

Home Technology Integration (CPMT 2302)



Credit: 3 semester credit hours (2 hours lecture, 4 hours lab)

Prerequisite/Co-requisite: None

Course Description

Integration and maintenance of various home technology subsystems. Includes home automation, security and surveillance, home networks, video and audio networks, and structured wiring.

Required Textbook and Materials

1. *CEA-CompTIA DHTI+ Digital Home Technology Integrator, 2nd Edition* by Ron Gilster & Helen Heneveld
 - a. ISBN number is 978-0-07-154665-2
2. Computer Networking and Troubleshooting Technology students are required to have one portable external Hard Drive with a capacity of 500GB or larger to be used for the duration of the time to complete their respective degree.

Course Objectives

Upon completion of this course, the student will be able to:

1. Design various subsystems.
2. Install various subsystems.
3. Integrate various subsystems.
4. Maintain various subsystems for today's high-tech home.

Course Outline

- | | |
|--|---|
| A. Home Technology Installation Basics | 2. Designing and Installing Distributed Audio Systems |
| 1. Wire and Cable Basics | 3. Troubleshooting Audio Systems |
| 2. Connector Types and Uses | 4. Distributed Video Basics |
| 3. Wiring Installation Practices | 5. Designing and Installing Distributed Video Systems |
| 4. Troubleshooting Basics | 6. Troubleshooting Video Systems |
| B. Home Computer Networks | D. Telecommunications |
| 1. Wiring Documentation | 1. Home Communication System Basics |
| 2. Computer Network Hardware and Software | 2. Designing and Installing a Home Telephony System |
| 3. Planning and Installing a Wired Network | 3. Troubleshooting and Maintaining Home Communication Systems |
| 4. Designing and Installing a Wireless Network | E. Security System Basics |
| 5. Troubleshooting a Home Network | 1. Security System Basics |
| C. Audio/Video Systems | |
| 1. Distributed Audio System Basics | |

Approved 12/2013

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Course Syllabus

- 2. Home Security Devices
- 3. Designing and Installing a Home Security System
- 4. Monitoring and Troubleshooting a Home Security System
- F. Home Surveillance Systems
 - 1. Surveillance Camera Basics
 - 2. Designing and Installing a Home Surveillance System
 - 3. Troubleshooting a Home Surveillance System
- G. Home Lighting Systems
 - 1. Home Lighting Basics
 - 2. Home Lighting Devices
- 3. Designing and Installing a Home Lighting System
- 4. Troubleshooting and Maintaining a Home Lighting System
- H. Home Control and Management
 - 1. User Interfaces
 - 2. Home Control Systems
 - 3. HVAC Controls
 - 4. Configuring a Home Control System
 - 5. Troubleshooting and Maintaining a Home Control System
 - 6. Power Protection

Grade Scale

| | |
|----------|---|
| 90 – 100 | A |
| 80 – 89 | B |
| 70 – 79 | C |
| 60 – 69 | D |
| 0 – 59 | F |

Course Evaluation

Final grades will be calculated according to the following criteria:

| | |
|-----------------|-----|
| 1. Labs | 30% |
| 2. Study Guides | 10% |
| 3. Tests | 30% |
| 4. Final Exam | 30% |

Course Requirements

- 1. Demonstrate proficiency through hands-on labs as assigned.
- 2. Complete Study Guides or work sheets as assigned.

Course Policies

- 1. No food, drinks, or use of tobacco products in class.
- 2. Beepers, telephones, headphones, and any other electronic devices must be turned off while in class.
- 3. Do not bring children to class.
- 4. No late assignments will be accepted.
- 5. Certification. If a student passes the certification test that is associated with this class, you will receive an “A” on the final exam and credit for 25% of your labs. If you have missed a previous test, you must still take the final exam to substitute for that grade.

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6. Attendance Policy. Three absences are allowed. If a student is tardy to class or departs early three (3) times, it will be equal to one (1) absence. Each absence beyond three absences will result in a 2 point deduction from your final grade.
7. If you wish to drop a course, the student is responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course, you will earn an 'F' in the course.
8. Labs. Due dates will be announced by the instructor.
9. Tools. Return all tools and/or software to their designated place.
10. A grade of 'C' or better must be earned in this course for credit toward degree requirement.
11. Additional class policies as defined by the individual course instructor.

Disabilities Statement

The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409) 880-1737 or visit the office in Student Services, Cecil Beeson Building.

Course Schedule

| Week of | Topic | Reference |
|----------------|---|------------------|
| Week 1 | Course introduction and policies | |
| Week 2 | Part I: Home Technology Installation Basics | pp. 1-112 |
| Week 3 | Part I: Home Technology Installation Basics | pp. 1-112 |
| Week 4 | Part II: Home Computer Networks | pp. 113-222 |
| Week 5 | Part III: Audio/Video Systems | pp. 223-356 |
| Week 6 | Part III: Audio/Video Systems | pp. 223-356 |
| Week 7 | Part IV: Telecommunications | pp. 357-406 |
| Week 8 | Part IV: Telecommunications | pp. 357-406 |
| Week 9 | Part V: Security Systems Basics | pp. 407-480 |
| Week 10 | Part V: Security Systems Basics | pp. 407-480 |
| Week 11 | Part VI: Home Surveillance Systems | pp. 481-518 |
| Week 12 | Part VI: Home Surveillance Systems | pp. 481-518 |
| Week 13 | Part VII: Home Lighting Systems | pp. 519-600 |

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| Week of | Topic | Reference |
|----------------|--|------------------|
| Week 14 | Part VIII: Home Control and Management | pp. 601-681 |
| Week 15 | Review | |
| Week 16 | Review | |

Contact Information:

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Additional Course Policies

Additional policies may be determined by individual course instructors. These policies will be indicated in the syllabus that is issued at the start of the course.