

I. COURSE DESCRIPTION:

This course introduces the student to electrical installation methods for Monitoring and Communication Systems. Corresponding sections of the Canadian Electrical Code and the Canadian Building Code are covered in conjunction with ULC Standards relating to installation, inspection, testing and verification of Fire Alarm Systems. Nurse call systems, intrusion alarm systems, institutional clocks and home automation will also be covered.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. ***Interpret the Canadian Electrical Code (CEC), National Building Code and ULC requirements pertaining to Fire Alarm Systems.***

Potential Elements of the Performance:

Describe the principles of operation and installation requirements of single stage, two stage, initiation and supervisory circuits.

Describe the principles of operation and installation requirements for pull stations, detectors, flow switches, bells, speakers, addressable initiating devices and sprinkler supervisory devices.

Describe the principles of operation and installation requirements of speaker and ancillary relay circuits, annunciators and emergency phones.

Describe the basic operation of wet and dry sprinkler systems.

Describe the uses and dangers of fire suppression agents, the components and systems used for their installation in suppression systems

List the ULC standard for the installation, inspection, testing and verification of Fire Alarm Systems.

Use the building code to determine the installation requirements for fire alarm systems and related equipment.

Demonstrate the installation, troubleshooting and testing of speaker and ancillary relay circuits, annunciators and emergency phones.

Demonstrate the installation, operation and testing of alarm panels with respect to lights and lamps, power supplies, overcurrent devices, ground fault indicators, annunciator panels and common trouble functions.

2. Describe the principles of operation of various commercial and residential monitoring and communication systems.

Potential Elements of the Performance:

Describe the principles of operation of institutional clock systems.

Describe the wiring and operation of intrusion systems and devices.

Describe the wiring and operation of paging and communication systems.

Describe the wiring and operation of nurse call stations.

Describe the principles of operation and installation requirements for common home automation systems.

Describe the methods used to install, terminate and test fibre optic cables.

III. TOPICS:

1. Fire Alarm Systems
2. Monitoring and Communication Systems

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

- Canadian Electrical Code Part 1 (Current Edition)
- Electrical Wiring Commercial (Current Edition)
- Electrical Wiring Residential (Current Edition)
- Introduction To The Fire Detection and Alarm Industry, CFAA
ISBN 0-9692433-2-4
- Fire Alarm Systems A Reference Manual, Revised Edition , CFAA
ISBN 0-9692433-5-9
- Safety glasses, multimeter and hand tools.

V. EVALUATION PROCESS/GRADING SYSTEM:

2-3 Tests	70%
Shop activities and associated reports	30%

While marks are not given for attendance, marks may be deducted for classes missed. **See special notes section.**

The following semester grades will be assigned to students:

Grade	<u>Definition</u>	<i>Grade Point Equivalent</i>
A+	90 – 100%	
A	80 – 89%	4.00
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	
NR	Grade not reported to Registrar's office.	
W	Student has withdrawn from the course without academic penalty.	

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, in addition to announcements, news, academic calendar of events, class cancellations, your learning management system (LMS), and much more. 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.

Additional Information:

If a student misses a test he/she must have a valid reason (i.e. medical or family emergency – documentation will be required). In addition, the instructor **must** be notified **prior** to the test sitting. If this procedure is not followed the student will receive a mark of zero on the test with no make-up option.

Attendance to shop activities is compulsory, unless discussed with the instructor in advance of the absence and the absence is for a medical or family emergency. Being late for class can be considered as an absence.

Any student that is absent for any shop class will be required to provide a doctor's note immediately upon returning. Failing to do so will result in a grade of 0% being assigned to the missed shop activity. At the instructor's discretion a deduction of 5% may be made from the student's final mark for each shop class or portion thereof missed

Students are required to bring safety glasses and hand tools to all shop classes.

Use of cell phones/PDAs for any form of communication (voice, text...) during class or lab time is strictly prohibited. Cell phones/PDAs must be silenced during regular class and lab times and must be turned off and kept out of sight during test sittings. Failure to follow the latter requirement during a test sitting will result in a grade of 0 being assigned.

Students may not wear earphones of any kind during lab activities or test sittings. This does not include hearing aids required for the hearing impaired.