Zarem/Golde ORT Technical Institute
HT303 – Home Technology Integration Certification Exam Syllabus

I. General Information

a. Instructor: Kevin M. Drew, Email: kdrew@steptechnical.com
b. Course Description: This course is the final module in a series of courses that prepares students for entry-level positions as technicians in the fields of home technology integration and structured wiring.
While emphasizing the practical skills needed to practice successfully as technicians, the course also prepares students to pass the internationally recognized HTI+ Home Technology Integration, Residential Systems and Systems Integration Exams.
c. Required Text: HTI+ Home Technology Integrator & CEDIA Installer I, Publisher: McGraw Hill Osborne; Book and CD-ROM edition (April 30, 2004) ISBN: 0072231327
d. Credits Awarded: 8 credit hours are awarded upon passing.
e. Classes meet Monday – Friday, 8:30am - 3:30pm, lunch from 11:30am to 12:30pm.

II. Performance Objectives

Most course objectives map directly to certification objectives outlined by CompTIA for the two HTI+ exams' Residential Systems Exam (HT0-101) and Systems Integration Exam (HT0-102).

The nine knowledge domains covered by the Residential Systems exam are:

1. Home Networks
2. Audio/Video Systems
3. Home Security and Surveillance Systems
4. Telecommunications Standards
5. Home Lighting Control
6. HVAC Management
7. Water System Controls
8. Home Access Controls
9. Miscellaneous Automated Home Features

The three knowledge domains of HTI+ Systems Integration are:

1. Low voltage wiring
2. High voltage wiring
3. Systems integration

Upon completion of this course, for each of the nine Residential Systems and three Systems Integration domains, the student will be able to:

a. Identify basic design requirements and equipment location considerations.
b. Demonstrate knowledge of equipment components, functionality, connectivity, and configuration.
c. Share in-house and external services.
d. Identify current industry standards, practices, and related organizations.
e. Design and implement solutions base on requirements.
f. Plan and implement installation and maintenance procedures.
g. Troubleshoot system problems.

III. Course Outline

This course consists of 60 lessons. Two lessons will be completed per day, five days per week. Each lesson contains three 50-minute periods including a lecture, lab, and computer based quiz.

Week 1			
#	**Lesson Topic**	**Lesson Objective**	**Assignment**
1	HTI+ Overview	Demonstrate an understanding of the field of home technology integration including, employment opportunities, industry stakeholders, and industry organizations. Identify and describe the areas of knowledge needed to pass the HTI+ exam. **Objectives a, d**	HTI+ Text Pages 374 - 387
2	Low Voltage Structured Wiring I	Identify standard structured wiring design considerations. Identify standard structured wiring location considerations. Identify and describe current industry standards for structured wiring design. **Objectives a, b, d**	
3	Low Voltage Structured Wiring II	Build and connect coaxial cables, connectors and taps. **Objectives a, b, d, e**	HTI+ Text Pages 388 - 400
4	Low Voltage Structured Wiring III	Build and connect UTP cables and connectors. **Objectives a, b, d, e**	
5	Low Voltage Structured Wiring III	Configure wiring closets and cross-connections. **Objectives a, b, c, d**	HTI+ Text Pages 400 - 408
6	Low Voltage Structured Wiring IV	Troubleshoot grounding problems. **Objective g**	
7	Low Voltage Structured Wiring V	Identify fiber optic terms and features. **Objectives a, b, d**	HTI+ Text Pages 409 – 414
8	Low Voltage Structured Wiring VI	Plan and implement a fiber optics installation. **Objectives a, b, e**	
9	Low Voltage Structured Wiring VII	Identify and describe maintenance plans and procedures for structured wiring design. **Objectives b, f**	HTI+ Text Pages 415 - 422
10	Low Voltage Structured Wiring VIII	Demonstrate knowledge of safety installation procedures. **Objectives d, f**	

