Course Outline

Job Title
Home Technology Integrator

Career Pathway:
Telecommunications

Industry Sector:
Energy, Environment, and Utilities

O*NET-SOC CODE:
49-2022.00

CBEDS Title:
Telecommunications

CBEDS No.:
4618

72-85-85

Technology Integration/2: Automation, Voice and Entertainment

Credits: 5   **Hours:** 90

Course Description:
This competency-based course is the second in a sequence of three designed for home technology integration (HTI). It provides students with project-based experiences in automation, voice and entertainment systems integration. Technical instruction includes an introduction, workplace safety principles and procedures, and review of resource management, and employability skills. Emphasis is placed on residential automation systems integration, design concepts for residential telecommunications devices, and audio and video systems design concepts. The competencies in this course are aligned with the California High School Academic Content Standards and the California Career Technical Education Model Curriculum Standards.

Prerequisites:
Enrollment requires successful completion of the Technology Integration/1: Copper and FIOs Cabling (72-85-80) course.

NOTE: For Perkins purposes this course has been designated as an **concentrator** course.

Sections designated by an asterisk (*) contain competencies that meet the CEA_CompTIA DHTI+ requirements. The said competencies are designed to prepare students to configure, integrate, maintain, troubleshoot, and comprehend the basic design concepts of electronic and digital home systems.

This course cannot be repeated once a student receives a Certificate of Completion.

COURSE OUTLINE COMPETENCY-BASED COMPONENTS

A course outline reflects the essential intent and content of the course described. Acceptable course outlines have six components. (Education Code Section 52506). Course outlines for all apportionment classes, including those in jails, state hospitals, and convalescent hospitals, contain the six required elements:

(EC 52504; 5CCR 10508 [b]; Adult Education Handbook for California [1977], Section 100)

COURSE OUTLINE COMPONENTS   **LOCATION**

GOALS AND PURPOSES   Cover

The educational goals or purposes of every course are clearly stated and the class periods are devoted to instruction. The course should be broad enough in scope and should have sufficient educational worth to justify the expenditure of public funds.

The goals and purpose of a course are stated in the COURSE DESCRIPTION. Course descriptions state the major emphasis and content of a course, and are written to be understandable by a prospective student.

PERFORMANCE OBJECTIVES OR COMPETENCIES   pp. 7-14

Objectives should be delineated and described in terms of measurable results for the student and include the possible ways in which the objectives contribute to the student's acquisition of skills and competencies.

Performance Objectives are sequentially listed in the COMPETENCY-BASED COMPONENTS section of the course outline. Competency Areas are units of instruction based on related competencies. Competency Statements are competency area goals that together define the framework and purpose of a course. Competencies fall on a continuum between goals and performance objectives and denote the outcome of instruction.

Competency-based instruction tells a student before instruction what skills or knowledge they will demonstrate after instruction. Competency-based education provides instruction which enables each student to attain individual goals as measured against pre-stated standards.

Competency-based instruction provides immediate and continual repetition and In competency-based education the curriculum, instruction, and assessment share common characteristics based on clearly stated competencies. Curriculum, instruction and assessment in competency-based education are: explicit, known, agreed upon, integrated, performance oriented, and adaptive.

COURSE OUTLINE COMPONENTS   LOCATION

INSTRUCTIONAL STRATEGIES   p. 16

Instructional techniques or methods could include laboratory techniques, lecture method, small-group discussion, grouping plans, and other strategies used in the classroom.

Instructional strategies for this course are listed in the TEACHING STRATEGIES AND EVALUATION section of the course outline. Instructional strategies and activities for a course should be selected so that the overall teaching approach takes into account the instructional standards of a particular program, i.e., English as a Second Language, Programs for Adults with Disabilities.

UNITS OF STUDY, WITH APPROXIMATE HOURS ALLOTTED FOR EACH UNIT   Cover

The approximate time devoted to each instructional unit within the course, as well as the total hours for   pp. 7-14
the course, is indicated. The time in class is consistent with the needs of the student, and the length of the class should be that it ensures the student will learn at an optimum level.

