

Instructor: TBD  
 Phone: TBD  
 E-mail: TBD

**TEXTBOOK AND SUPPLIES:**

- Electronic Systems Technician, Level 4, 4<sup>th</sup> Edition, ISBN-13: 9780136844150

**PREREQUISITE:** BICSI Technician Certification or instructor approval

**OTHER REGISTRATION RESTRICTION(S):** It is highly recommended that students be registered with DOL by their Sponsor (employer)

**COURSE DESCRIPTION:** In this course, students explore of technologies, codes, hardware, and installation techniques for intrusion detection, fire alarm, nurse call/signaling, and video surveillance systems. In addition, an introduction to the typical access control systems used in commercial and industrial applications and general installation and testing guidelines. UT Fire Alarm certification prep.

**Upon successfully completing this course, students should be able to:**

1. Identify and select the correct security sensors, notification devices, and control panels
2. Install, wire, program, and troubleshoot an intrusion detection system
3. Connect and troubleshoot selected fire alarm components
4. Install and connect nurse call systems components
5. Select the correct lens for a given video surveillance system
6. Set up and connect a camera to a recording device and test a video surveillance system
7. Select components, install, and troubleshoot an access control system
8. Pass the Utah Fire Alarm Systems Basic Fire Alarm Technician certification exam

**COURSEWORK:**

- **Weekly Homework:** You are expected to come to class prepared with your weekly readings and assignments.
- **Pre-Post Assessments, Weekly Quizzes:** Take and submit online in Canvas.
  - A pre- and post-assessment will be taken on the first and last day of class to measure progress
  - Weekly quizzes will be taken online in Canvas. You are allowed two attempts with the higher score recorded.
- **Attendance/Participation:** Attendance is expected and crucial to understanding the material and participating in classroom activities. Attendance and participation will be recorded daily and included as part of your coursework grade. 95% attendance is required, which means you are allowed one excused absence.
- **Final Exam:** The final exam will be a comprehensive examination.
- **Lab Projects:** Completion of related lab projects will be required. Missed projects must be coordinated with the instructor and made up.
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**GRADES:** Final grades will be calculated using the following scale and weights.

A	93% and above	C	73% – 78.9%
A-	90% – 92.9%	C-	70% – 72.9%
B+	87% – 89.9%	D+	67% – 69.9%
B	83% – 86.9%	D	63% – 66.9%
B-	80% – 82.9%	D-	60% – 62.9%
C+	77% – 79.9%	E	below 60%

Homework	20%
Pre- Post assessments, Quizzes	20%
Final exam	25%
Weekly lab activities	25%
Attendance/participation	10%

**Schedule** (Subject to change)

WEEK	DAY 1	DAY 2	ASSIGNMENTS
1	1. Intrusion Detection System <ul style="list-style-type: none"> <li>a. Fundamentals               <ul style="list-style-type: none"> <li>i. System Components and Types</li> </ul> </li> <li>b. Types of Intrusion System Sensors               <ul style="list-style-type: none"> <li>i. Perimeter Sensors and Detectors</li> <li>ii. Interior Sensors</li> </ul> </li> </ul>	1. Intrusion Detection System <ul style="list-style-type: none"> <li>a. Annunciation (Notification) Devices               <ul style="list-style-type: none"> <li>i. Types of Annunciation Devices</li> </ul> </li> <li>b. Control Panels and Units               <ul style="list-style-type: none"> <li>i. Control Units and Combination Systems</li> <li>ii. Wireless and Computer Controls</li> </ul> </li> </ul>	TBD
2	1. Intrusion Detection Systems <ul style="list-style-type: none"> <li>a. Intrusion System Notification               <ul style="list-style-type: none"> <li>i. Communications and Monitoring</li> <li>ii. Communication Methods and Systems</li> <li>iii. Long-Range Radio or Satellite</li> </ul> </li> </ul>	1. Intrusion Detection Systems <ul style="list-style-type: none"> <li>a. System Design               <ul style="list-style-type: none"> <li>i. Applications</li> <li>ii. Methods for Connection</li> <li>iii. Conditions</li> <li>iv. False Alarm Prevention and False Alarm Control teams (FACT)</li> </ul> </li> </ul>	
3	1. Intrusion Detection Systems <ul style="list-style-type: none"> <li>a. Equipment Installation               <ul style="list-style-type: none"> <li>i. General Guidelines</li> <li>ii. Cable Spacing</li> </ul> </li> </ul>	1. Intrusion Detection Systems <ul style="list-style-type: none"> <li>b. Tips for Installation               <ul style="list-style-type: none"> <li>i. Standby Power and Components</li> <li>ii. Perimeter Fence or Exterior Detection Systems</li> <li>iii. Interior Intrusion Systems</li> </ul> </li> </ul>	TBD

