SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE: **Business Applications I**

CODE NO. : CSA103 **SEMESTER:** 17W

PROGRAM: Computer Programmer/Computer Programmer Analyst

AUTHORS: Dan Kachur

DATE: Jan 2017 **PREVIOUS OUTLINE DATED:** Jan 2016

APPROVED: Corey Meunier Jan 2017

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 CHAIR **DATE**

TOTAL CREDITS: 4

PREREQUISITE(S):

HOURS/WEEK: 4

Databases and Spreadsheets   **CSA103**

I.   **COURSE DESCRIPTION:**

In this course students will learn the basic to intermediate features of Microsoft Excel and Access. Students will learn to develop spreadsheet applications involving formulas and statistical charting as well as learn database concepts in order to develop small functional database systems. Students will be introduced to database design, table structures, forms, queries and reports. In addition, students will be introduced to the basic SQL structure and data mining to generate queries from standard database applications.

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

<u>**Microsoft Excel**</u>

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

1.   **Demonstrate an understanding of spreadsheet concepts, terminology and screen layouts.**

        <u>Potential elements of performance</u>*:*

- Learn the basic structure of a spreadsheet – rows, columns, cells
- Learn why spreadsheet applications are used
- Learn to use screen menus, shortcuts, options and toolbars
- Open and save workbooks and templates
- Enter labels and values
- Name, rename and move worksheets
- Preview and print a worksheet

2.   **Demonstrate an understanding of how to use formulas and perform calculations.**

        <u>Potential elements of performance</u>*:*

- Plan and design a worksheet
- Edit cell entries
- Enter numbers and formulas
- Use formula functions
- Copy and move cell contents
- Apply absolute and relative addressing
- Copy formulas with both relative and absolute cell references

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3.   **Demonstrate an understanding of how to format a worksheet.**

       Potential elements of performance*:*

       * Format values
       * Use fonts and font sizes
       * Change attributes and alignment
       * Adjust column widths
       * Use AUTOFORMAT
       * Insert and delete columns and rows
       * Apply colours, patterns, and borders
       * Use conditional formatting
       * Check Spelling

4.   **Demonstrate an understanding of how to create and edit charts.**

       Potential elements of performance*:*

       * Plan and design a chart
       * Create a Pie, Column and Bar chart
       * Edit and make changes to charts
       * Annotate and draw on a chart
       * Preview and print a chart

5.   **Demonstrate an understanding of advanced features of formulas
       and functions.**

       Potential elements of performance*:*

       * Create a formula with several operators
       * Use names in a formula
       * Generate multiple totals with AutoSum
       * Use dates in calculations
       * Build a conditional formula with the IF function
       * Use statistical functions
       * Calculate and print formula contents
       * Freeze columns and rows
       * Insert and delete worksheets
       * Consolidate worksheets
       * Hide and protect worksheet areas
       * Control page breaks and page numbering
       * Create a hyperlink between Excel files
       * Save an Excel file as a Web page

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6.   **Demonstrate an understanding of automating worksheet tasks.**

     Potential elements of performance

- Plan, record, run and edit a macro
- Use shortcut keys with macros
- Use the Personal Macro Workbook
- As a macro as a menu item
- Create a toolbar for macros

Microsoft Access

7.   **Demonstrate an understanding of database concepts, terminology and screen layouts.**

     Potential elements of performance

- Understand Relational database structure and setup
- Add, delete and change records in a table
- Open a database and work with the database window
- Preview and print a datasheet

8.   **Demonstrate the use of tables and queries.**

     Potential elements of performance

- Organize fields
- Plan, create and modify tables
- Format a datasheet
- Sort records and find data
- Filter records
- Create and modify queries

9.   **Demonstrate the use of forms and reports**

     Potential elements of performance

- Plan and create a form
- Move and resize controls
- Modify labels
- Use text boxes for calculations
- Modify tab order

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Potential elements of performance (cont'd)

- Enter, edit and print records
- Insert an image
- Plan and create a report
- Use group sections
- Change sort order
- Add calculations
- Align and format controls
- Change page layout

10.   Demonstrate the ability to modify database structure.

Potential elements of performance

- Understand relational database components
- Create related tables using one-to-many relationships
- Create lookup fields
- Modify text, number, currency and date fields
- Modify field validation properties

11.   Demonstrate the ability to create multiple table queries

Potential elements of performance

- Build select queries
- Sort a query on multiple fields
- Develop AND and OR criteria
- Create calculated fields
- Build summary and crosstab queries

12.   Demonstrate the ability to create forms and subforms.

Potential elements of performance

- Understand the form/subform relationship
- Create subforms using both the Form Wizard and queries
- Modify subforms
- Add a combo box for data entry and to find records
- Add option groups
- Add command buttons

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13.   Demonstrate an understanding of basic SQL commands.

Potential elements of performance

- Define and use SQL with Access
- Create SQL standard queries using single and multiple tables
- Update, delete and change records
- Perform calculations using SQL
- Use SQL to sort records

14.   Demonstrate an understanding of Data Mining techniques

Potential elements of performance

- Define the role of Data Mining
- Search and analyze application databases for data extraction
- Parse data for export or import
- Export data to .CSV and Excel Formats
- Generate reports from selective mined data

III.   TOPICS

1. Basic Spreadsheet Concepts
2. Using Calculations and Formulas
3. Formatting The Worksheet
4. Using Charts
5. Advanced Formulas and Functions
6. Automating Your Worksheets
7. Understand Database Concepts
8. Working with Tables and Queries
9. Working with Forms and Reports
10. Modify Database Structures
11. Create and Use Multiple Tables
12 Creating Forms and Sub Forms
13. Create and Test basic SQL commands
14. Parse then export / import data from application databases

IV.   REQUIRED RESOURCES/TEXTS/MATERIALS:

- USB Flash Drive
- Web resources and lab materials will be provided by the Professor
- No books are required for this course

V.   EVALUATION PROCESS/GRADING SYSTEM:

Tests (3 Tests)	45%
Computer Labs, Quizzes and Assignments and Projects	45%
Attendance	10%

Some minor modifications to the above percentages may be necessary. The professor reserves the right to adjust the mark based upon leadership, creativity and whether there is an improving trend. Students must have passing grades in the tests/quizzes and assignments portion to pass the entire course.

All Assignments must be submitted on or before the due date. No lates will be accepted unless there are extenuating and legitimate circumstances. Once marked labs, assignments and projects have been returned to students, no lates will be accepted, period!

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 be contacted by the Professor to determine the reason for class absences.

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)	Below 50%	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

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VI.   SPECIAL NOTES:

Attendance:
Attendance is critical to the success of this course. Material learned in one class will be carried over and required as knowledge to complete assignments in future classes throughout the semester.

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% per hour
4 hrs/week (60 hrs)	1.5% per hour
3 hrs/week (45 hrs)	2% per hour
2 hrs/week (30 hrs)	3% per hour

without academic penalty.

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VII.   COURSE OUTLINE ADDENDUM:

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