Units of study, with approximate hours allotted for each unit are listed in the COMPETENCY AREA STATEMENT(S) of the course outline. The total hours of the course, including work-based learning hours (community classroom and cooperative vocational education) is listed on the cover of every CBE course outline. Each Competency Area listed within a CBE outline is assigned hours of instruction per unit.

EVALUATION PROCEDURES   p. 16

The evaluation describes measurable evaluation criteria clearly within the reach of the student. The evaluation indicates anticipated improvement in performances as well as anticipated skills and competencies to be achieved.

Evaluation procedures are detailed in the TEACHING STRATEGIES AND EVALUATION section of the course outline. Instructors monitor students' progress on a continuing basis, assessing students on attainment of objectives identified in the course outline through a variety of formal and informal tests (applied performance procedures, observations, and simulations), paper and pencil exams, and standardized tests.

REPETITION POLICY THAT PREVENTS PERPETUATION OF STUDENT ENROLLMENT   Cover

After a student has completed all the objectives of the course, he or she should not be allowed to reenroll in the course. There is, therefore, a need for a statement about the conditions for possible repetition of a course to prevent perpetuation of students in a particular program for an indefinite period of time.

ACKNOWLEDGMENTS

Thanks to PAUL PIDOUX and MARCELA BAKER for developing and editing this curriculum. Acknowledgment is also given to ERICA ROSARIO for designing the original artwork for the course covers.

ANA MARTINEZ
Specialist
Career Technical Education

ROSARIO GALVAN
Administrator
Division of Adult and Career Education

APPROVED:

JOE STARK
Executive Director
Division of Adult and Career Education

1.0 Academics
Analyze and apply appropriate academic standards required for successful industry sector pathway completion leading to postsecondary education and employment. Refer to the Energy, Environment, and Utilities academic alignment matrix for identification of standards.

2.0 Communications
Acquire, and accurately use Energy, Environment, and Utilities sector terminology and protocols at the career and college readiness level for communicating effectively in oral, written, and multimedia formats.

3.0 Career Planning and Management
Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans.

4.0 Technology
Use existing and emerging technology to investigate, research, and produce products and services, including new information, as required in the Energy, Environment, and Utilities sector workplace environment.

5.0 Problem Solving and Critical Thinking
Conduct short, as well as more sustained, research to create alternative solutions to answer a question or solve a problem unique to the Energy, Environment, and Utilities sector using critical and creative thinking; logical reasoning, analysis, inquiry, and problem-solving techniques.

6.0 Health and Safety
Demonstrate health and safety procedures, regulations, and personal health practices and determine the meaning of symbols, key terms, and domain-specific words and phrases as related to the Energy, Environment, and Utilities sector workplace environment.

7.0 Responsibility and Flexibility
Initiate, and participate in, a range of collaborations demonstrating behaviors that reflect personal and professional responsibility, flexibility, and respect in the Energy, Environment, and Utilities sector workplace environment and community settings.

8.0 Ethics and Legal Responsibilities
Practice professional, ethical, and legal behavior, responding thoughtfully to diverse perspectives and resolving contradictions when possible, consistent with applicable laws, regulations, and organizational norms.

9.0 Leadership and Teamwork
Work with peers to promote divergent and creative perspectives, effective leadership, group dynamics, team and individual decision making, benefits of workforce diversity, and conflict resolution as practiced in the SkillsUSA career technical student organization.

10.0 Technical Knowledge and Skills
Apply essential technical knowledge and skills common to all pathways in the Energy, Environment, and Utilities sector.

11.0 Demonstration and Application
Demonstrate and apply the knowledge and skills contained in the Energy, Environment, and Utilities anchor standards, pathway standards, and performance indicators in classroom, laboratory, and workplace settings, and through the SkillsUSA career technical student organization.

C. Telecommunications Pathway

The Telecommunications pathway prepares students for employment and postsecondary education and training in the wireless and fixed-line communications industries. The sharing of information is essential for personal, commercial, educational, government, and military functions. Information is stored, sent, and accessed primarily via the telecommunications industries.

