended

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**Competency:** Demonstrate knowledge of contract law

**Competency Builders:**
- Analyze elements of a contract
- Differentiate between contracts that are transferable and contracts that are not transferable
- Identify means of discharging contracts
- Describe means of discharging contracts
- Describe remedies available for a breach of contract
BIL: Recommended

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Competency: Demonstrate knowledge of corporation law

Competency Builders:
- Explain the different types of business structures (e.g., sole proprietorship, general partnership, limited partnership, corporation including subchapter S)
- Describe how to form a corporation
- Describe the difference between equity and debt securities
- Identify the principle/agent relationship and the basic terms of employment agreements
- Identify special forms of corporations
- Name corporation purpose and structure
BIL: Essential

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Competency: Demonstrate knowledge of intellectual property rights and multimedia law

Competency Builders:
- Explain the various forms of intellectual property rights (e.g., copyright, patent, trademark, trade secrets)
- Explain how to obtain a copyright
- Explain how to obtain a patent
- Explain how to obtain a trademark
- Explain the perils in acquiring content rights
- Define the rights granted under copyright, patent, and trademark
- Identify the implications related to electronic imagery
- Define authorship
- Explain work made for hire
- Explain fair use
- Explain court cases related to intellectual property rights
- Explain First Amendment rights
Unit: Writing

BIL: Essential

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Competency: Develop basic technical materials

Competency Builders:
Identify need for publication(s)
Define audience(s)
Define objective(s)
Define topic(s)
Develop time frame for project development
Locate sources of information
Interpret information
Review existing literature
Compile appropriate data (M)
Develop draft
Revise/edit draft
Apply rules of grammar and word usage
Write coherent sentences and paragraphs
Spell words correctly
Proofread
Group information
Prepare and revise outline(s)
Use word processing system
Define terminology
Match vocabulary to targeted audience
Explain ramifications of language translation
Specify type and style for illustration(s)
Prepare sketches, if applicable (M, C)
Write figures titles and photograph captions
Prepare tables and charts (M, C)
BIL: Essential

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Competency: Edit basic technical material

Competency Builders:
Evaluate material for readability and correctness
Validate data (M, S)
Validate data in illustrations (M)
Edit illustrations
Seek evaluation of suggested changes
Competency: Use creative writing skills to write fiction

Competency Builders:
- Explain the major components of a fictional story (e.g., theme, style, setting, plot, character)
- Discuss the use of literary devices
- Evaluate writings of established authors
- Write a short story
- Explain the importance of revisions
Competency: Use creative writing skills to write a script

Competency Builders:
- Explain the various script formats (Hollywood and Standard AV)
- Determine audience
- Determine objectives
- Analyze project outline
- Write a video treatment/synopsis to coincide with project outline
- Develop a storyboard
- Develop a master scene script with detailed account of each screen with characters and their dialogue
Unit: Appreciation of the Arts

BIL: Essential

Competency: Demonstrate an appreciation and basic knowledge of music

Competency Builders:
- Explain how musical elements relate to the meaning or content of a composition
- Explain the feelings conveyed by various musical elements (e.g., thematic construction, tonal color, instruments, texture, volume, tempo)
- Explain the role of music in different historical periods
- Explain the role of music in contemporary living
- Explain the function of music in different cultures
- Identify the basic physical properties of sound (e.g., pitch, intensity, duration, and timbre)
- Explain the various elements of music (e.g., rhythm, melody, harmony, tone, color, and form)
BIL: Essential

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Competency: Demonstrate an appreciation and basic knowledge of visual art

Competency Builders:
Contrast the visual art styles of various historical periods
Define various forms of visual art
Explain the various elements of visual arts (e.g., lines, colors, light and dark, texture, volume, perspective)
Explain the feelings conveyed by various elements of visual arts
BIL: Essential

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Competency: Explain the interaction of music and visual art

