IT 111 Database Design and SQL 1

Course Description: A course on fundamentals of relational database design and implementation using Microsoft SQL Server. Topics include: SQL Enterprise Manager, fundamentals of database design and normalization, and Structured Query Language (SQL).

Prerequisites(s): AFL 085 and AFM 090, or appropriate placement test scores

Corequisite(s): No corequisite

Lecture Hours: 2	Lab Hours: 3		Credit Hours: 3
Lab Fee: 90	Supplemental Fee: 0		Purpose:
☐ Transfer Assurance Guide Course (TAG)		☐ Transfer Module Course (TM)	
Course Format: Lec/Lab		Grading: A/B/C/D/F/I	
Delivery Method: X Web ☐ Hybrid X Classroom			
Semesters Offered: X Fall X Spring X Summer			

Course Primary Text:

N/A	Edition:

Course Outcomes:

1	Students will be able to identify, discuss, and apply the concepts and steps of database design.
2	Students will be able to analyze business requirements to develop entity relational diagrams (ERD).
3	Students will be able to develop a relational database based on the database design.
4	Students will be able to apply the appropriate data types to all attributes within database.
5	Students will be able to develop a relational database using Microsoft SQL Server.
6	Students will be able to demonstrate proficiency using Source Query Language (SQL) Data Definition Language (DDL) to script and create a database.
7	Students will be able to demonstrate proficiency using SQL Data Manipulation Language (DML) to add/update/delete rows from tables.
8	Students will be able to demonstrate proficiency using SQL Data Query Language (DQL) to create simple to complex query (select) statements.
9	Students will be able to demonstrate proficiency using simple to complex SQL DQL inner and outer join statements.
10	Students will be able to demonstrate proficiency using simple to complex SQL DQL aggregate functions.

11	Students will be able to demonstrate proficiency using simple SQL DQL sub queries

Course Topics:

Week 1	Course review and Introduction to data, flat files, tables and databases.
Week 2	Introduction to database design – Entities and relationships..
Week 3	Database design (Continued) - attributes, data type introduction, primary and foreign keys
Week 4	Introduction to SQL Server, SQL, naming standards, running scripts.
Week 5	Intro to SQL Server update, delete, selects.
Week 6	Test 1
Week 7	Normalization 1NF, 2NF, 3NF
Week 8	Normalization 1NF, 2NF, 3NF (Continued
Week 9	Introduction to SQL Select Joins
Week 10	Test 2 Advanced database design problem
Week 11	Advanced database design problem (Continued)
Week 12	Inner Joins/Aggregate functions
Week 13	Aggregate functions (Continued)
Week 14	Outer Joins and Sub Queries Final Project Introduction
Week 15	Final Project

Methods of Evaluation/Assessment

Class Participation	10%
Test #1	15%
Test #2	15%
Quizzes	20%
Assignments	40%

Course Keeper: Robert Nields   Date Completed: 4/1/2019