Sample occupations associated with this pathway:
- ♦ Cable/Telecommunications Installation and Maintenance Technicians
- ♦ Line Workers
- ♦ Network Operators, Technicians, Designers, and Managers
- ♦ Network Security Administrator
- ♦ Satellite Systems Installation/Engineers

C1.0   Understand the basic principles and concepts that impact the telecommunications industry, including systems, concepts, and regulations.

C2.0   Demonstrate understanding and use of the basic and emerging technologies that impact the telecommunications industry.

C3.0   Examine the role and functions of satellites in telecommunications.

C4.0   Research the components, interaction, and operations of wireless telecommunications systems.

C5.0   Research the components, interaction, and operations of fixed-wire telecommunications systems.

C6.0   Consider privacy and security issues of the telecommunications systems.

COMPETENCY-BASED COMPONENTS
for the **TI/2: Automation, Voice, and Entertainment** *Course*

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
A. INTRODUCTION AND SAFETY Review, apply, and evaluate classroom and workplace policies and safety procedures according to federal, state, and local safety and environmental regulations. (4 hours)	1. Review the scope and purpose of the course. 2. Describe the overall course content as a part of the Linked Learning Initiative. 3. Review classroom policies and procedures. 4. Review the different occupations in the Energy and Utilities Industry Sector which have an impact on the role of Technology Integration (TI) installers. 5. Review the opportunities available for promoting gender equity and the representation of non-traditional populations in the TI field. 6. Review the purpose of the California Occupational Safety and Health Administration (Cal/OSHA) and its laws governing TI technicians. 7. Review the impact of Environmental Protection Agency (EPA) legislation on the Energy and Utilities Industry Sector practices. 8. Review and demonstrate the procedures for contacting proper authorities for the removal of hazardous materials based on the EPA standards. 9. Review the National Electrical Code (NEC) and its role in safeguarding the work conditions of TI installers. 10. Review and demonstrate the use of the Material Safety Data Sheet (MSDS) as it applies to the TI field. 11. Review the role of the Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ in increasing the use of clean and renewable technology in California. 12. Review the City of Los Angeles Building and Safety Codes and their applications to the TI field. 13. Review the provisions of the California Title 24 Energy Efficiency Standards (a.k.a. 2008 California Green Building Standards Code) as they relate to the Energy and Utilities Industry Sector. 14. Review classroom and workplace first aid and emergency procedures based on the American Red Cross (ARC) standards. 15. Pass the safety test with 100% accuracy.	**Career Ready Practice:** 1, 3, 6, 8, 12 **CTE Anchor:** Communications: 2.1, 2.2, 2.3, 2.4 Career Planning and Management: 3.4, 3.5 Health and Safety 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16 Ethics and Legal Responsibility: 8.2 Technical Knowledge and Skills: 10.1, 10.2 **CTE Pathway:** C1.1, C1.2

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS

B. RESOURCE MANAGEMENT REVIEW
 	
Review, apply, and evaluate the resource management principles and techniques in the TI field.
 	
(1 hour)
	1. Review the definitions of the following:
	  a. resources
	  b. management
	  c. sustainability
	2. Review the management of the following resources in in the TI field:
	  a. time
	  b. materials
	  c. personnel
	3. List specific examples of effective management of the following resources in in the TI field:
	  a. time
	  b. materials
	  c. personnel
	4. Review the benefits of effective resource management in in the TI field:
	  a. profitability
	  b. sustainability
	  c. company growth
	5. Review the economic benefits and liabilities of managing resources in an environmentally responsible way.
		Career Ready Practice:
		1, 3, 6, 8, 9, 12
		
