



Course Description

CTS2451 | Business Intelligence: Integration Services & Reporting | 4.00 credits

This course is designed to provide students with the skills necessary for advanced web-based applications. Students will learn how to analyze business requirements to determine data access and data transfer requirements and how to apply database and problem solving skills to build data flow, design integration services, and reporting services. Prerequisite: CTS1437 or CTS2433.

Course Competencies:

Competency 1: The student will demonstrate the ability to design report architecture by:

1. Creating linked reports, drill-down reports, and drill-through reports
2. Using migration strategies to move application data files from an existing installation to a new installation

Competency 2: The student will demonstrate how to design a data acquisition strategy by:

1. Using sub reports to provide easy way to reuse a complex report
2. Using Code-Behind *strategies to extend an SSRS solution*
3. Implementing data query parameters, data bound parameters; multi-value parameters
4. Creating appropriate SQL queries for an application (MDX queries)
5. Managing data rights and security
6. Extracting data from Analysis Services
7. Balancing query-based processing vs. filter-based processing
8. Managing data sets using stored procedures

Competency 3: The student will demonstrate the ability to define a report parameter strategy by:

1. Implementing report cache parameters
2. Using expressions to calculate values for display in a text box
3. Creating aggregation functions in expression to summarize data

Competency 4: The student will demonstrate the ability to use a report layout by:

1. Implementing report components (crosstab report, TABLIX, design chart)
2. Implementing report templates (Report Definition Language)
3. Implementing Report Designer, generating report template RDL
4. Adding third-party controls, Visual Studio Report and Development platform

Competency 5: The student will demonstrate the ability to design reports by using Report Builder by:

1. Designing a Report Builder model
2. Using Report Builder templates to apply to multiple reports

Competency 6: The student will demonstrate the ability to manage a report environment by:

1. Specifying users and roles, subscriptions strategy
2. Designing data sources
3. Designing a deployment plan for completed reports

Competency 7: The student will demonstrate how to design control flow by:

1. Implementing data transformation
2. Blocking transformations (lookup task) and extractions (design constraints)
3. Designing the load process
4. Creating a package to load facts
5. Creating an SSIS package to load dimensions (SCD2)

6. Using capture CDC to locate changed data for SSIS
7. Implementing SSIS scripting and adding business logic into the control flow

Competency 8: The student will demonstrate how to plan the deployment of SSIS packages by:

1. Designing the structure of packages, troubleshooting and designing form problems with packaging
2. Saving packages in file deployment, package store MSDB deployment, and package store file deployment
3. Deploy packages from Visual Studio and BIDS SSIS deployment utility
4. Creating a package that reports errors to a log
5. Enabling configurable values to be consumed by a package

Learning Outcomes:

- Use quantitative analytical skills to evaluate and process numerical data
- Solve problems using critical and creative thinking and scientific reasoning
- Use computer and emerging technologies effectively