Competency Builders:
Define music visualization
Explain how to combine music and visuals to evoke emotional responses
BIL: Essential

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Competency: Demonstrate an understanding and appreciation of literature

Competency Builders:
Explain the basic themes used in literature
Identify the basic styles/genres of literature
Identify the basic elements of a story (e.g., plot, characters, setting)
Discuss the use of various themes and styles in interactive stories
Unit: Programming

BIL: Essential

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Competency: Explain computer applications

Competency Builders:
- Explain hardware component functions
- Describe major types of software and their functions
- Describe batch processing
- Describe interactive processing
- Describe event driven, object oriented processing
BIL: Essential

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Competency: Prepare to write computer applications

Competency Builders:
Use appropriate reference materials
Analyze specifications
Identify constraints
Identify programming language
Identify input and output (I/O) requirements
Prepare logic using program-flow diagram
Competency: Explain programming theory

Competency Builders:
Explain the meaning of “reserved word”
Describe arrays and tables (M)
Explain compilers
Differentiate between system documentation and user documentation
Describe what is mean by top-down design and structured programming
Identify the steps in the program development cycle
Identify the steps and procedures required to develop test data
Explain iteration (looping)
Describe what is meant by data validation
List rules for naming variables
BIL: Essential

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Competency: Apply programming theory

Competency Builders:
- Demonstrate use of variables
- Write source code per standards
- Use spacing charts to plan program output
- Code a modular program
- Interpret a simple pseudocode design
- Create a flow-chart
- Utilize program sorts
- Demonstrate use of loops
- Demonstrate use of local operators (e.g., AND, OR, NOT)
- Code error-handling techniques
- Demonstrate use of data files
BIL: Essential

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Competency: Write a computer program

Competency Builders:
Follow algorithm to produce desired output (M)
Use variables (M)
Write sub-routines
Use conditional statements
Use functions, including library, user-defined, and string functions
Write arithmetic statements (M)
Write IO statements
Write internal documentation
BIL: Essential

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Competency: Test programs

Competency Builders:
Use debugging statements and tools
Debug syntax errors
Create test data that checks logic and error routines
Execute program with test data
Correct logic errors
BIL: Essential

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Competency: Demonstrate knowledge of authoring software for multimedia projects

Competency Builders:
- Compare the advantages and disadvantages of various authoring software packages
- Choose the most appropriate authoring software for the project
- Author a program using authoring software
- Use programming knowledge to solve authoring problems
Unit: Introduction to Interactive Media

BIL: Essential

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Competency: Demonstrate a basic knowledge of interactive media

Competency Builders:
Define interactive media
Identify major characteristics of interactive media presentations
Describe the important historical developments leading to contemporary interactive media
Describe various interactive media industry genres
Perform critical review of various interactive media end products
Identify rights, responsibilities and controls of various media
Interpret intellectual property laws involving interactive media
Explain the social and cultural implications of interactive media
Explain key criticisms of interactive media
Identify future trends in interactive media

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BIL: Essential

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Competency: Explain the markets for interactive media

Competency Builders:
Explain the concepts and uses of interactive media in sales and marketing
Explain the concepts and uses of interactive media in interactive advertising
Explain the concepts and uses of interactive media in K-12 education
Explain the concepts and uses of interactive media in corporate training
Explain the concepts and uses of interactive media in corporate communications
Explain the concepts and uses of interactive media in news
Explain the concepts and uses of interactive media in entertainment
Explain the concepts and uses of interactive media in distance learning
BIL:  Essential

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Competency:  Execute pre-production, production, and post-production tasks for the area of gripping

Competency Builders:
- Formulate strategies to properly utilize grip equipment during film/video production
- Originate solutions to unique shooting problems
- Organize pre and post-production routines
- Analyze production requirements to determine grip equipment needs
- Create required effects for lighting set-ups
- Demonstrate safe work habits
- Work as a member of a film production team
BIL: Essential

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Competency: Execute pre-production, production, and post-production tasks for the area of camera