		CTE Anchor:
		Communications:
		2.1, 2.2, 2.3, 2.4, 2.5
		Career Planning and Management:
		3.1, 3.2
		Technology:
		4.1, 4.2, 4.3
		Problem Solving and Critical Thinking:
		5.1, 5.2, 5.4,
		Health and Safety:
		6.11
		Responsibility and Flexibility:
		7.1, 7.2, 7.3, 7.4, 7.5, 7.7, 7.8
		Ethics and Legal Responsibility:
		8.1, 8.2, 8.4, 8.5
		Leadership and Teamwork:
		9.1, 9.2, 9.3, 9.6
		Technical Knowledge and Skills:
		10.1, 10.2
		
		CTE Pathway:
		C1.1, C7.2, C7.3

C. HOME AUTOMATION SYSTEMS INTEGRATION*
 	
Understand the integration, interface definition, and programming of home controllers and gateways with emphasis on functional interfaces with other home technology devices such as keypads, distribution panels, and patch panels.
	1. Define the following:
	  a. Smart Grid interoperability project
	  b. Home Area Networking (HAN) technology
	  c. home controller
	  d. gateway
	  e. patch panel
	  f. touch screen controller input devices
	  g. intelligent remote controls
	  h. Internet Connection Sharing (ICS)
	  i. HomePNA network technology
	  j. bluetooth
	  k. X-10 control protocol
		Career Ready Practice:
		1, 3, 4, 5
		
		CTE Anchor:
		Communications:
		2.1, 2.2, 2.3, 2.4
		Technology:
		4.1, 4.2, 4.4
		Problem Solving and Critical Thinking:
		5.1, 5.2, 5.3, 5.4

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS

	l. CEBus protocol
	m. LonWorks home control protocol
	n. Zigbee
	o. Zwave
	p. ONE-NET
	q. broadband over Power Lines (BPL) transmission
	2. Identify federal, state, and local regulations regarding the installation and interfacing of home controllers and gateways.
	3. Identify industry standards that govern home controllers and gateways.
	4. Identify the primary differences between home controllers and gateways.
	5. Describe the input and output features of a home controller.
	6. List the features available for touch screen controller input devices.
	7. List the programmable features of a home controller.
	8. Describe the programming options available for intelligent remote controls.
	9. Describe how Internet Connection Sharing (ICS) is used in home networks.
	10. Explain the difference between ICS and hardware gateways.
	11. Draw the connections to a gateway/router in a home network.
	12. List types of Internet appliances that could work with a residential gateway.
	13. Explain the basic concept of using power lines for home network connectivity.
	14. Identify the main features of HomePNA network technology.
	15. Compare the features of the following protocols:
	    a. X-10
	    b. HAVi
	    c. CEBus
	    d. LonWorks
	    e. Zigbee
	    f. Zwave
	    g. ONE-NET
	16. List the characteristics of broadband wireless Internet access services.
	17. Describe industry standards that apply to all components of home automation including the following:
	    a. low voltage
	    b. high voltage
	    c. audio
	    d. video
	    e. telecommunications
	18. Demonstrate installing, configuring and troubleshooting a wired home automation system incorporating keypads, distribution panels and patch panels.
	19. Demonstrate installing, configuring and troubleshooting a wireless home automation system incorporating keypads, distribution panels and patch panels.
	20. Demonstrate preventative maintenance techniques.
		Health and Safety: 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16
		Ethics and Legal Responsibility: 8.1, 8.2, 8.3, 8.4
		Technical Knowledge and Skills: 10.1, 10.2, 10.3, 10.5
		
		CTE Pathway:
		C1.1. C1.2, C2.3, C2.4, C2.5, C2.9, C4.1, C4.2, C4.3, C5.2, C5.3, C5.4, C5.5, C5.7, C5.9, C7.2, C7.3, C7.5

(20 hours)		