WEEK	DAY 1	DAY 2	ASSIGNMENTS
4	<ol style="list-style-type: none"> <li>1. Intrusion Detection System               <ol style="list-style-type: none"> <li>a. Programming Options                   <ol style="list-style-type: none"> <li>i. Controlled and 24-Hour Zones</li> <li>ii. Home and Away Feature</li> </ol> </li> <li>b. Inspection, Testing, and Maintenance                   <ol style="list-style-type: none"> <li>i. Testing</li> <li>ii. Intrusion System Troubleshooting Guidelines</li> </ol> </li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>1. Fire Alarm Systems               <ol style="list-style-type: none"> <li>a. Codes and Standards                   <ol style="list-style-type: none"> <li>i. Standards Organizations</li> <li>ii. The National Fire Protection Association (NFPA)</li> </ol> </li> <li>b. Fire Alarm Systems Overview                   <ol style="list-style-type: none"> <li>i. Fire Alarm Communication Systems</li> <li>ii. Fire Alarm System Equipment</li> </ol> </li> </ol> </li> </ol>	
5	<ol style="list-style-type: none"> <li>1. Fire Alarm Systems               <ol style="list-style-type: none"> <li>a. Control Units                   <ol style="list-style-type: none"> <li>i. Control Unit Overview</li> <li>ii. User Control Points</li> <li>iii. FACU Initiating Circuits and Outputs</li> </ol> </li> <li>b. Notification, Communication, and Monitoring                   <ol style="list-style-type: none"> <li>i. Notification Appliances</li> <li>ii. Signal Considerations</li> <li>iii. Communication and Monitoring</li> </ol> </li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>1. Fire Alarm Systems               <ol style="list-style-type: none"> <li>a. Installation Guidelines                   <ol style="list-style-type: none"> <li>i. General Wiring Requirements</li> <li>ii. Installation Requirements</li> <li>iii. Total Premises Fire Alarm System Installation</li> <li>iv. Fire Alarm-Related Systems Troubleshooting</li> </ol> </li> </ol> </li> </ol>	TBD
6	<ol style="list-style-type: none"> <li>1. Nurse Call and Signaling Systems               <ol style="list-style-type: none"> <li>a. Nurse Call Systems and Related Codes                   <ol style="list-style-type: none"> <li>i. Nurse Call Terms and Standards</li> </ol> </li> <li>b. Managing Nurse Call Systems                   <ol style="list-style-type: none"> <li>i. Call System Types and Call Management</li> </ol> </li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>1. Nurse Call and Signaling Systems               <ol style="list-style-type: none"> <li>a. Interfacing with Call Systems                   <ol style="list-style-type: none"> <li>i. System Interfaces</li> </ol> </li> <li>b. Nurse Call System Installation and Commissioning                   <ol style="list-style-type: none"> <li>i. Electrical Power Requirements</li> <li>ii. Installation and Commissioning Guidelines</li> </ol> </li> </ol> </li> </ol>	TBD
7	<ol style="list-style-type: none"> <li>1. Closed Circuit TV Networks               <ol style="list-style-type: none"> <li>a. Network Technology                   <ol style="list-style-type: none"> <li>a. Wired Networks</li> <li>b. Signal Propagation</li> <li>c. Wireless Networks</li> </ol> </li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>1. Access Control Systems               <ol style="list-style-type: none"> <li>a. Access Control Basics                   <ol style="list-style-type: none"> <li>i. Access Control System Elements</li> <li>ii. Access Control System Technologies</li> </ol> </li> <li>b. Control Barriers and Locking Devices                   <ol style="list-style-type: none"> <li>i. Gates</li> </ol> </li> </ol> </li> </ol>	TBD

WEEK	DAY 1	DAY 2	ASSIGNMENTS
		<ul style="list-style-type: none"> <li>ii. Turnstiles, Revolving Security Doors, and Mantraps</li> <li>iii. Doors</li> <li>iv. Locking Devices</li> </ul>	
8	<ul style="list-style-type: none"> <li>1. Access Control Systems <ul style="list-style-type: none"> <li>a. Access Readers and Coded Credentials <ul style="list-style-type: none"> <li>i. Reader Categories</li> <li>ii. Coded Credentials</li> </ul> </li> <li>b. Controllers, Power Supplies, Topologies, and Communications <ul style="list-style-type: none"> <li>i. Controllers</li> <li>ii. Power Supplies</li> <li>iii. Topologies</li> <li>iv. Communications</li> </ul> </li> <li>c. Installation Tips and Procedures <ul style="list-style-type: none"> <li>i. Installation Tips</li> <li>ii. Installation Procedures</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Wrap-up</li> <li>• Final</li> </ul>	TBD

**WITHDRAWAL POLICY:** The College's withdrawal schedule is followed. No withdrawals will be approved beyond the drop date.

**COMMUNICATION and FEEDBACK EXPECTATIONS:** Email is the best way to communicate with your instructor through the Canvas Inbox. You can expect to receive responses to emails within 24 business hours. You can expect that projects and exams will be graded and recorded within one week of when the assignment was submitted. Keep the line of communication open to avoid any misunderstandings.

**ELECTRONIC DEVICES IN THE CLASSROOM:** No video or audio recording in the classroom is allowed without written authorization from the instructor. Cell phones and other electronic devices should be silent and off the desk during class except to take notes if it is not distracting to classmates. In case of an emergency, exit the classroom to use your cell phones. Disruptive behavior will cause you to be excused from class and lose participation points. Please let your instructor know of any special circumstances at the start of the semester.

**SAVE YOUR WORK:** In case of human or computer errors, it is recommended that you save all coursework until you have received a final grade.