



**COWLEY COLLEGE  
& Area Vocational Technical School**

**COURSE PROCEDURE FOR**

**INTRODUCTION TO SQL  
CIS1902 1 Credit Hour**

**Student Level:**

This course is open to students on the college level in either Freshman or Sophomore year.

**Catalog Description:**

**CIS 1902 - INTRODUCTION TO SQL (1 hr)**

This course to give students an introduction to working with SQL including selection, updating, deleting, inserting, and implementing various database management techniques.

**Prerequisites:** Basic computer skills, CAP 1730 Computer Applications/Beginning Computers may be recommended

**Controlling Purpose:**

This course is designed to help students learn the fundamentals of SQL. This will include querying, inserting, updating, and deleting. Various database management techniques will be covered.

**Learner Outcomes:**

Upon completion of the course, the student will be able to write SQL statements to create databases and tables. Various techniques will be covered on how to insert, update, delete and query the data.

**Units Outcomes and Criterion Based Evaluation Key for Core Content:**

The following defines the minimum core content not including the final examination period. Instructors may add other content as time allows.

Evaluation Key:

- A = All major and minor goals have been achieved and the achievement level is considerably above the minimum required for doing more advanced work in the same field.
- B = All major goals have been achieved, but the student has failed to achieve some of the less important goals. However, the student has progressed to the point where the goals of work at the next level can be easily achieved.
- C = All major goals have been achieved, but many of the minor goals have not been achieved. In this grade range, the minimum level of proficiency represents a person who has achieved the major goals to the minimum amount of preparation necessary for taking more advanced work in the same field, but without any major handicap of inadequacy in his background.
- D = A few of the major goals have been achieved, but the student's achievement is so limited that he is not well prepared to work at a more advanced level in the same field.
- F = Failing, will be computed in GPA and hours attempted.
- N = No instruction or training in this area.

**UNIT 1: Execution of a Simple Query**

Outcomes: Upon completion of the unit, the student will be able to work with a simple query.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Connect to the Database
						Query the Database
						Save a Query
						Modify a Query
						Execute a Saved Query

**UNIT 2: Performing a Conditional Search**

Outcomes: Upon completion of the unit, the student will understand how to perform a conditional search.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Search Using a Simple Condition
						Compare Column Values
						Search Using Multiple Conditions
						Search for a Range of Values and Null Values
						Retrieve Data Based on Patterns

**UNIT 3: Working with Functions**

Outcomes: Upon completion of the unit, the student will understand how to work with functions.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Perform Date Calculations
						Calculate Data Using Aggregate Functions
						Manipulate String Values

**UNIT 4: Organizing Data**

Outcomes: Upon completion of the unit, the student will understand how to organize data in a query.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Sort Data
						Rank Data
						Group Data
						Filter Grouped Data
						Summarize Grouped Data
						Use PIVOT and UNPIVOT Operators

**UNIT 5: Retrieving Data from Tables**

Outcomes: Upon completion of the unit, the student will understand how to retrieve data from tables.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Combine Results of Two Queries
						Compare the Results of Two Queries
						Retrieve Data by Joining Tables
						Check for Unmatched Records
						Retrieve Information from a Single Table Using Joins

**UNIT 6: Presenting Query Results**

Outcomes: Upon completion of the unit, the student will be able to present query results.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Save the Query Result
						Generate an XML Report

### UNIT 7: Advanced Querying Using Subqueries

Outcomes: Upon completion of the unit, the student will be able to do advanced querying using subqueries.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Search Based on an Unknown Value
						Search Based on Multiple Unknown Values
						Compare a Value with Unknown Values
						Search Based on the Existence of Records
						Generate Output Using Correlated Subqueries
						Filter Grouped Data Within Subqueries
						Perform Multiple-Level Subqueries

### UNIT 8: Manipulating Table Data

Outcomes: Upon completion of the unit, the student will be able to insert, update, and delete data.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Insert Data
						Modify Data
						Delete Data

### UNIT 9: Manipulating the Table Structure

Outcomes: Upon completion of the unit, the student will be able to change a table structure.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Create a Simple Table
						Create a Table with Constraints
						Add and Drop Table Columns
						Add and Drop Constraints
						Modify the Column Definition
						Back up Tables
						Delete Tables

**UNIT 10: Working with Views**

Outcomes: Upon completion of the unit, the student will be able to implement views.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Create a View
						Manipulate Data in Views
						Create Aliases
						Modify and Drop Views

**UNIT 11: Indexing Data**

Outcomes: Upon completion of the unit, the student will be able to work with indices.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Create Indices
						Drop Indices

**UNIT 12: Managing Transactions**

Outcomes: Upon completion of the unit, the student will be able to implement transactions.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Create Transactions
						Commit Transactions

**Projects Required:****Textbook:**

Contact Bookstore for current textbook.

**Materials/Equipment Required:****Attendance Policy:**

Students should adhere to the attendance policy outlined by the instructor in the course syllabus

**Grading Policy:**

The grading policy will be outlined by the instructor in the course syllabus.

**Maximum class size:**

Based on classroom occupancy

**Course Timeframe:**

The U.S. Department of Education, Higher Learning Commission and the Kansas Board of Regents define credit hour and have specific regulations that the college must follow when developing, teaching and assessing the educational aspects of the college. A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally-established equivalency that reasonably approximates not less than one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work for approximately fifteen weeks for one semester hour of credit or an equivalent amount of work over a different amount of time. The number of semester hours of credit allowed for each distance education or blended hybrid courses shall be assigned by the college based on the amount of time needed to achieve the same course outcomes in a purely face-to-face format.

**Refer to the following policies:**

[402.00 Academic Code of Conduct](#)

[263.00 Student Appeal of Course Grades](#)

[403.00 Student Code of Conduct](#)

**Disability Services Program:**

Cowley College, in recognition of state and federal laws, will accommodate a student with a documented disability. If a student has a disability which may impact work in this class which requires accommodations, contact the Disability Services Coordinator.