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS

D. TELECOMMUNICATIONS*
 	
Understand, apply, and evaluate the basic features, products, and design concepts for residential telecommunications devices.
	1. Define and discuss the following:
	  a. telecommunications
	  b. Public Switched Telephone Network (PSTN)
	  c. Private Branch Exchange (PBX)
	  d. Centrex
	  e. direct inward dialing (DID)
	  f. Voice over Internet Protocol (VoIP)
	  g. Bluetooth
	  h. Federal Communications Commission (FCC)
	  i. Administrative Council for Terminal Attachments (ACTA)
	  j. Terminal Equipment (TE)
	  k. wireless telephone
	  l. fax
	  m. video conferencing
	  n. 911 service
	  o. Wireless Enhanced 911 (E911)
	  p. key telephone
	  q. key telephone system (KTS)
	  r. key service unit (KSU)
	  s. KSU-less system
	  t. hybrid KSU
	  u. EIA-232 interface
	  v. SS7 protocol
	  w. Session Initiated Protocol (SIP)
	  x. Voice I/O
	2. Describe the components of the PSTN.
	3. Identify federal, state, and local regulations regarding the installation and certifying of telecommunications devices.
	4. Explain the scope and purpose of Part 68 of the FCC rules as applied to the manufacturing and registration of PBX and KTS telephone systems.
	5. Describe the role of ACTA regarding terminal equipment.
	6. Explain the advantages of digital communications technology over an analog transmission (PSTN) system.
	7. Draw a diagram of a KSU and its components.
	8. Explain the differences between the KSU system, KSU-less system, and hybrid KSU system.
	9. Describe interoperability problems with KSU handsets or components.
	10. Explain the rationale for two separate standards for terminating RJ45 connectors.
	11. Identify the types of cabling for a structured wiring telecommunications system.
	12. Identify the proper termination pin numbers and wire color codes for the following:
	  a. RJ11 jacks
	  b. RJ45 jacks
	13. Describe and demonstrate the various standard hookups and color codes for the RJ11 telephone type jacks.
		Career Ready Practice:
		1, 3, 4, 5
		
		CTE Anchor:
		Communications:
		2.1, 2.2, 2.3, 2.4
		Technology:
		4.1
		Health and Safety:
		6.5, 6.6, 6.8, 6.11, 6.13, 6.15, 6.16
		Ethics and Legal Responsibilities:
		8.2
		Technical Knowledge and Skills:
		10.1
		
		CTE Pathway:
		C1.1, C1.2, C1.3, C1.4, C1.5, C1.6, C1.7, C1.8, C2.1, C2.2, C2.3, C2.5, C2.8, C2.9, C5.2, C5.5, C5.6, C5.8, C5.9, C5.11, C6.1

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS

(25 hours)	14. Describe the features of Insulation Displacement Connection (IDC) terminations for residential telephone cables.
	15. Explain the importance of IP networks to telecommunications.
	16. Identify the purpose of a VoIP gateway.
	17. Explain the three types of connectivity that can be implemented for VoIP telephony.
	18. Identify and demonstrate the use of Bluetooth technology in telecommunications.
	19. Demonstrate installing, configuring and troubleshooting the following:
	   a. voice mail
	   b. intercom
	   c. call conferencing
	   d. extension dialing
	20. Demonstrate installing, configuring and troubleshooting a wired home automation system incorporating telecommunications devices.
	21. Demonstrate installing, configuring and troubleshooting a wireless home automation system incorporating telecommunications devices.
	22. Demonstrate preventative maintenance techniques.	

E. HOME AUDIO AND VIDEO FUNDAMENTALS*
 	
Understand, apply, and evaluate the basic concept and design considerations in residential high-voltage wiring and home lighting.
	1. Define the following:
	   a. analog electronic signal
	   b. digital electronic signal
	   c. audio recording
	   d. digital recording
	   e. AM radio broadcasting
	   f. FM radio broadcasting
	   g. In-band On-channel (IBOC) digital radio broadcasting
	   h. digital audio recording
	   i. CD audio recording
	   j. computer audio recording
	   k. MP3 files
	   l. WMA files
	   m. amplifier
	   n. tuner
	   o. digital decoder
	   p. speaker
	   q. monaural audio
	   r. stereo audio
	   s. surround sound audio
	   t. National Television Standards Committee (NTSC) standard
	   u. PAL/SECAM standard
	   v. analog television
	   w. cathode ray tube (CRT)
	   x. analog video recording
	   y. digital video recording
	   z. digital television (DTV)
		Career Ready Practice:
		1, 3, 4, 5, 10
		
