

**SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY**

**SAULT STE. MARIE, ONTARIO**



**COURSE OUTLINE**

**COURSE TITLE: Applied Research Project**

**CODE NO. : CAR300 SEMESTER: 5**

**PROGRAM: Networking & Computer Programming**

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**DATE: 07/07/11 PREVIOUS OUTLINE DATED: "Brian Punch" New Oct./11**

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**CHAIR DATE**

**TOTAL CREDITS: FIVE**

**PREREQUISITE(S): Completion of Two Year Diploma in I.T. Studies**

**HOURS/WEEK: Three**

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**I. COURSE DESCRIPTION:**

This course is linked to the college's Applied Research Centre that brings together Sault College's faculty, staff and students and local and regional enterprises to participate in applied research projects that provide real-world solutions to real-world problems, enabling them to create or improve products and services and compete in the global marketplace.

Applied research deals with solving real-world problems that usually have direct commercial application. In applied research, activities such as prototype development, feasibility studies, clinical trials, technical consultation and problem solving are often involved.

Working on Applied Research Projects will lead the students to help; solve technical problems, adapt new technologies for the marketplace, develop prototypes and new or improved products and processes, enhance products, processes, and / or services, test/evaluate and perform proof of concept study, undergo incremental and larger-scale innovation.

All learning styles will be addressed by having the students learn by using manuals; instructor feedback, industry partner representatives to guide the project; small group work; as well as online research.

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

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

**1. Major Term Project.****Potential Elements of the Performance May Include:**

- Create Service Request
- Develop the problem statement
- Establish priorities
- Establish a method to study the present system
- Organize the products of the study
- Review existing procedures
- Observing current operations
- Perform interviews and walkthroughs
- Create data flow diagrams
- Define the prototype
- Build prototype: may contain: reports, screens, functions, controls and any interfaces/interface devices.
- Define the database structure and contents, from table definitions and keys identified, to attributes.

- Ensure data normalization
- Describe types of data validation and verification techniques
- Identify different reporting types
- Identify output formats
- Create the required windows interfaces.
- Design any required coding techniques, code each object and any functions and modules.
- Develop and enter test data
- Establish version controls
- Establish documentation procedures, and creation of user guide
- Identify the hardware the system will eventually reside on.
- Monitor team member progress.
- Establish milestones and monitor progress.
- Train end users
- Ensure operating acceptance
- Establish responsibilities for making revisions.
- Establish backup procedures.

## II. EVALUATION PROCESS/GRADING SYSTEM:

The mark for this course will be arrived at as follows:

Student Self Evaluation using a set criteria	10%
Peer Evaluation using a set criteria	15%
Faculty Evaluation using a set criteria	25%
Industry Partner using a set criteria	20%
Project Module	30%
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	100%

The following semester grades will be assigned to students:

<b>Grade</b>	<b><u>Definition</u></b>	<i>Grade Point Equivalent</i>
A+	90 – 100%	4.00
A	80 – 89%	3.00
B	70 - 79%	2.00
C	60 - 69%	1.00
D	50 – 59%	0.00
F (Fail)	49% and below	
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.

The professor reserves the right to adjust the final mark based on attendance, participation, leadership, creativity and whether there is an improving trend.

A minimum of **80% attendance** required in the labs and lectures.

- Students must complete and pass both the test and assignment portion of the course in order to pass the entire course.
- All Assignments must be completed satisfactorily to complete the course.
- Late hand in penalties will be a zero grade unless prior permission from the instructor.
- Makeup Tests are at the discretion of the instructor and will be assigned a maximum grade of 50%.
- The professor reserves the right to adjust the number of tests, practical tests and quizzes based on unforeseen circumstances. The students will be given sufficient notice to any changes and the reasons thereof.
- A student who is absent for 3 or more times without any valid reason or effort to resolve the problem will result in action taken.

**NOTE:** If action is to be taken, it will range from marks being deducted to a maximum of removal from the course.

### **Eligibility for X Grades/Upgrading of Incompletes:**

When a student's course work is incomplete or final grade is below 50%, there is the possibility of upgrading to a pass when a student meets all of the following criteria: The student's attendance has been satisfactory. An overall average of at least 50% has been achieved. The student has not had a failing grade in all of the theory tests taken. The student has made reasonable efforts to participate in class and complete assignments.

**Note: The opportunity for an X grade is usually reserved for those with extenuating circumstances.**

The nature of the upgrading requirements will be determined by the instructor and may involve one or more of the following: completion of existing labs and assignments, completion of additional assignments, re-testing on individual parts

of the course or a comprehensive test on the entire course.

### **Labs:**

Lab activities represent a very important component of this course in which practical 'hands-on' skills will be developed. Because of this, attendance is mandatory and the satisfactory completion of all lab activities is required. Evaluation of lab work in-class will be done. It is the student's responsibility to discuss absences from regularly scheduled labs with the instructor so that alternate arrangements (where possible) can be made to complete the lab requirements.

## **VI. SPECIAL NOTES:**

### **Attendance:**

Absenteeism will affect a student's ability to succeed in this course. Absences due to medical or other unavoidable circumstances should be discussed with the professor. Students are required to be in class on time and attendance will be taken within the first five minutes of class. A missed class will result in a penalty in your marks unless you have discussed your absence with the professor as described above. Unauthorized absences could result in a zero grade being assigned. The penalty depends on course hours and will be applied as follows:

<b>Course Hours</b>	<b>Deduction</b>
5 hrs/week (75 hrs)	1% / hr
4 hrs/week (60 hrs)	1.5% /hr
3 hrs/week (45 hrs)	2% /hr
2 hrs/week (30 hrs)	3%/hr

Absentee reports will be discussed with each student during regular meetings with Faculty Mentors. Final penalties will be reviewed by the professor and will be at the discretion of the professor.

**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.

**VII. COURSE OUTLINE ADDENDUM:**

The provisions contained in the addendum located on the portal form part of this course outline.