

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



Sault College

COURSE OUTLINE

COURSE TITLE: INTRODUCTION TO FIRE SCIENCE
CODE NO. : CJS428 **SEMESTER:** 3
PROGRAM: LAW AND SECURITY ADMINISTRATION
AUTHOR: John Jones
DATE: SEPT/09 **PREVIOUS OUTLINE DATED:** SEPT/08
APPROVED: "Angelique Lemay"

CHAIR, COMMUNITY SERVICES

DATE

TOTAL CREDITS: 3
PREREQUISITE(S): None
LENGTH OF COURSE: 3 Hrs/Week **TOTAL CREDIT HOURS:** 48

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For additional information, please contact Chair, Community Services
School of Health & Community Services
(705) 759-2554, Ext. 2603

I. COURSE DESCRIPTION:

No fire authority and no amount of legislation, policies or procedures can prevent all fires. Even with all our advances in technology and workplace practices, fires still occur. Fires are not limited to specific industries, areas of work or places of leisure. Fires can develop whether you are actively carrying out your duties at work or while you are asleep at home.

This course will teach students that fire awareness can lead to fire prevention, which can minimize fire risks and prevent unplanned fires from occurring. Should you, however, be unfortunate enough to be involved in a fire this awareness may save your life or help save the life of someone else.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:

1. Public Fire ProtectionPotential 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) Discuss 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/)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 FirePotential 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 EquipmentPotential 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 and discuss the 10 rules of engagement for structural fires
- i) Define and describe types of fire apparatus and equipment

5. Fire PreventionPotential 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 and describe arson characteristics to determine fire cause

6. Fire Prevention SurveysPotential 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 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 & 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:Course Outline Amendments:

The professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Retention of Course Outlines:

It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

Prior Learning Assessment:

Students who wish to apply for advance credit transfer (advanced standing) should obtain an Application for Advance Credit from the program coordinator (or the course coordinator regarding a general education transfer request) or academic assistant. Students will be required to provide an unofficial transcript and course outline related to the course in question. Please refer to the Student Academic Calendar of Events for the deadline date by which application must be made for advance standing.

Credit for prior learning will also be given upon successful completion of a challenge exam or portfolio.

Substitute course information is available in the Registrar's office.

Disability Services:

If you are a student with a disability (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Disability Services office. Visit Room E1101 or call Extension 2703 so that support services can be arranged for you.

Communication:

The College considers **WebCT/LMS** as the primary channel of communication for each course. Regularly checking this software platform is critical as it will keep you directly connected with faculty and current course information. Success in this course may be directly related to your willingness to take advantage of the **Learning Management System** communication tool.

Plagiarism:

Students should refer to the definition of "academic dishonesty" in *Student Code of Conduct*. A professor/instructor may assign a sanction as defined below, or make recommendations to the Academic Chair for disposition of the matter. The professor/instructor may:

- (i) issue a verbal reprimand,
- (ii) make an assignment of a lower grade with explanation,
- (iii) require additional academic assignments and issue a lower grade upon completion to the maximum grade "C",
- (iv) make an automatic assignment of a failing grade,
- (v) recommend to the Chair dismissal from the course with the assignment of a failing grade.

In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Student Portal:

The Sault College portal allows you to view all your student information in one place. **mysaultcollege** gives you personalized access to online resources seven days a week from your home or school computer. Single log-in access allows you to see your personal and financial information, timetable, grades, records of achievement, unofficial transcript, and outstanding obligations. Announcements, news, the academic calendar of events, class cancellations, your learning management system (LMS), and much more are also accessible through the student portal. Go to <https://my.saultcollege.ca>.

Electronic Devices in the Classroom:

Students who wish to use electronic devices in the classroom will seek permission of the faculty member before proceeding to record instruction. With the exception of issues related to accommodations of disability, the decision to approve or refuse the request is the responsibility of the faculty member. Recorded classroom instruction will be used only for personal use and will not be used for any other purpose. Recorded classroom instruction will be destroyed at the end of the course. To ensure this, the student is required to return all copies of recorded material to the faculty member by the last day of class in the semester. Where the use of an electronic device has been approved, the student agrees that materials recorded are for his/her use only, are not for distribution, and are the sole property of the College.

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.