

FIRE105 : Fire Protection Systems

General Information

| | |
|---|---|
| Author: | <ul style="list-style-type: none">Tracy Rickman |
| Course Code (CB01) : | FIRE105 |
| Course Title (CB02) : | Fire Protection Systems |
| Department: | FIRE |
| Proposal Start: | Spring 2025 |
| TOP Code (CB03) : | (2133.00) Fire Technology |
| CIP Code: | (43.0201) Fire Prevention and Safety Technology/Technician. |
| SAM Code (CB09) : | Clearly Occupational |
| Distance Education Approved: | No |
| Will this course be taught asynchronously?: | No |
| Course Control Number (CB00) : | CCC000549723 |
| Curriculum Committee Approval Date: | 05/22/2024 |
| Board of Trustees Approval Date: | 07/16/2024 |
| Last Cyclical Review Date: | 05/22/2024 |
| Course Description and Course Note: | FIRE 105 introduces students to the features, design, and operation of fire alarms and suppression systems. Topics include water-based suppression systems, special hazard fire suppression systems, water supply for fire protection, and portable fire extinguishers. |
| Justification: | Mandatory Revision |
| Academic Career: | <ul style="list-style-type: none">Credit |
| Mode of Delivery: | |
| Author: | Tracy Rickman |
| Course Family: | |

Academic Senate Discipline

| | |
|-----------------------|---|
| Primary Discipline: | <ul style="list-style-type: none">Fire Technology |
| Alternate Discipline: | No value |
| Alternate Discipline: | No value |

Course Development

Basic Skill Status (CB08)

Course is not a basic skills course.

Allow Students to Gain Credit by Exam/Challenge

Course Special Class Status (CB13)

Course is not a special class.

Pre-Collegiate Level (CB21)

Not applicable.

Grading Basis

- Grade with Pass / No-Pass Option

Course Support Course Status (CB26)

Course is not a support course

General Education and C-ID

General Education Status (CB25)

Not Applicable

Transferability

Transferable to CSU only

Transferability Status

Approved

| C-ID | Area | Status | Approval Date | Comparable Course |
|------|----------------|----------|---------------|--------------------------------------|
| FIRE | Fire Tehnology | Approved | 08/31/2020 | FIRE 120 X - Fire Protection Systems |

Units and Hours

Summary

| | |
|--|-----|
| Minimum Credit Units (CB07) | 3 |
| Maximum Credit Units (CB06) | 3 |
| Total Course In-Class (Contact) Hours | 54 |
| Total Course Out-of-Class Hours | 108 |
| Total Student Learning Hours | 162 |

Credit / Non-Credit Options

Course Type (CB04)

Credit - Degree Applicable

Noncredit Course Category (CB22)

Credit Course.

Noncredit Special Characteristics

No Value

Course Classification Code (CB11)

Credit Course.

Variable Credit Course

Funding Agency Category (CB23)

Not Applicable.

Cooperative Work Experience

Education Status (CB10)

Weekly Student Hours

| | In Class | Out of Class |
|------------------|----------|--------------|
| Lecture Hours | 3 | 6 |
| Laboratory Hours | 0 | 0 |
| Studio Hours | 0 | 0 |

Course Student Hours

| | |
|--|-----|
| Course Duration (Weeks) | 18 |
| Hours per unit divisor | 54 |
| Course In-Class (Contact) Hours | |
| Lecture | 54 |
| Laboratory | 0 |
| Studio | 0 |
| Total | 54 |
| Course Out-of-Class Hours | |
| Lecture | 108 |
| Laboratory | 0 |

| | |
|--------------|-----|
| Studio | 0 |
| Total | 108 |

Time Commitment Notes for Students

No value

Units and Hours - Weekly Specialty Hours

| Activity Name | Type | In Class | Out of Class |
|---------------|----------|----------|--------------|
| No Value | No Value | No Value | No Value |

Pre-requisites, Co-requisites, Anti-requisites and Advisories

Advisory

ESL151 - Reading And Composition V

Objectives

- Organize fully-developed essays in both expository and argumentative modes.
- Employ basic library research techniques.

OR

Advisory

ENGL101 - Introduction to College Reading and Composition

Objectives

- Develop varied and flexible strategies for generating, drafting, and revising essays.
- Find, evaluate, analyze, and interpret primary and secondary sources, incorporating them into written essays using appropriate documentation format.

Entry Standards

Entry Standards

Course Limitations

Cross Listed or Equivalent Course

Specifications

Methods of Instruction

Methods of Instruction Discussion

Methods of Instruction Lecture

Methods of Instruction Guest Speakers

Methods of Instruction Presentations

Out of Class Assignments

- Homework (e.g. matching word problems on types of sprinkler systems and their uses)
- Individual projects (e.g. written assignments tied to fire systems and portable fire extinguishers)
- Group projects (e.g. written report and demonstration of the types of fire alarm systems)

Methods of Evaluation

Rationale

Exam/Quiz/Test Mid-term examination

Exam/Quiz/Test Final examination

Textbook Rationale

Sixth edition is pending

Textbooks

| Author | Title | Publisher | Date | ISBN |
|--------|-------|-----------|------|------|
|--------|-------|-----------|------|------|

| | | | | |
|---|--|---|------|---------------------|
| IFSTA | Fire Protection, Detection and Suppression Systems | International Fire Service Training Association (IFSTA) | 2017 | 978-0- 87939-599- 5 |
| Don Zimmerman | Fire Fighter Safety and Survival, 3rd Edition | Jones and Bartlett Learning | 2019 | 978-1284180176 |
| Other Instructional Materials (i.e. OER, handouts) | | | | |
| No Value | | | | |
| Materials Fee | | | | |
| No value | | | | |

Learning Outcomes and Objectives

Course Objectives

Compare detection devices based on type and activation premise.

