

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



COURSE OUTLINE

COURSE TITLE: Databases and Spreadsheets
CODE NO. : CSA102 **SEMESTER:** 2
PROGRAM: All Computer Studies Programs
AUTHOR: Marcel VanLandeghem
DATE: January 2008 **PREVIOUS OUTLINE DATED:**

APPROVED:

	_____	_____
	CHAIR	DATE
TOTAL CREDITS:	4	
PREREQUISITE(S):		
HOURS/WEEK:	4	

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For additional information, please contact Brian Punch, Chair - School of The Natural Environment, Technology and Skilled Trades
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I. COURSE DESCRIPTION :

- A. In this course students will learn the basic to intermediate features of Microsoft Excel. Students will learn to develop spreadsheet applications involving formulas and statistical charting.
- B. A major component of this course will be to focus on database technologies. Students will learn database concepts in order to develop functional database systems. Students will be introduced to system design, table structures, forms, queries and reports in order to develop database applications.

In addition, students will be introduced to the basic SQL structure to generate queries from standard database applications.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

Microsoft Excel 2003

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

Potential elements of the performance:

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

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

Potential elements of performance:

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

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

6. Demonstrate an understanding of managing workbooks and preparing them for the WEB.

Potential elements of performance

- 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

7. 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

8. Demonstrate an understanding of lists.

Potential elements of performance

- Plan and create a list
- Add records with the data form
- Find records
- Delete records
- Sort a list on one or more fields
- Print a list

Microsoft Access 2003

- 1. 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

- 2. 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

- 3. 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
- 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

4. 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

5. 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

6. 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

7. 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

III. TOPICS

1. Basic Spreadsheet Concepts
2. Using Calculations and Formulas
3. Create and Edit Charts
4. Introduction to Database Concepts
5. Working with Tables, Forms, Queries and Reports
6. Basic SQL Command Structure

IV. REQUIRED STUDENT RESOURCES/TEXTS/MATERIALS

Internet Resource
Instructor Supplied Resources/Web based material

V. EVALUATION PROCESS/GRADING:

Excel

9 Assignments	@ 2%	18%
1 Test	@ 15%	15%

Access

7 Assignment	@ 1%	7%
7 Assignments	@ 2%	14%
1 Test	@ 15%	15%

SQL

3 Assignments	@ 2%	6%
1 Test	@ 5%	5%

Project

		<u>20%</u>
TOTAL		100%

- Students must complete and submit the labs during class time otherwise a zero grade will be assigned for the lab.
- Students must complete and pass the test, assignment and project portions of the course in order to pass the entire course.
- Late assignments will not be accepted without permission.
- Makeup tests are at the discretion of the instructor.

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 without academic penalty.	

UPGRADING OF INCOMPLETES:

When a student's course work is incomplete or final grade is below 50%, the possibility exists of upgrading to a pass when the student meets all of the following criteria:

1. The student's attendance has been satisfactory.
2. An overall average of at least 40% has been achieved by semester's end on tests and practical assignments.
3. The student has made reasonable efforts to participate in class and maintain the recommended schedule for assigned activities.

The nature of the upgrading requirements will be determined by the instructor and may involve re-testing and/or additional lab assignments.

ATTENDANCE:

Absenteeism will affect the student's ability to succeed in the course. Absences due to medical or other unavoidable circumstances should be discussed with the instructor. The instructor reserves the right to deduct 1% of the final mark for each class missed up to a maximum of 10%. Poor attendance will also affect the upgrading process if a student receives a mark below 50%.

VI. SPECIAL NOTES:

Special Needs:

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

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.

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.

The professor reserves the right to use other tools and / or techniques that may be more applicable. These other tools and / or techniques for effective communication will be discussed, identified and presented throughout the delivery of the course content

Plagiarism:

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.

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.

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

Special Notes:

- In order to pass this course the student must obtain an overall **test/quiz** average of 50% or better.

Assignments must be submitted by the due date according to the specifications of the instructor. Late assignments will normally be given a mark of zero. Late assignments will only be marked at the discretion of the instructor in cases where there were extenuating circumstances. Ask for permission from your instructor to hand assignments in late **before** the due date

VII. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the professor. Credit for prior learning will be given upon successful completion of a challenge exam or portfolio.

VIII. DIRECT CREDIT TRANSFERS:

Students who wish to apply for direct credit transfer (advanced standing) should obtain a direct credit transfer form from the Dean's secretary. Students will be required to provide a transcript and course outline related to the course in question.