		CTE Anchor:
		Communication:
		2.1, 2.2, 2.3, 2.4
		Technology:
		4.1
		Problem Solving and Critical Thinking:
		5.1, 5.4
		Health and Safety:
		6.4, 6.6, 6.8, 6.9, 6.11, 6.12, 6.13, 6.15, 6.16,
		Responsibility and Flexibility:
		7.4, 7.5,
		Ethics and Legal Responsibilities:
		8.1, 8.2
		Technical Knowledge and Skills:
		10.1, 10.2, 10.3

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
	aa. compression bb. lossless compression cc. lossy compression dd. codec ee. progressive scan ff. interlaced scan gg. standard definition television (SDTV) hh. high definition television (HDTV) ii. digital image resolution jj. aspect ratio kk. digital television receiver ll. digital cable-ready television receiver mm. broadcast digital radio and television nn. cable television oo. digital satellite television pp. internet video qq. video projector rr. video game system ss. digital video storage files tt. digital video storage formats uu. digital video storage media vv. analog video storage media ww. dedicated audio/video system xx. whole home audio/video system yy. home theater-in-a-box (TIB) zz. middleware aaa. home audio/video inoperability (HAVi) 2. Explain the difference between a dedicated and a whole home audio/video system design. 3. Identify industry standards that govern audio and video equipment. 4. Describe the components contained in a typical whole-home audio/video distribution system design. 5. Explain Home Theater-in-a-Box (TIB) as an entry level product. 6. Compare TIB with other home theater systems. 7. Identify the various designs used for speaker systems. 8. Draw a diagram showing the location for all speakers in a surround sound home theater design. 9. Demonstrate speaker mounting locations. 10. Explain how speakers can be damaged by an underpowered amplifier. 11. Identify the commercial broadcasting standards used for HDTV. 12. Describe the features and characteristics of flat-panel display technology. 13. Explain advantages and disadvantages of currently available displays. 14. Explain differences between active- and passive-matrix flat-panel displays. 15. Explain differences between interlaced and progressive scan modes for TV and DVD players.	**CTE Pathway:** C1.1, C1.2, C1.4, C1.5, C1.6, C2.1, C5.2, C5.5, C5.6, C5.7, C5.9, C5.10, C5.11

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
	16. Explain the difference between front and rear projection television.	
	17. Describe the basic requirements for installing a satellite dish.	
	18. Describe the following middleware connectivity software applications:	
	a. Jini	
	b. Home Audio/Video Interoperability (HAVi)	
	c. Universal Plug and Play (UPnP)	
	19. Draw a diagram of a two-way and a three-way crossover network.	
	20. Identify the basic connector types and video formats used to connect audio and video components.	
	21. Identify the most popular video and audio standard formats for home theater designs.	
	22. Identify the different display formats that are available for setting up and connecting a DVD to a TV.	
	23. Explain audio/video room calibration.	
	24. List sources of audio and video services.	
	25. Review all connections on the rear of three different receivers and connect all components in your home-theater room.	
	26. Demonstrate installing, configuring and troubleshooting a home-theater system for:	
	a. a tech-savvy single person	
	b. a family with two children ages 8 and 11	
	c. an adult couple over 60	
	27. Demonstrate installing, configuring and troubleshooting a home-theater system with the home automation system that incorporates keypads, distribution panels, patch panels, and telecommunications devices.	
(35 hours)	28. Demonstrate preventative maintenance techniques.	