Competency Builders:
Analyze the aesthetic needs of a shot and accomplish them
Organize the proper care and handling of camera and camera assist equipment
Analyze the script for camera lens and shot requirements
Organize pre and post-production routines for film camera operation
Analyze production requirements to determine camera equipment needs
BIL: Essential

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Competency: Perform lighting activities for a video production

Competency Builders:
Describe types of lighting fixtures
Identify parts of lighting fixtures
Distinguish various applications of stage lighting equipment
Design a standard lighting plot
Analyze and document lighting requirements for production
Set up appropriate lighting for a production
Describe functions of master lighting panel and dimmer board
Operate master lighting panel to dimmer board
Appraise maintenance needs for lighting equipment
Design special effects lighting
BIL: Recommended

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Competency: Design scenery to the specifications required in a video production

Competency Builders:
Design scenic plans to scale
Interpret scenic plans for the appropriate use of materials and hardware for scenic construction
Formulate design strategies for the construction of scenery
Create special effects scenery
Organize transportation of scenery to remote locations
Inspect and repair scenery as needed
Select and arrange stage props
BIL: Essential

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Competency: Operate video camera

Competency Builders:
- Tape under tungsten conditions
- Tape under daylight conditions
- Tape under backlight conditions
- Tape while panning
- Tape while zooming
- Tape while tilting
- Tape while simultaneously panning, tilting, and zooming with camera mounted on a tripod
- Tape while simultaneously panning, tilting, and zooming using a hand-held camera
- Play back tape on monitor
- Identify the effect on a video camera of changing of setting in low light levels
BIL: Essential

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Competency: Identify video formats

Competency Builders:
Differentiate among consumer, industrial, and broadcast grade video cameras
Describe camera formats
Differentiate among Betacam, VHS, 8mm, super VHS, and DV-Cam
Differentiate frame vs field modes
Identify image characteristics affected by camera choice
Differentiate among NTSC, PAL, and RGB video signals
Explain relationship of chip size to image size on film
Explain frame synchronization and time base correction
BIL: Essential

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Competency: Perform editing operations

Competency Builders:
- Describe operational parts of a video cassette editor
- Explain linear vs nonlinear editing systems
- Set up video cassette editor
- Perform assemble edits
- Perform insert edits
- Edit using dissolves (A-B roll)
- Add sound track
- Add narration/voice over
- Explain edit decision lists
- Use edit decision lists
BIL: Essential

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Competency: Digitize video

Competency Builders:
- Explain the concept of digitized video
- Explain digital video bandwidths and their implications
- Use a video capture card and appropriate software to digitize video tapes
- Edit digitized video (including transitions, special effects, computerized backgrounds)
- Explain the compression of video files
- Explain batch capture process
- Use batch capture process
Unit: Audio Production

BIL: Essential

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Competency: Demonstrate a knowledge of audio recording and sound reinforcement

Competency Builders:
Identify generally used instruments in modern pop-related recording
Describe basic acoustic principles and formulae
Explain the function and design of microphones
Use microphones effectively
Diagram signal flow throughout the recording chain
Use a mixing console with solid understanding of its input and output functions
Explain the properties of magnetic tape and the tape recorder
Edit tape recordings
Explain properties of analog and digital tape recording
Explain methods of analog and digital editing
Use editors effectively
Explain sound reinforcement techniques for live programs
Explain methods for mastering audio recordings
Produce master product as an audio tape product
Produce master product as a compact disc or DVD
Explain future technologies for audio recording
Explain analog signal processing and its applications
Explain digital signal processing and its applications
Explain digital audio bandwidths and their implications
Explain various computer hardware and software used in studio recording
Critique recordings
**BIL:** Essential

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**Competency:** Demonstrate a basic knowledge of digital audio production

**Competency Builders:**
- Identify current trends in electronic music
- Explain MIDI
- Explain digital synthesis
- Identify computer music applications
- Explain compression of sound files
- Explain digital sampling
- Identify potential markets for use of electronic music
BIL: Essential

