# SAULTCOLLEGE OF APPLIED ARTS AND TECHNOLOGY

## SAULT STE. MARIE, ONTARIO



# COURSE OUTLINE

**COURSE TITLE:** Applied Research Project

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

**PROGRAM:** Computer Programming

**AUTHOR:** Fred Carella (Willem Debruyne)

**DATE:** Fall 2014    **PREVIOUS OUTLINE DATED:** Fall 2013

**APPROVED:**               "Colin Kirkwood"       Aug/14

_____   _____

                           **DEAN**              **DATE**

**TOTAL CREDITS:** 5

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

**HOURS/WEEK:** 3

## 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.


**III.   TOPICS:**

1.    Major Term Project.


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


**V.    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% |
| | 100% |

The following semester grades will be assigned to students:

| Grade | Definition | Grade Point Equivalent |
|---|---|---|
| A+ | 90 – 100% | 4.00 |
| A | 80 – 89% | |
| 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:

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.

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.  The penalty depends on course hours and will be applied as follows:

| Course Hours | Deduction |
|---|---|
| 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.

## VII.    COURSE OUTLINE ADDENDUM:

1.    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.

2.    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.

3.    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.

CAR300                                                                  Applied Research Project

4.    Accessibility 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 Accessibility Services office.  Visit Room
      E1101 or call Extension 2703 so that support services can be arranged for you.

5.    Communication:
      The College considers **Desire2Learn (D2L)** 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 this Learning Management System
      (LMS) communication tool.

6.    Academic Dishonesty:
      Students should refer to the definition of "academic dishonesty" in *Student Code of Conduct*.
      Students who engage in academic dishonesty will receive an automatic failure for that
      submission and/or such other penalty, up to and including expulsion from the
      course/program, as may be decided by the professor/dean.  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.

7.    Tuition Default:
      Students who have defaulted on the payment of tuition (tuition has not been paid in full,
      payments were not deferred or payment plan not honoured) as of the first week of November
      (fall semester courses), first week of March (winter semester courses) or first week of June
      (summer semester courses) will be removed from placement and clinical activities due to
      liability issues. This may result in loss of mandatory hours or incomplete course work.  Sault
      College will not be responsible for incomplete hours or outcomes that are not achieved or
      any other academic requirement not met as of the result of tuition default. Students are
      encouraged to communicate with Financial Services with regard to the status of their tuition
      prior to this deadline to ensure that their financial status does not interfere with academic
      progress.

8.    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.

CAR300                                                      Applied Research Project

9.    <u>Recording Devices in the Classroom:</u>
      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.