Identify water requirements and distribution systems.

Describe the different types of fire pumps.

Explain the benefits of fire protection systems in various types of structures.

Identify the different types of non-water based fire suppression systems.

Describe the hazards of smoke and list the four factors that can influence smoke movement in buildings.

SLOs

Describe how a fire sprinkler system functions in a residential home.

Expected Outcome Performance: 70.0

| | |
|--------------------------|--|
| <i>ILOs</i> Core ILOs | Demonstrate depth of knowledge in a course, discipline, or vocation by applying practical knowledge, skills, abilities, theories, or methodologies to solve unique problems. |
|--------------------------|--|

| | |
|---|--|
| <i>FIRE</i> Verdugo Recruit Fire Academy | Discuss the skills required for fire prevention techniques; discuss the aspects of fire behavior |
| | Discuss the skills required for the use of equipment used in fire protection |

| | |
|--|---|
| <i>FIRE</i> Fire Technology - Certificate | discuss the skills required for fire prevention techniques. |
| | discuss the skills required for the use of equipment used in fire protection. |

| | |
|---|---|
| <i>FIRE</i> Fire Technology - A.S. Degree Major | discuss the skills required for fire prevention techniques. |
| | discuss the skills required for the use of equipment used in fire protection. |
| <i>FIRE</i> Verdugo Fire Academy - Certificate | discuss the skills required for fire prevention techniques. |
| | discuss the skills required for the use of equipment used in fire protection. |

Identify the various types and uses of fire protection systems.

Expected Outcome Performance: 70.0

| | |
|---|--|
| <i>ILOs</i> Core ILOs | Communicate clearly, ethically, and creatively; listen actively and engage respectfully with others; consider situational, cultural, and personal contexts within or across multiple modes of communication. |
| <i>FIRE</i> Verdugo Recruit Fire Academy | Discuss the skills required for the use of equipment used in fire protection |
| <i>FIRE</i> Fire Technology - A.S. Degree Major | discuss the skills required for fire prevention techniques. discuss the skills required for the use of equipment used in fire protection. |
| <i>FIRE</i> Verdugo Fire Academy - Certificate | discuss the skills required for the use of equipment used in fire protection. |
| <i>FIRE</i> Fire Technology - Certificate | discuss the skills required for the use of equipment used in fire protection. |

Explain the type of agents used in portable fire extinguishers.

Expected Outcome Performance: 70.0

| | |
|---|--|
| <i>ILOs</i> Core ILOs | Analyze and solve problems using critical, logical, and creative thinking; ask questions, pursue a line of inquiry, and derive conclusions; cultivate creativity that leads to innovative ideas. Demonstrate depth of knowledge in a course, discipline, or vocation by applying practical knowledge, skills, abilities, theories, or methodologies to solve unique problems. |
| <i>FIRE</i> Verdugo Recruit Fire Academy | Discuss the skills required for fire prevention techniques; discuss the aspects of fire behavior discuss the skills required for the use of equipment used in fire protection |
| <i>FIRE</i> Verdugo Fire Academy - Certificate | discuss the aspects of fire behavior. discuss the skills required for fire prevention techniques. discuss the skills required for the use of equipment used in fire protection. |
| <i>FIRE</i> Fire Technology - Certificate | discuss the aspects of fire behavior. discuss the skills required for fire prevention techniques. discuss the skills required for the use of equipment used in fire protection. |
| <i>FIRE</i> Fire Technology - A.S. Degree Major | discuss the aspects of fire behavior. discuss the skills required for fire prevention techniques. discuss the skills required for the use of equipment used in fire protection. |

Additional SLO Information

Does this proposal include revisions that might improve student attainment of course learning outcomes?

No

Is this proposal submitted in response to learning outcomes assessment data?

No

If yes was selected in either of the above questions for learning outcomes, explain and attach evidence of discussions about learning outcomes.

No Value

SLO Evidence

No Value

Course Content

Lecture Content

Introduction to Fire Protection Systems (4 hours)

- Overview of fire protection, detection and fire suppression systems

Sprinkler Protection (12 hours)

- Performance records
- Installations
- Types
- Exposure protection
- Special automatic installations
- Water supply
- Automatic sprinklers
- Special service conditions
- Dry-pipe system and quick-opening devices
- Water flow alarm and supervision
- Deluge and pre-action valves
- Self-contained system
- Care and maintenance

Protection Systems for Special Hazards (9 hours)

- Non-water based fire suppression systems
- Carbon dioxide
- Dry chemical
- Foam
- Water spray
- Inert
- Explosion venting and suppression

Detection, Alarm, and Watch Services (12 hours)

- Municipal fire alarm facilities
- Automatic signaling system
- Watchman time recording system
- Flammable and combustible gas detection
- Smoke management systems

Water Supplies and Services (12 hours)

- Water for community fire protection
- Connections for fire protection from public water systems
- Piped systems
- Water tanks
- Stationary fire pump.

Portable Fire Extinguishers (5 hours)

- Description and classification
- Installation
- Standard Types
- Operations and appropriate applications

Total hours: 54

Additional Information

Is this course proposed for GCC Major or General Education Graduation requirement? If yes, indicate which requirement in the two areas provided below.

No

GCC Major Requirements

No Value

GCC General Education Graduation Requirements

No Value

Repeatability

Not Repeatable

Justification (if repeatable was chosen above)

No Value

Resources

Did you contact your departmental library liaison?

No

If yes, who is your departmental library liaison?

No Value

Did you contact the DEIA liaison?

No

Were there any DEIA changes made to this outline?

No Value

If yes, in what areas were these changes made:

No Value

Will any additional resources be needed for this course? (Click all that apply)

No Value

If additional resources are needed, add a brief description and cost in the box provided.

No Value