

## 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. A portable external Hard Drive with a capacity of 500GB or larger.

### Course Objectives (with applicable SCANS skills after each)

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

1. Design various subsystems. (SCANS: C1, C3, C5, C6, C7, C8, C11, C15, C16, C17, C18, C19, C20, F1, F2, F5, F6, F7, F8, F9, F10, F11, F12, F13, F16, F17)
2. Install various subsystems. (SCANS: C1, C3, C5, C6, C7, C8, C11, C15, C16, C17, C18, C19, C20, F1, F2, F5, F6, F7, F8, F9, F10, F11, F12, F13, F16, F17)
3. Integrate various subsystems. (SCANS: C1, C3, C5, C6, C7, C8, C11, C15, C16, C17, C18, C19, C20, F1, F2, F5, F6, F7, F8, F9, F10, F11, F12, F13, F16, F17)
4. Maintain various subsystems for today's high-tech home. (SCANS: C1, C3, C5, C6, C7, C8, C11, C15, C16, C17, C18, C19, C20, F1, F2, F5, F6, F7, F8, F9, F10, F11, F12, F13, F16, F17)

### SCANS Skills and Competencies

Beginning in the late 1980's, the U.S. Department of Labor Secretary's Commission on Achieving Necessary Skills (SCANS) conducted extensive research and interviews with business owners, union leaders, supervisors, and laborers in a wide variety of work settings to determine what knowledge workers needed in order to perform well on a job. In 1991 the Commission announced its findings in *What Work Requires in Schools*. In its research, the Commission determined that "workplace know-how" consists of two elements: foundation skills and workplace competencies.

## Course Outline

- A. Home Technology Installation Basics
  - 1. Wire and Cable Basics
  - 2. Connector Types and Uses
  - 3. Wiring Installation Practices
  - 4. Troubleshooting Basics
- B. Home Computer Networks
  - 1. Wiring Documentation
  - 2. Computer Network Hardware and Software
  - 3. Planning and Installing a Wired Network
  - 4. Designing and Installing a Wireless Network
  - 5. Troubleshooting a Home Network
- C. Audio/Video Systems
  - 1. Distributed Audio System Basics
  - 2. Designing and Installing Distributed Audio Systems
  - 3. Troubleshooting Audio Systems
  - 4. Distributed Video Basics
  - 5. Designing and Installing Distributed Video Systems
  - 6. Troubleshooting Video Systems
- D. Telecommunications
  - 1. Home Communication System Basics
  - 2. Designing and Installing a Home Telephony System
  - 3. Troubleshooting and Maintaining Home Communication Systems
- E. Security System Basics
  - 1. Security System Basics
  - 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.
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
Week 14	Part VIII: Home Control and Management	pp. 601-681
Week 15	Review	
Week 16	Review	

## Contact Information:

**Instructor:** Tim Storbeck  
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**Office Hours:** Posted on office door

### **Additional Course Policies**

1. Lab Grading. You must answer all questions in the assigned labs as well as review questions at the end of the lab. Lab questions are to be answered on the provided answer sheet and turned in on or before the due date. 5 points will be deducted for each question in the lab that is not answered and 7 points will be deducted for each review question that is not answered. If none of the questions are answered then the lab will receive a '0'. Labs that are not turned in will receive a '0'. Do not do the lab challenges or the troubleshooting labs.