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS

F.   EMPLOYABILITY SKILLS REVIEW
 	
Review, apply, and evaluate the employability skills required in the TI field.
	1. Review employer requirements for the following:
	   a. punctuality
	   b. attendance
	   c. attitude toward work
	   d. quality of work
	   e. teamwork
	   f. timeliness
	   g. communication skills
	   h. computer skills and software applications
	2. Update potential employers through traditional and internet sources.
	3. Review the role of electronic social networking in job search.
	4. Review sample résumés and cover letters.
	5. Review the importance of filling out a job application legibly, with accurate and complete information.
	6. Review sample job application forms correctly.
	7. Review the importance of enthusiasm on a job.
	8. Review the importance of appropriate appearance on a job.
	9. Review the importance of the continuous upgrading of job skills.
	10. Review customer service as a method of building permanent relationships between the organization and the customer.
	11. Review and demonstrate appropriate interviewing techniques.
	12. Review the informational materials and resources needed to be successful in an interview.
	13. Update sample follow-up letters.
	14. Review and demonstrate appropriate follow-up procedures.
		Career Ready Practice:
		1,2, 3, 7, 8
		
		CTE Anchor:
		Communication:
		2.1, 2.2, 2.3, 2.4, 2.5
		Career Planning and Management:
		3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9
		Technology:
		4.4
		Responsibility and Flexibility:
		7.2, 7.4, 7.5, 7.6, 7.7
		Ethics and Legal Responsibilities:
		8.4
		Leadership and Teamwork:
		9.2, 9.4, 9.6
		Technical Knowledge and Skills:
		10.1
		Demonstration and Application:
		11.1, 11.2, 11.5
		
		CTE Pathway:
		C1.1, C7.1, C7.2, C7.3, C7.4

(5 hours)		

SUGGESTED INSTRUCTIONAL MATERIALS and OTHER RESOURCES

TEXTBOOKS

Caputo, Anthony. Digital Video Surveillance and Security. Elsevier Science, 2010.

Gilster, Ron. HTI+ Home Technology Integrator and CEDIA Installer I Exam Guide/Reference Book. McGraw Hill (Osborn), 2005.

O'Driscoll, Gerard, Stuart C. Palmer, and Whitney G. Freeman. HTI+ Certification Concepts and Practice. Exam Prep. Marcraft International Corporation, 2006.

Vanston, John, Wayne Caswell, Henry Elliott, and Michael Bettersworth. Home Technology Integration: A Technology Forecast. Texas State Technical College Publishing, 2007.

Wells, Quentin. Guide to Digital Home Technology Integration. Cengage Learning, 2008.

RESOURCES

Employer Advisory Board members

Subject area advisor

CTE Foundation Standards
http://www.cde.ca.gov/ci/ct/sf/documents/ctestandards.pdf
http://www.cde.ca.gov/be/st/ss/documents/ctestandards.doc

www.americangreenjobs.net

http://www.renewableenergyjobs.com/

http://careers.pennenergyjobs.com

http://www.cleantechrecruits.com

Digital Home Technology Integrator Certification CEA-CompTIA DTI+ Examination Objectives HT0-201
http://www.comptia.org/global/Libraries/DE-Docs/DTI_2006_Objectives_HT0-201.sflb.ashx

COMPETENCY CHECKLIST

TEACHING STRATEGIES and EVALUATION

METHODS AND PROCEDURES

A.   Lectures and discussion

B.   Multimedia presentations

C.   Demonstrations and participation

D.   Individualized instruction

E.   Peer teaching

F.   Role playing

G.   Guest speakers

H.   Field trips and field study experiences

I.   Projects

EVALUATION

SECTION A – Introduction and Safety – Pass a written exam on classroom and workplace safety with a score of 100%.

SECTION B – Resource Management Review – Pass all assignments and exams on resource management principles and techniques with a minimum score of 80% or higher.

SECTION C – Home Automation Systems Integration – Pass all assignments and exams on home automation systems integration with a minimum score of 80% or higher.

SECTION D – Telecommunications – Pass all assignments and exams on telecommunications with a minimum score of 80% or higher.

SECTION E – Home Audio and Video Fundamentals – Pass all assignments and exams on home audio and video fundamentals with a minimum score of 80% or higher.

SECTION F – Employability Skills Review – Pass all assignments and exams on employability skills with a minimum score of 80% or higher.

Statement for Civil Rights

All educational and vocational opportunities are offered without regard to race, color, national origin, gender, or physical disability.