



Fire Investigator – Fire 212 Fire Training Certification

Course Outline

COURSE IMPLEMENTATION DATE: May 2012
OUTLINE EFFECTIVE DATE: September 2021
COURSE OUTLINE REVIEW DATE: March 2026

GENERAL COURSE DESCRIPTION:

This course is based on NFPA 1033: Standard for Professional Qualifications for Fire Investigator. This course targets Fire Investigators, Police Officers, company-level Officers, Private Cause and Origin Investigators with a desire to learn more about determining the origin and cause of the fire. Topics include fire methodology, basic fire science, fire patterns, building systems, fire protection systems, electricity and fire, human behaviour, legal considerations, planning the investigation, documentation, evidence, origin determination, fire causes and classification, failure analysis, explosions, and managing complex investigation. Students wishing to attend this course should be prepared for intense training and practical skills application.

Program Information: This course can be delivered as a stand-alone course or as part of a specialized contract training program.

Delivery: This course is delivered face to face or hybrid (online with face-to-face components).

COTR Credits: 2

Hours for this course: 48 hours

Typical Structure of Instructional Hours:

| Instructional Activity | Duration |
|------------------------------|----------|
| Lecture Hours | 32 |
| Seminars / Tutorials | 16 |
| Laboratory / Studio Hours | |
| Practicum / Field Experience | |
| Other Contact Hours | |
| Total | 48 |

Practicum Hours (if applicable):

| Type of Practicum | Duration |
|------------------------|----------|
| On-the-Job Experience | N/A |
| Formal Work Experience | N/A |
| Other | N/A |
| Total | N/A |

Course Outline Author or Contact:

Richard Prasad, Fire Instructor

Signature

APPROVAL SIGNATURES:

Department Head

Joy Brown

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Dean of Trades and Technology

Dr. Jack Moes

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Department Head Signature

Dean Signature

EDCO

Valid from: September 2021 – March 2026

Education Council Approval Date

COURSE PREREQUISITES AND TRANSFER CREDIT:

Prerequisites: None

Corequisites: None

Flexible Assessment (FA):

Credit can be awarded for this course through FA

Yes

No

Transfer Credit: For transfer information within British Columbia, Alberta and other institutions, please visit <http://www.cotr.bc.ca/Transfer>.

Student should also contact an academic advisor at the institution where they want transfer credit.

Prior Course Number: N/A

Textbooks and Required Resources:

Textbook selection varies by instructor and may change from year to year. At the Course Outline Effective Date the following textbooks were in use:

Fire Investigator, Jones & Bartlett

LEARNING OUTCOMES:

Upon the successful completion of this course, students will be able to

- permit application;
 - process a plan review application;
 - investigate complex complaints;
 - recommend modifications to codes and standards of the jurisdiction;
 - recommend policies and procedures for the delivery of inspection services;
 - compute the maximum allowable occupant load of a multi-use building;
 - identify the occupancy classifications of a mixed-use building;
 - determine the building's area, height, occupancy classification, and construction type;
 - evaluate fire protection systems and equipment provided for the protection of life safety, building, or a facility;
 - analyze the egress elements of a building or portion of a building;
 - evaluate hazardous conditions involving equipment, processes, and operations;
 - evaluate emergency planning and preparedness procedures;
 - verify code compliance for storage, handling, and use of flammable and combustible liquids and gasses;
 - evaluate code compliance for the storage, handling, and use of hazardous materials;
 - determine fire growth potential in a building or space;
 - inspect emergency access for a site;
 - verify compliance with construction documents;
 - classify the occupancy type;
 - compute the maximum allowable occupant load;
 - review the proposed installation of fire protection systems;
 - verify that means of egress elements are provided; and
 - verify the construction type of a building or portion thereof.
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COURSE TOPICS:

- Fire methodology
- Basic fire science
- Fire patterns
- Building systems
- Fire protection systems
- Electricity and fire
- Human behaviour
- Legal considerations
- Planning the investigation
- Documentation

- Evidence
- Origin determination
- Fire causes and classification
- Failure analysis
- Explosions
- Managing complex investigation

See instructor syllabus for the detailed outline of weekly readings, activities and assignments.

EVALUATION AND ASSESSMENT:

Assessment of learning follows standard testing procedures as defined by the Pro Board Fire Officer Professional Qualifications System.

| Assessments | % of Total Grade |
|------------------------------------|------------------|
| Projects and practical assessments | 50% |
| Final Exam | <u>50%</u> |
| Total: | 100% |

Successful completion requires that the candidate perform to a minimum 70% competency on the examination, and successfully complete a skills/project evaluation to a minimum of 70% competency and successful completion of all critical points. Evaluators will test at least 25% of the skills for each. Skill sheets to be tested will be randomly selected by College of the Rockies Fire Program Administrator for the practical examination.

Please see the instructor syllabus for specific classroom policies related to this course, such as details of evaluation, penalties for late assignments and use of electronic aids.

EXAM POLICY:

Students must attend all required scheduled exams that make up a final grade at the appointed time and place.

Individual instructors may accommodate for illness or personal crisis. Additional accommodation will not be made unless a written request is sent to and approved by the appropriate Department Head prior to the scheduled exam.

Any student who misses a scheduled exam without approval will be given a grade of "0" for the exam.

COURSE GRADE:

Grades to be assigned:

| | |
|------------|-------------------------------|
| COM | Completed to defined standard |
| NCG | No Credit Granted |

ACADEMIC POLICIES:

See www.cotr.bc.ca/policies for general college policies related to course activities, including grade appeals, cheating and plagiarism.

COURSE CHANGES:

Information contained in course outlines is correct at the time of publication. Content of the courses is revised on an ongoing basis to ensure relevance to changing educational, employment and marketing needs. The instructor endeavours to provide notice of changes to students as soon as possible. The instructor reserves the right to add or delete material from courses.