



FIRE-212 – Fire Investigator

Technology

Effective Term & Year: Fall 2024

Course Outline Review Date: 2029-03-01

Program Area: Fire Services

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.

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

Delivery Methods: Hybrid – On-campus (Face-to-Face) and Online

Credit Type: College of the Rockies Credits

Credits: 2

Instructional Activity and Hours:

Activity	Hours
Classroom, Directed Studies or Online Instruction	32
Seminar/Tutorials	16
Laboratory/Studio	
Practicum/Field Experience	
Co-op/Work Experience	
Other	
Total	48

Course Requisites:

None

Flexible Assessment: No

Course Transfer Credit:

For information about receiving transfer credit for courses taken at either British Columbia or Alberta institutions, please see <https://www.bctransferguide.ca/> or <https://transferalberta.alberta.ca> . For more transfer credit information, please visit <https://www.cotr.bc.ca/Transfer>

All requests for course transfer credit from institutions in British Columbia or elsewhere should go to the College of the Rockies Enrolment Services office.

Textbook 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:

Jones & Bartlett, Fire Investigator: Principles and Practice Sixth Edition

NFPA 921 – Guide for Fire and Explosion Investigations

Learning Outcomes:

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

- have an understanding of basic fire science, combustion, fire behaviour, toxicology of fire debris and electricity as a cause of fire;
- recognize the roles and responsibilities of the different agencies that may be involved in a fire investigation;
- work as an effective member of a team in fire investigation incidents;
- maintain health and safety at a fire investigation;
- identify and analyze post-fire indicators that may be present at a fire scene in order to determine origin and cause of fire;
- identify the effects of an explosion at a fire scene;
- identify the signs of arson;
- use observational skills to identify items recovered from the debris, and to recreate the fire scene to identify points of origin; and
- prepare and deliver a presentation on a fire investigation and the findings.

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 investigations

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

Evaluation and Assessments

Grade Scheme

COM	NCG
Completed to the defined standard – 70% and higher	No credit granted – less than 70%

Evaluation Notes Comments:

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

Assessment Type	% Of Total Grade
Projects and practical assessments	50%
Final Exam	50%
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 Attendance:

Students must attend all scheduled exams at the appointed time and place. Instructors may approve an alternate exam to accommodate an illness or personal crisis. Department heads will consider other written requests. Any student who misses a scheduled exam without prior approval will receive a "0" on the exam.

Academic Policies:

College of the Rockies policies related to courses can be found at <https://cotr.bc.ca/about-us/college-policies/> and include the following:

- Policy 2.4.3 Students with Documented Disabilities
- Policy 2.4.4 Student Conduct (plagiarism, other cheating, behavioral misconduct)
- Policy 2.5.8 Academic Performance
- Policy 2.5.3 Grade Appeal
- Policy 2.4.9 Student Concerns Re Faculty

Course Changes:

The College of the Rockies updates course outlines regularly to meet changing educational, employment and marketing needs. The instructor will notify students in writing of any updates to this outline during the semester. The instructor reserves the right to revise, add or delete material while meeting the learning outcomes of this course outline.