Week 2			
#	**Lesson Topic**	**Lesson Objective**	**Assignment**
11	High Voltage Structured Wiring I	Identify the components and functions of household high voltage components. **Objectives a, b**	HTI+ Text Pages 423 - 433
12	High Voltage Structured Wiring II	Describe the function of common electrical devices and connections. **Objectives a, b, d**	
13	High Voltage Structured Wiring III	Describe the basic elements of the National Electrical Code (NEC) **Objectives b, d**	HTI+ Text Pages 434 - 439
14	High Voltage Structured Wiring III	Describe the basic elements of the National Electrical Code (NEC) **Objectives b, d**	
15	High Voltage Structured Wiring IV	Describe the basic elements of the National Electrical Code (NEC) **Objectives b, d**	HTI+ Text Pages 439 - 442
16	High Voltage Structured Wiring V	Describe the basic elements of the National Electrical Code (NEC) **Objectives b, d**	
17	High Voltage Structured Wiring VI	Design an electrical wiring installation for a room. **Objectives a, e**	HTI+ Text Pages 443 – 448
18	High Voltage Structured Wiring VII	Identify and describe maintenance plans and procedures for structured wiring design. **Objectives a, f**	
19	High Voltage Structured Wiring VIII	Demonstrate knowledge of safety installation procedures. **Objectives d, e, f**	HTI+ Text Pages 3 - 40
20	High Voltage Structured Wiring IX	Troubleshoot common installation problems. **Objective g**	

Week 3			
#	**Lesson Topic**	**Lesson Objective**	**Assignment**
21	Home Networking I	Identify basic network design considerations and information distribution methods through diverse media. **Objectives a, b, d**	HTI+ Text Pages 41 - 52
22	Home Networking II	Identify the equipment location considerations when designing a computer network. **Objective a**	
23	Home Networking III	Identify standard methods of device connectivity in the core networking technology. Identify the shared in-house services of the core networking technology. **Objectives b, c**	HTI+ Text Pages 53 - 73
24	Home Networking IV	Identify and detail sources of externally provided data services. **Objective c**	
25	Home Networking V	Share Internet connections across household network. Provide remote network access. **Objective c**	HTI+ Text Pages 74 - 85
26	Home Networking VI	Troubleshoot connection problems. **Objective g**	
27	Home Networking VII	Identify and describe current industry standards of the core networking technology. **Objective d**	HTI+ Text Pages 86 - 101
28	Audio I	Identify and describe design considerations of a connected audio/video system. Identify and describe the physical audio products that make up the components of the core technology. **Objectives a, b, d**	
29	Audio II	Identify and describe the sources of externally provided audio services and their associated technologies. **Objectives c, d**	HTI+ Text Pages 102 - 120
30	Audio III	Demonstrate an understanding of the basic principles of acoustics and speaker placement. **Objectives b, d**	

Week 4			
#	**Lesson Topic**	**Lesson Objective**	**Assignment**
31	Audio IV	Design and implement a connected audio solution. Troubleshoot common problems. **Objectives e, f, g**	HTI+ Text Pages 121 - 125
32	Video I	Identify and describe design considerations of a connected video system. Identify and describe the physical audio products that make up the components of video technology. **Objectives a. b, d**	
33	Video II	Identify and describe the sources of externally provided video services and their associated technologies. **Objective c**	HTI+ Text Pages 127 - 142
34	Video III	Design and implement a connected video solution. Troubleshoot common problems. **Objectives e, f, g**	
35	Home Security I	Identify basic design considerations of home security and fire alarm systems. Identify the equipment location considerations. **Objectives a. b, d**	HTI+ Text Pages 142 - 153
36	Home Security II	Identify the components that comprise the security and surveillance alarm systems. **Objective b**	
37	Home Security IIII	Identify the in-house services available in the home security and surveillance alarm systems' core technology. Identify the external services available in the home security and surveillance alarm systems' core technology. **Objective c**	HTI+ Text Pages 154 - 169
38	Home Security IV	Identify and describe current industry standards relating to the home security and surveillance alarm systems. **Objective d**	
39	Home Security V	Design a complete security solution for a given situation. Troubleshoot common problems. **Objectives e, f, g**	HTI+ Text Pages 170 - 183
40	Telephone Systems I	Identify and describe the telecommunications design considerations of the home network. Identify and describe telecommunication equipment location considerations when designing a home network. **Objectives a. b, d**	

