

# ITIS 170: DATABASE PROGRAMMING

## Citrus College Course Outline of Record

Heading	Value
Effective Term:	Fall 2024
Credits:	3
Total Contact Hours:	54
Lecture Hours :	54
Lab Hours:	0
Hours Arranged:	0
Outside of Class Hours:	108
Total Student Learning Hours:	162
Prerequisite:	ITIS 160.
Strongly Recommended:	ENGL 101.
Transferable to CSU:	Yes
Transferable to UC:	No
Grading Method:	Standard Letter, Pass/No Pass

## Catalog Course Description

This course introduces database programming using Visual Basic for Applications (VBA). Concepts covered include the VBA interface, VBA concepts, analysis of data management requirements, and design of a database to meet those needs. 54 lecture hours.

## Course Objectives

- Analyze data management needs
- Create a database with appropriate tables and relationships
- Create appropriate database objects for the successful extraction of data according to various criteria
- Create appropriate objects for printed output of extracted database material
- Define needed features of databases from interfacing with prospective database customers.

## Major Course Content

### I. Database Tables

- Identifying field data
- Field definition/properties
- Normalization
- Relationships

#### I. Establish relationships

- Enforce referential integrity
- Cascades

### II. Queries

- Query Wizard/design view

- Field selection
- Sorting/filtering
- Criteria

#### I. Single

#### ii. Multiple

#### 1. And

#### 2. Or

#### e. Action queries

#### I. Append

#### ii. Update

#### iii. Delete

#### iv. Crosstab

### III. Forms

#### a. Single/multi-table

#### b. Active controls

#### I. List box

#### ii. Check box

#### iii. Option button

#### c. Form with subform

### IV. Using VBA

#### a. Control panels

#### b. Interactive forms

### V. Reports

#### a. Single/multi-table

#### b. Calculated fields

#### c. Subtotals

### VI. Import/export data

#### a. Excel

#### b. Access

#### c. Text delimited

## Suggested Reading Other Than Required Textbook

None.

## **Examples of Required Writing Assignments**

Students will outline data structures noting various fields with requisite properties prior to actual database creation.

## **Examples of Outside Assignments**

Students will be required to create, modify, query, and report from various sample databases through the use of VBA.

## **Instruction Type(s)**

Lecture, Online Education Lecture