

## IT-Data and Analytic Specialist Program Course List

The course list for this program has not been finalized. The following information is intended to give students an idea of what coursework will be required.

Title	Credits	Description
<b>BA Planning and Monitoring</b>	3	The BA Planning and Monitoring course includes instruction in the multiple approaches used for performing business analysis, planning activities and ongoing communication, defining scopes, process improvements, assumptions, constraints, and dependencies, and the management process.
<b>Power BI</b>	1	Power BI (Business Intelligence). This course provides an introduction and exploration of business analysis tools utilized in connecting, aggregating, and visualizing data from multiple sources to quickly summarize data. You will learn how to extract, transform, and load data, build a data model using modeling features, create proper relationships, and design considerations.
<b>Data Analytics Capstone</b>	3	The Data Analytics Capstone course is designed to provide hands-on, real-world experiences related to applying the knowledge learned to solve complex data-related challenges. A comprehensive data analytics project will be completed from start to finish. You will apply data collection, cleaning, analysis, visualization, and interpretation techniques to arrive at conclusions/recommendations based off of the data set.
<b>Data Governance and Ethics</b>	3	Identify data governance structures and examine ethical considerations and implications of AI and data collection and reporting.
<b>Data Manipulation</b>		
<b>Data Modeling</b>	2	Discover concepts of relational databases through data modeling. Learn about entities, attributes, relationships and the different types of keys in a database, and create conceptual, logical and physical data models for a variety of data types. Get an in-depth explanation of relational and dimensional models, and use Microsoft Access to model data.
<b>Data Visualization</b>	2	Learn to create and manage reports in a variety of reporting tools, and explore the uses of data visualizations. Learn to implement self-service BI solutions and query a variety of data sources. Tools used include SQL Server Reporting Services and Power BI.
<b>Decision Optimization and Simulation</b>	2	Use a variety of optimization models to analyze data in order to make decisions using decision trees and simulations. Learners use a variety of software tools to build decision trees in order to solve problems that involve high levels of uncertainty. Learners use a variety of tools to run simulations to solve problems including queuing, production, and games of chance.

<b>Intro to Data Analytics</b>	2	Learn to draw business insights from data through analysis. Identify patterns in data, perform basic statistical data analysis and evaluate data for accuracy and objectivity. Tools include Excel and Tableau.
<b>Predictive Analytics</b>	2	Gain an introduction to predictive analytics with Python. Learn how to use Python to load and manipulate data, create basic visualizations, and run machine learning algorithms to classify data and predict values.
<b>Business Applications for AI</b>	2	Leveraging AI tools to develop efficiencies in business analytics.
<b>CompTIA Data + Prep</b>	2	CompTIA Data + Prep prepares you to be recognized as an early-career, data analytics professional tasked with developing and promoting data-driven business decision-making. This course reviews the topics of data mining, visualization, data analysis, data governance, and overall data concepts. Upon completion, students can take the exam and become certified professionals in the field.
<b>Python Programming</b>	1	This course introduces the Python Programming Language. Upon completing this course, students can write Python scripts that process input and output files, manipulate strings, parse text, perform calculations and write Regular Expressions. The course will include interactive lectures and outside coursework.
<b>Software Applications for Business</b>	3	Introduces the student to Office 365 suite of products. This course includes software application basics and file management strategies to better organize, create, and maintain information to communicate in a business setting. Office 365 applications will be related to solving business problems, formatting business information, and creating business reports that integrates all features of Office 365.
<b>IT Exploration</b>	3	Students explore the Information Technology (IT) field and the various career options available to them. Customer service skills, ethics in the computer industry, servant leadership, teamwork, time management, and stress management will be covered. This course is where the student will begin to design and create their program portfolio.
<b>Database Concepts with SQL</b>	3	This course gives students an opportunity to learn basic database concepts and design principles. Students can then apply those concepts and principles in hands-on applications. They will master the concept of a relational database application by designing, populating, and joining relational tables using DBMS (database management software).
<b>Project Management</b>	3	Learners explore the importance of project management in business environments. Learners create successful proposals and plan, schedule and budget for a project. Team leadership and communication are practiced. Microsoft Project assists them in monitoring the progress of the project, including the use of Gantt Charts, Program Evaluation and Review Technique (PERT) and Critical Path Method (CPM). Includes professional presentation of your project.
<b>Big Data &amp; Analytics</b>	2	
<b>Oral/Interpersonal Communication</b>	3	Focuses on developing effective listening techniques and verbal and nonverbal communication skills through oral presentation, group activity, and other projects. The study of self, conflict, and cultural contexts will be explored, as well as their impact on communication.

<b>Technical Reporting</b>	3	Teaches the preparation and presentation of oral and written technical reports. Types of reports may include lab and field reports, proposals, technical letters and memos, technical research reports and case studies.
<b>Quantitative Reasoning</b>	3	This course is intended to develop analytic reasoning and the ability to solve quantitative problems. Topics to be covered may include: construction & interpretation of graphs; descriptive statistics; geometry & spatial visualizations; math of finance; functions and modeling; probability; and logic. Appropriate use of units and dimensions, estimates, mathematical notation, and available technology will be emphasized throughout the course.
<b>Introductory Statistics</b>	3	Students taking Introductory Statistics display data with graphs, describe distributions with numbers perform correlation and regression analyses, and design experiments. They use probability and distributions to make predictions, estimate parameters, and test hypotheses. They draw inferences about relationships including ANOVA.
<b>Introduction to Diversity Studies</b>	3	This is a course that draws from several disciplines to reaffirm the basic American values of justice and equality by teaching a basic vocabulary, a history of immigration and conquest, principles of transcultural communication, legal liability and the value of aesthetic production to increase the probability of respectful encounters among people. In addition to an analysis of majority/minority relations in a multicultural context, the topics of ageism, sexism, gender differences, sexual orientation, the disabled and the American Disability Act (ADA) are explored. Ethnic relations are studied in global and comparative perspectives.
<b>Introduction to Psychology</b>	3	An introductory course in psychology surveying the multiple aspects of human behavior. It addresses the theoretical foundations of human functioning in such areas as perception, learning, motivation, development, personality, health and pathology, exploring physiological and environmental influences. It directs the student to an insightful understanding of the complexities of human relationships in personal and vocational settings.
<b>College Success Workshop</b>	1	This course helps learners develop and improve their skills to be a successful college student. Learners will identify resources available to help them in college life, develop <i>habits of mind</i> for college success, and explore career possibilities. In addition, learners will strengthen their digital literacy skills (aka computer and technology skills) and develop participation skills for the learning environment - whether online or in a face-to-face classroom.