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Competency: Create a sound track

Competency Builders:
Evaluate performance needs
Evaluate technical resources
Interpret script information relative to film sound
Design sound score appropriate to production and post-production needs
Select sound material
Hire talent, if necessary
Work with talent
Determine proper microphone and speaker placement
Compose, by recording and editing, a sound tape for production
Use mechanical and electrical sound effects for productions
Describe audio-for-video recording devices (analog, digital)
Set up audio-for-video recording devices (analog, digital)
Operate audio-for-video recording devices (analog, digital)
Describe time-code system for audio-video synchronization
Set up time-code system for audio-video synchronization
Operate time-code system for audio-video synchronization
Describe parts of an audio mixing console
Operate audio mixing console
Create a MIDI sound score
Unit: Web Page Design

BIL: Essential

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Competency: Demonstrate a basic understanding of web pages.

Competency Builders:
- Explain browsers
- Explain how different browsers affect the look of a web page
- Compare the various software editors available for designing web pages
- Explain bandwidths and their implications (M)
- Explain plug-ins
- Define client
- Define server
BIL: Essential

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Competency: Demonstrate a basic understanding of HTML

Competency Builders:
Define what HTML is
Explain the importance of HTML standards
Identify the difference between various versions of HTML
BIL: Essential

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Competency: Create a basic HTML document

Competency Builders:
Identify the meaning and purpose of HTML tags
Open up a workspace to create a new HTML document
Use a text editor to create the basic HTML structure for a web page
Insert non-displayed comments into HTML files
Display document within a web browser
Make text modifications using the text editor
Identify the different levels of headings in HTML and the tags associated with them
Place different level headings within an HTML document
Identify the paragraph break tag in HTML
Insert paragraph breaks into the text of an HTML document
Cut and paste text
Insert a stylized footer at the bottom of a page
Format text
Create lists
Add graphics
Add animation
BIL: Essential

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Competency: Format page layout

Competency Builders:
Create a solid color background
Calculate the hexadecimal code for a color value (M)
Change the color of text and hypertext link items
Create a textured background from graphic file
Create hard rule lines with different thicknesses for page dividers
Create hard rule lines with different widths for page dividers
Create hard rule lines without 3D shading for page dividers
Design a web page table with rows and columns of text in a gridded display (M)
Write the HTML for integrated layout schemes of text and pictures
Write the HTML for an invisible table that creates side-by-side columns
Create a table that has different colored cells
Explain interface design
BIL: Essential

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Competency: Add audio and video to a web page

Competency Builders:
Explain streaming audio and video
Explain audio sweetening
Explain audio and video compression
Use HTML codes to add audio and video to a web page
Explain network audio and video administration
BIL: Essential

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Competency: Link documents

Competency Builders:
Identify the function of URLs (Uniform Resource Locators)
Recognize the structure of a URL
Copy URLs from a web browser to an HTML text document
Write an HTML anchor to link to another document in the same directory as the first document
Write an HTML anchor to link to another document in a different directory as the first document
Write an HTML anchor to link to another Web document on the Internet
Write an HTML anchor to link to files
Write an HTML anchor that links to another section of the same document
Incorporate a graphic that acts as a hyperlink to another document
Explain the significance of a file called index.html on a WWW server
Create a hypertext link that will send an e-mail message
Explain the difference between client-side image mapping and server-side image mapping.

Create an inline image that has different portions hyperlinked to other web pages, pictures, and other sites on the Internet.

Create hyperlinks for use of plug-ins.

