

Course Competency

CAP 2743C Power BI - Data Visualization and Analysis

Course Description

This is the second of two introductory courses aimed at preparing students for the Microsoft Power BI certification exam. Students will learn how to create informative data visualizations and leverage Power BI's analytic capabilities to provide meaningful business insights. 3 lecture, 2 lab hours. Prerequisite: CAP2742. (3 hr. lecture; 2 hr. lab).

Course Competency	Learning Outcomes
<p>Competency 1:The student will demonstrate the ability to create visualizations and reports by:</p>	<ol style="list-style-type: none"> 1. Numbers / Data 2. Critical thinking 3. Computer / Technology Usage
<ol style="list-style-type: none"> 1. a) Choosing an appropriate visualization type, such as a matrix, KPI, treemap, scatterplot, clustered column, bar charts, map, etc. b) Formatting and configuring visualizations. c) Adding visualization items to reports. d) Importing a custom visual. e) Configuring conditional formatting and small multiples. f) Applying slicing and filtering. g) Adding an R or Python visual. h) Adding a Smart Narrative visual to provide a quick summary. i) Creating a paginated report. j) Configuring report pages, including automatic page refreshes. k) Designing and configuring visuals and reports for accessibility. l) Creating a PivotTable from a Power BI dataset in Excel. 	
<p>Competency 2:The student will demonstrate the ability to create dashboards by:</p>	<ol style="list-style-type: none"> 1. Numbers / Data 2. Critical thinking 3. Computer / Technology Usage
<ol style="list-style-type: none"> 1. a) Managing tiles on a dashboard. b) 	

<p>Pinning a live report page to a dashboard. c) Adding a dashboard theme. d) Setting a mobile view. e) Configuring data alerts. f) Using the Q&A feature.</p>	
<p>Competency 3:The student will demonstrate the ability to enrich reports by:</p>	<ol style="list-style-type: none"> 1. Numbers / Data 2. Critical thinking 3. Computer / Technology Usage
<ol style="list-style-type: none"> 1. a) Configuring bookmarks and navigation. b) Creating custom tooltips. c) Configuring the interactions between visuals and the ability to drill down into the data. d) Applying sorting, drillthrough and cross filter. e) Configuring Sync Slicers. f) Using the selection pane. g) Exporting report data. h) Designing reports for mobile devices. 	
<p>Competency 4:The student will demonstrate the ability to provide insights in reports by:</p>	<ol style="list-style-type: none"> 1. Critical thinking 2. Numbers / Data 3. Computer / Technology Usage
<ol style="list-style-type: none"> 1. a) Applying conditional formatting, slicers and filters. b) Performing top N analysis. c) Exploring statistical summaries. d) Using the Q&A visual. e) Adding a Quick Insights result to a report. f) Creating reference lines by using the Analytics pane. g) Using the Play Axis feature of a visualization. h) Activating the Personalize Visuals features to allow users to customize a report. 	
<p>Competency 5:The student will demonstrate the ability to perform a variety of analysis by:</p>	<ol style="list-style-type: none"> 1. Numbers / Data 2. Critical thinking 3. Computer / Technology Usage
<ol style="list-style-type: none"> 1. a) Identifying outliers. b) Using anomaly detection. c) Conducting a time series 	

<p>analysis. d) Using groupings and binnings. e) Using the Key Influencers to explore dimensional variances. f) Using the decomposition tree visual to break down a measure. g) Applying AI Insights.</p>	
<p>Competency 6:The student will demonstrate the ability to manage and maintain datasets by:</p>	<ol style="list-style-type: none"> 1. Numbers / Data 2. Critical thinking 3. Computer / Technology Usage
<ol style="list-style-type: none"> 1. a) Configuring a dataset scheduled refresh and incremental refresh settings. b) Configuring row-level security group membership and providing access to datasets. c) Promoting or certifying Power BI datasets. d) Identifying downstream dataset dependencies. e) Configuring large dataset format. 	
<p>Competency 7:The student will demonstrate the ability to create and manage workspaces by:</p>	<ol style="list-style-type: none"> 1. Numbers / Data 2. Critical thinking 3. Computer / Technology Usage
<ol style="list-style-type: none"> 1. a) Describing the purpose of a workspace. b) Configuring and updating a workspace and workspace app. c) Publishing, importing, and updating assets in a workspace. d) Assigning workspace roles. e) Applying sensitivity labels to workspace content. f) Recommending a development lifecycle strategy. g) Using deployment pipelines. h) Configuring subscriptions. i) Promoting or certifying selected content. 	

Updated: FALL TERM 2022