Week 5			
#	**Lesson Topic**	**Lesson Objective**	**Assignment**
41	Telephone Systems II	Identify and describe the physical telecommunications products that make up the core technology of the home network. **Objectives b, d**	HTI+ Text Pages 183 - 199
42	Telephone Systems III	Plan, implement, and configure a telephone system. Provide a maintenance plan with the solution. **Objectives e, f**	
43	Telephone Systems IV - Troubleshooting	Troubleshoot common telephone system problems. **Objective g**	HTI+ Text Pages 201 - 221
44	Automation and Remote Control Systems I	Identify and describe the design and location considerations of the networked home lighting control and management systems. **Objectives a, b, d**	
45	Automation and Remote Control Systems II	Identify and describe the physical products that make up the networked home lighting control and management system. Design, implement, and configure a home lighting control solution. **Objectives b, d, e**	HTI+ Text Pages 222 - 241
46	Automation and Remote Control Systems III	Plan, implement, and configure a telephone system. Provide a maintenance plan with the solution. Troubleshoot common telephone system problems **Objectives e, f, g**	
47	Heating, Ventilation and Air Conditioning I	Identify and describe the design considerations of the home HVAC system. Identify and describe the equipment location considerations when designing a home VAC system. **Objectives a, b, d**	HTI+ Text Pages 241 - 264
48	Heating, Ventilation and Air Conditioning II	Identify and describe the physical products and components that make up the core technology of the home HVAC system. Share in-house and external services. **Objectives b, c**	
49	Heating, Ventilation and Air Conditioning III	Plan, implement, and configure an HVAC system. Provide a maintenance plan with the solution. **Objectives e, f**	HTI+ Text Pages 265 - 279
50	Heating, Ventilation and Air Conditioning IV	Troubleshoot common HVAC installation problems. **Objective g**	

Week 6			
#	**Lesson Topic**	**Lesson Objective**	**Assignment**
51	Home Water Systems Controls and Management I	Identify and describe the design considerations of the networked home water system control and management system. Identify and describe the equipment location considerations when designing a home water system control and management system. **Objectives a, b, d**	HTI+ Text Pages 281 - 310
52	Home Water Systems Controls and Management II	Identify and describe the standard configurations and settings of the core technology of the home water system control and management system. Share in-house and external services. **Objectives b, c, d**	
53	Home Water Systems Controls and Management III	Plan, implement, and configure a home water system control and management system. Provide a maintenance plan with the solution. Troubleshoot common system problems **Objectives e, f, g**	HTI+ Text Pages 311 - 340
54	Home Access Controls	Identify and describe the design considerations of the home access system. Identify and describe the physical products and components that make up the core technology of the home access system. Share in-house and external services. Plan, implement, and configure a home access system. Provide a maintenance plan with the solution. Troubleshoot common system problems **Objectives a, b, c, d, e, f, g**	
55	Miscellaneous Automated Home Features	Identify and describe the various devices used of home technology integration that don't fit into the other eight product categories. **Objectives a, b, c, d, e, f, g**	HTI+ Text Pages 449 - 463
56	Systems Integration Design Project	Design a complete home technology integration solution. **Objectives e, f, g**	
57	Systems Integration Design Project	Design a complete home technology integration solution. **Objectives e, f, g**	HTI+ Text Pages 464 - 481
58	Systems Integration Design Project	Design a complete home technology integration solution. **Objectives e, f, g**	
59	Systems Integration Design Project	Design a complete home technology integration solution. **Objectives e, f, g**	Review Exam Cram2 Cram Sheet
60	Final Exam	HTI+ Final Exam	

IV. Course Information

a. Course requirements: Credit in HT301 and HT302, (*A+ Core Hardware* and *Operating Systems*) or demonstrated equivalent knowledge of personal computer and network technologies.

b. Types of exams and evaluation weight.
   1. Quizzes 15%
   2. Module level exams 40%
   3. Final exam 15%
   4. Design Project 20%
   5. Participation 10%

c. Attendance policy: (See the Zarem/Golde ORT Technical Institute: Course Catalog for the complete policy.) The institute expects students to demonstrate

those work habits that are required in the work place. Students should attend classes on time and should not be absent for any sessions.

Students are required to attend a minimum of 70% of scheduled class sessions during their program.

d. Participation: Students are expected to participate in lectures and labs by taking notes, asking and answering questions, and completing assignments. Students are expected to review assigned material before class.
e. Teaching methods: Each lesson module will be conducted in three phases of equal size: lecture, instructor assisted laboratory, and computer based drilling/examination.

V. Evaluation

Each hour of lecture and lab is followed by an hour of computer-based quizzes. Progress is recorded and monitored by instructors in order to ensure progress. Criteria for grading are as follows:

Grade	Score	Explanation	Grade Points
A	90-100	Excellent	4.0
B	80-89	Good	3.0
C	70-79	Average	2.0
D	60-69	Below Average	1.0
F	Below 60	Failure	0.0
W	Withdrawal		
I	Incomplete		
P	Passing		

A letter "P" or "F" is given for courses taken on a Pass/Fail basis. See catalog for Pass/Fail policy.