Use plug-ins.
BIL:  Essential

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Competency:  Create an organized web site

Competency Builders:
- Explain the advantages of short multiple web pages over a single, long web page
- Determine logical points to split information into multiple web pages
- Create a template file using a text editor
- Make appropriate changes to template file to create individual pages
- Integrate hypertext links into the text
- Insert HTML codes for links between pages
Competency: Demonstrate a basic understanding of programming for the Web

Competency Builders:
Explain the purpose of web content delivery enablers (e.g., CGI, API, SSI)
Explain how to interface client/server
Explain client-side processing and its advantages/disadvantages
Identify security issues related to client-side processing
Identify various scripting languages (e.g., JavaScript, Visual Basic Script, ActiveX)
Explain the uses and advantages of various scripting languages
Use a scripting language to program a site
BIL: Essential

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Competency: Demonstrate a knowledge of web hosting

Competency Builders:
- Compare the advantages and disadvantages of running your own server vs using a server provider
- Identify hardware requirements for a server
- Identify server software options
- Evaluate server providers
- Establish a domain name
- Explain TCP/IP (Transfer Control Protocol/Internet Protocol)
- Upload files to the server
- Publicize the site by submitting announcements to major search engines
BIL: Essential

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Competency: Identify web authoring software

Competency Builders:
Identify available packages
Compare available packages
Compare available authoring methods
Identify cross platform issues
Unit: Interactive Media Production

BIL: Essential

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Competency: Develop project concept

Competency Builders:
Determine purpose of the interactive media project
Determine the target audience
Determine objectives
Research the content
Use appropriate message design (e.g., instructional, informational, entertainment)
Determine the setting where it will be used
Determine the interactive media elements to be used
Determine degree of interactivity desired
Address issues of accessibility and ADA compliance
Develop timeline for completion
Develop budget for project
Write proposal (C)
BIL: Essential

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Competency: Meet client needs

Competency Builders:
Determine client’s needs and expected outcomes
Prepare cost estimate for client
Obtain client approvals throughout the project
BIL: Essential

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Competency: Develop storyboard

Competency Builders:
Make preliminary sketches showing placement of images and text, on screens
Show placement of buttons/navigational graphics
Add information on color schemes
Add information on lighting
Provide a sample screen
BIL: Essential

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Competency: Develop flowchart/navigational blueprint

Competency Builders:
Develop flowchart with radial branching
Develop flowchart with linear branching
Develop flowchart with linking/non-linear branching
BIL: Essential

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Competency: Write script

Competency Builders:
Describe music to be used
Describe video (still and motion)
Describe special effects (video and audio)
Write narration and actor lines
Describe scenes
Competency: Combine the various elements of interactive media to produce an interactive media project

Competency Builders:
Exhibit proficiency in visual design skills
Generate text for multi-image presentations (e.g., title slides, charts, graphs)
Create 2-D computer graphics
Create 3-D computer graphics
Create computer animation
Use photographic process to enhance interactive media presentation
Integrate the use of photographic special effects into interactive media presentations
Digitize photographic images for interactive media
Use image manipulation program to alter digitized images
Integrate photographically-derived images with hand-drawn graphic images
Hire talent, if necessary
Work with talent
Create video footage
Use computer video-editing software to digitize and edit video footage
Record sound track including narration, voice-overs, sound effects, and music
Integrate sound with visuals
Build in hotspots and interactive links
Use appropriate authoring software to synthesize available interactive media technologies into a unified presentation
Meet expectations of audience through interactive presentations
Test the product
Debug the product
**BIL:** Essential

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**Competency:** Create various interactive media applications

**Competency Builders:**
- Produce a computer-generated business publication (e.g., training materials, sales materials, annual reports, charts & graphs)
- Produce a CD-Rom presentation
- Produce an Internet presentation
- Produce a web page
- Produce computer generated video
- Produce KIOSK
- Set up video conferencing system
- Demonstrate computer-to-computer collaboration
BIL: Essential

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Competency: Maintain interactive media equipment

Competency Builders:
Demonstrate proper care and handling of interactive media equipment
Perform pre- and post-production routines for proper presentations
Analyze equipment performance against industry standards
Troubleshoot simple equipment problems
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