



**I. COURSE DESCRIPTION:**

With assistance from a Learning Specialist, the CICE student(s) will acquire a basic knowledge related to the examination of from a scientific perspective. Elements of Chemistry, Physics are discussed to develop an understanding of the chemistry of fires and the operation of firefighting equipment. Characteristics of matter exposed to heat will be introduced to study the reaction that heat has on all forms of matter during firefighting operations. Included in this course are the principles of hydraulics related to pump operation and water flow. This course will also introduce the student to the realities of dealing with hazardous materials. The fundamentals NFPA training and the recognition, control and evaluation of hazards are examined. CICE student(s), with assistance from a Learning Specialist, will develop fundamental skills to interpret safety data sheets and to assist in determining the appropriate course of action to take for the hazard present.

**II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

Upon successful completion of this course, the CICE student, with the assistance of a Learning Specialist will demonstrate a basic ability to:

**1. Public Fire Protection**Potential Elements of the Performance

- a) Identify the origins of modern fire protection
- b) Describe the evolution of fire protection
- c) List the cause for the change from volunteer to public fire departments
- d) List and describe the responsibilities of a public fire department
- e) Describe the evolution of equipment and protective clothing
- f) Identify the current fire problems in existence
- g) Describe the different ranks and responsibilities and organization of the fire department in Sault Ste. Marie
- h) Describe the process and requirements of becoming a firefighter in Ontario
- i) List and discuss the principles of life safety
- j) Describe the code of ethics and firefighter's creed
- k) List and describe the myths about fire

**2. Fire Safety Legislation in Ontario ([www.gov.on.ca/OFM/](http://www.gov.on.ca/OFM/))**Potential Elements of the Performance

- a) List and describe pertinent building code sections for fire
- b) List and describe pertinent Occupation Health and Safety Act sections for fire
- c) List and describe Ontario Fire Code sections
- d) List and describe Fire Protection and Prevention Act sections

**3. Chemistry and Physics of Fire**Potential Elements of the Performance

- a) Define and describe the fire triangle and fire tetrahedron
- b) Describe what constitutes an oxidizer
- c) Describe what constitutes a fuel
- d) Describe the three states of matter
- e) Describe the properties or characteristics that affect solids, liquids and gas
- f) Describe the differences between heat and temperature
- g) Describe the four methods of heat transfer
- h) Describe the four classifications of fire
- i) Describe the three phases of fire
- j) Describe the fire extinguishment theory as it applies to each class of fire
- k) Define and explain fire terminology

**4. Fire Protection Systems and Equipment**Potential Elements of the Performance

- a) Describe the components of a water supply system
- b) Describe fire detection equipment and their use
- c) Describe various types of fire extinguishments systems and components
- d) Describe the types of extinguishments agents and their uses
- e) Explain how various types of extinguishment agents work to extinguish fire
- f) List and describe fire protection equipment used for personal protection of a firefighter
- g) List and describe the comprehensive fire safety effectiveness model and its sub-components
- h) List the 10 rules of engagement for structural fires
- i) Define and describe types of fire apparatus and equipment

**5. Fire Prevention**Potential Elements of the Performance

- a) Describe the importance of prevention
- b) Describe typical fire prevention activities
- c) List and describe methods of public education as they relate to prevention
- d) List and describe the uses of fire-related statistics
- e) Describe leading causes of fire in industrial and domicile locations
- f) List arson characteristics to determine fire cause

**6. Fire Prevention Surveys**Potential Elements of the Performance

- a) Define the term "fire risk analysis"
- b) List and describe the components of a fire prevention/inspection

- survey
- c) Complete a basic fire prevention survey

### III. TOPICS:

1. Public Fire Protection
2. Fire Safety Legislation
3. Chemistry and Physics of fire
4. Fire Protection Systems and Equipment
5. Fire Prevention
6. Fire Prevention Survey

### IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Handouts/notes will be provided by the course instructor.

### V. EVALUATION PROCESS/GRADING SYSTEM:

Students will be evaluated through assignments and tests. The overall grade for the course will be calculated on a total of 300 points. These points will be achieved by the following evaluation method:

1. Assignment	10 marks
2. Test	20 marks
3. Mid-Term Exam	30 marks
4. Final Exam	40 marks
Total	100 marks

***The following semester grades will be assigned to students in postsecondary courses:***

<u>Grade</u>	<u>Definition</u>	<u>Grade Point Equivalent</u>
A+	90 - 100%	4.00
A	80 - 89%	3.75
B	70 - 79%	3.00
C	60 - 69%	2.00
F	59% or below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field placement or non-graded subject areas.	
U	Unsatisfactory achievement in field placement or non-graded subject areas.	

X	A temporary grade. This is used in limited situations with extenuating circumstances giving a student additional time to complete the requirements for a course (see <i>Policies &amp; Procedures Manual – Deferred Grades and Make-up</i> ).
NR	Grade not reported to Registrar's office. This is used to facilitate transcript preparation when, for extenuating circumstances, it has not been possible for the faculty member to report grades.

## VI. SPECIAL NOTES:

### Attendance:

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.

### Addendum:

Further modifications may be required as needed as the semester progresses based on individual student(s) abilities and agreed upon by the instructor.

**CICE Modifications:****Preparation and Participation**

1. A Learning Specialist will attend class with the student(s) to assist with inclusion in the class and to take notes.
2. Students will receive support in and outside of the classroom (i.e. tutoring, assistance with homework and assignments, preparation for exams, tests and quizzes.)
3. Study notes will be geared to test content and style which will match with modified learning outcomes.
4. Although the Learning Specialist may not attend all classes with the student(s), support will always be available. When the Learning Specialist does attend classes he/she will remain as inconspicuous as possible.

**A. Tests may be modified in the following ways:**

1. Tests, which require essay answers, may be modified to short answers.
2. Short answer questions may be changed to multiple choice or the question may be simplified so the answer will reflect a basic understanding.
3. Tests, which use fill in the blank format, may be modified to include a few choices for each question, or a list of choices for all questions. This will allow the student to match or use visual clues.
4. Tests in the T/F or multiple choice format may be modified by rewording or clarifying statements into layman's or simplified terms. Multiple choice questions may have a reduced number of choices.

**B. Tests will be written in CICE office with assistance from a Learning Specialist.*****The Learning Specialist may:***

1. Read the test question to the student.
2. Paraphrase the test question without revealing any key words or definitions.
3. Transcribe the student's verbal answer.
4. Test length may be reduced and time allowed to complete test may be increased.

**C. Assignments may be modified in the following ways:**

1. Assignments may be modified by reducing the amount of information required while maintaining general concepts.
2. Some assignments may be eliminated depending on the number of assignments required in the particular course.

***The Learning Specialist may:***

1. Use a question/answer format instead of essay/research format
2. Propose a reduction in the number of references required for an assignment
3. Assist with groups to ensure that student comprehends his/her role within the group
4. Require an extension on due dates due to the fact that some students may require additional time to process information
5. Formally summarize articles and assigned readings to isolate main points for the student
6. Use questioning techniques and paraphrasing to assist in student comprehension of an assignment

**D. Evaluation:**

Is reflective of modified learning outcomes.