

# Database Essentials v3



## Certification Exam: ICT Database Essentials Certificate Test

The ICT Database Essentials course focuses on the fundamentals of relational database use. Students will learn about common database components, including tables, records, and field structures, and data types. They will learn about queries and how to create them. They will study data import/export mechanisms. They will learn the basics of Structured Query Language (SQL) statements for managing and manipulating data. Finally, they will use the skills they have learned to create basic database tables, data queries, and data reports.

## Candidate Profile

The ICT Database Essentials v3 certification and courseware serve a wide range of learners seeking practical, industry-relevant skills, including:

### Middle School Students

- Grades 5- 8th middle school students.
- Basic computer literacy.
- Enjoy organizing information, lists, or collections.

### High School Students

- Grades 9 – 12 or recent graduates with basic tech literacy.
- Show interest in programming, databases, or analytics
- Are preparing for workforce readiness or career and technical education (CTE) pathways.

### Adults

- Basic computer literacy skills (file management, email, Internet navigation).
- Professionals seeking to strengthen administrative, business, or technical skills.
- Want to improve their ability to work with data systems.

## Career Profile

This course aligns with the Department of Labor Standard Occupational Classification for the following:

### SOC: 11-0000 Management Occupations

Management occupations encompass leadership roles responsible for planning, directing, and coordinating the operations and strategic direction of an organization or organizational unit. Individuals in these roles oversee personnel, allocate resources, establish objectives, and ensure that performance outcomes align with organizational goals.

### SOC: 13-0000 Business and Financial Operations Occupations

Business and financial operations occupations encompass roles that support the strategic, operational, and financial management of organizations. These professionals analyze data, manage resources, ensure regulatory compliance, and improve organizational efficiency.

### SOC: 15-0000 Computer and Mathematical Occupations

The Computer and Mathematical Occupations major group includes careers focused on designing, developing, analyzing, securing, and managing information systems, software applications, networks, databases, and data-driven solutions. Professionals in this field apply computer science, mathematics, statistics, and analytical methods to solve complex technological and business problems.

## Topics

### Lesson 1: Modern Databases

- Points to Ponder
- Purpose of Database Software
- Evolution of Database Software
- Business Applications
- Big Data

### Lesson 2: Database Components and Functions

- Points to Ponder
- Components of a Database
- Designing a Database
- Database Management Software

### Lesson 3: Create and Edit a Database

- Points to Ponder
- Creating and Naming a Database
- Creating Tables
- Common Editing Tasks
- Introducing Microsoft Access
- Skills Section
  - Getting Started with Access
  - Editing a Database with Access

### Lesson 4: Advanced Techniques in Databases

- Points to Ponder
- Building Database Elements
- Exporting and Importing Data
- Troubleshooting Common Database
  - Errors
- Skills Section
  - Creating Queries and Reports