



COURSE OUTLINE: MAP104 - DATABASE DESIGN

Prepared: Dr. Michael Biocchi

Approved: Corey Meunier, Chair, Technology and Skilled Trades

Course Code: Title	MAP104: DATABASE DESIGN
Program Number: Name	2190: MOBILE APPS DESIGN
Department:	COMPUTER STUDIES
Semesters/Terms:	18F
Course Description:	In this course, students will learn database design in order to manage information in an enterprise. Learners will use the SQL language to define data structures and modify data using a relational database management system (RDBMS). Lessons within this course will include: querying, inserting, updating, and deleting data from existing databases, implementing database from a design, and finally, designing a database to meet various business requirements. MySQL, MySQL Workbench, SQL DML, SQL DDL, and database normalization rules are the main topics. This course is a first course in database fundamentals that prepares the student for a role supporting information management within an enterprise.
Total Credits:	4
Hours/Week:	4
Total Hours:	60
Prerequisites:	There are no pre-requisites for this course.
Corequisites:	There are no co-requisites for this course.
Vocational Learning Outcomes (VLO's) addressed in this course:	2190 - MOBILE APPS DESIGN VLO 11 Design, develop and build a database to application specifications.
<small>Please refer to program web page for a complete listing of program outcomes where applicable.</small>	
Essential Employability Skills (EES) addressed in this course:	EES 4 Apply a systematic approach to solve problems. EES 5 Use a variety of thinking skills to anticipate and solve problems. EES 10 Manage the use of time and other resources to complete projects. EES 11 Take responsibility for ones own actions, decisions, and consequences.
Course Evaluation:	Passing Grade: 50%, D
Other Course Evaluation & Assessment Requirements:	The student must pass both the lab and test portions of the course. 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. Absences due to medical or other unavoidable circumstances should be discussed with the instructor. Students are required to be in class on time and attendance will be taken within the



first five minutes of class.

Absentee reports will be discussed with each student during regular meetings with Faculty Advisors.

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

Books and Required Resources:

Modern Database Management by Jeff Hoffer

Publisher: Pearson Edition: 13

ISBN: 9780134773650

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
Introduction to XAMPP and MySQL Workbench	Setup XAMPP and be able to connect via localhost and php myadmin. Setup MySQL Workbench to connect to newly created database Setup Heidi and compare Workbench and Heidi so students have an understanding of two popular systems being used today.
Course Outcome 2	Learning Objectives for Course Outcome 2
Introduction to SQL	Learn about CRUD. Create, Read, Update, and Delete. Perform basic CRUD functions through MySQL Workbench.
Course Outcome 3	Learning Objectives for Course Outcome 3
Relational Databases	Learn about relational and nonrelational databases. Understand how databases interact with applications. The concept of keys will be discussed and implemented in their database.
Course Outcome 4	Learning Objectives for Course Outcome 4
Introduction to Data, Databases, and Database Design	Understand what data is and how it is captures. Learn about metadata, big data, file systems, and how the database plays a role in this. Learn about the history of databases and when it is appropriate to use them
Course Outcome 5	Learning Objectives for Course Outcome 5
The E-R Model and Business Requirements	Understand different types of relationships Understand data normalization and when to use it



Course Outcome 6	Learning Objectives for Course Outcome 6
Advanced SQL	Learn about various advanced SQL queries Learn how to join tables together Learn how to perform calculations within the DBMS
Course Outcome 7	Learning Objectives for Course Outcome 7
The Database Role in an Enterprise Application	Understand how enterprises use databases Understand how to write a query to generate reports
Course Outcome 8	Learning Objectives for Course Outcome 8
Cloud Based Databases	Understand limiting query results to keep data small, relevant, and cost efficient Understand how keeping data offsite is different than onsite Understand the advantages and disadvantages of cloud based databases
Course Outcome 9	Learning Objectives for Course Outcome 9
Data Warehouse and ETL	Learn about what a data warehouse is and how enterprises use them Understand the Extract, Transform, and Load process
Course Outcome 10	Learning Objectives for Course Outcome 10
Big Data	Understand JSON and NoSQL Understand when it is appropriate to use each in a database
Course Outcome 11	Learning Objectives for Course Outcome 11
Data Analytics	Understand the importance of Analytics and how businesses use data to make decisions Understand metadata and data collection Understand the ethics involved in data collection
Course Outcome 12	Learning Objectives for Course Outcome 12
Data Governance and Administration	Understand the importance of data policies Learn about retention policies and the cost of storing data Learn how to anonymize data

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight	Course Outcome Assessed
Lab 1	3%	1
Lab 10	4%	10
Lab 11	4%	11
Lab 12	4%	12
Lab 2	3%	2
Lab 3	3%	3
Lab 4	4%	4
Lab 5	4%	5
Lab 6	4%	6
Lab 7	4%	7
Lab 8	4%	8

	Lab 9	4%	9
	Test 1	15%	1,2,3,4
	Test 2	15%	5,6,7,8
	Test 3	25%	9,10,11,12

Date: September 4, 2018

Please refer to the course outline addendum on the Learning Management System for further information.