# IT-DATA AND ANALYTICS SPECIALIST

## Overview

**IT - Data and Analytics Specialist Associate of Applied Science Degree**

**Program Code: 10-156-3**

*For more information:* www.wctc.edu/data-spec *(*http://www.wctc.edu/data-spec/*)*

Prepare for a variety of careers in the rapidly-growing field of data. Gain skills in data modeling, database development, report development, and data warehouse design and development. Explore the basics of programming, data visualization, statistical data analysis and data analytics.

**The minimum required course grades and program grade point average (GPA) for students under this catalog are:**

*Core Courses = C*
*General Studies Courses = C*
*Program GPA = 2.0*

**Related Certificates that can be earned along the way.**

- Business Systems Analyst Certificate (https://catalog.wctc.edu/programs/business-systems-analyst/)
- Database Server Administrator Certificate (https://catalog.wctc.edu/programs/database-server-administrator/)
- Database Developer Certificate (https://catalog.wctc.edu/programs/database-developer/)
- Report Analyst Certificate (https://catalog.wctc.edu/programs/report-analyst/)

## Learning Outcomes
## Program Outcomes

1. Create complex SQL queries.
2. Develop data driven reports.
3. Analyze data.
4. Develop database driven applications.
5. Design a database.
6. Develop ETL processes.
7. Manage database servers.
8. Model Real-World Processes as Data.

## Critical Life Skills

To help our students prepare for success in a workplace and society that is **increasingly global, multi-cultural, and collaborative,** all students are given opportunities to develop and demonstrate Critical Life Skills, both in and out of the classroom. The following Critical Life Skills are learning outcomes for WCTC students.

- **Communication:** Demonstrate appropriate communication.
- **Critical Thinking/Problem Solving:** Demonstrate critical thinking skills to analyze situations and solve problems.
- **Relationships:** Demonstrate effective interpersonal skills.
- **Self-management:** Demonstrate responsible and respectful behavior.

## Required Courses

Listed below are the required courses for the program. To view the recommended sequence for taking courses click on the plan of study tab(s) above. Work with your Academic Advisor to design a program plan!

View your **Program Matrix (https://www.wctc.edu/_site-pdfs/course-offering-matrix/101563.pdf)** to find out when each course will be offered (term and time of day).

| Code | Title | Credits |
|---|---|---|
| **Core Courses** | | |
| 107-119 | System Analysis Agile Methods | 3 |
| Approved Substitute: 107-118 | | |
| 107-123 | IT Internship | 2 |
| 150-137 | MS Server | 3 |
| 150-190 | Network Fundamentals | 2 |
| Approved Substitutes: 150-117 OR 150-175 OR 150-178 | | |
| 152-101 | Python Programming | 1 |
| Approved Substitute: 150-154 | | |
| 152-112 | Intro to Programming with C# | 3 |
| 152-170 | IS Project | 4 |
| 156-102 | Advanced SQL | 3 |
| 156-103 | Database Administration | 3 |
| 156-106 | Data Warehouse Development | 4 |
| 156-107 | Data Modeling | 2 |
| 156-108 | Intro to Databases & Reporting | 1 |
| Approved Substitute: 152-115 | | |
| 156-109 | Intro to SQL | 2 |
| Approved Substitute: 152-115 | | |
| 156-110 | Data Visualization & Reporting | 2 |
| Approved Substitute: 156-104 | | |
| 156-111 | Intro to Data Analytics | 2 |
| 156-112 | Predictive Analytics | 2 |
| Approved Substitute: 156-105 | | |
| 156-113 | Python Data Manipulation | 2 |
| 156-117 | Big Data Engineering | 3 |
| 890-108 | Employment Success | 1 |
| **General Studies** | | |
| 801-136 | English Composition 1 | 3 |
| Approved Substitute: 809-223 | | |
| 801-197 | Technical Reporting | 3 |
| Approved Substitute: 801-243 | | |
| 804-133 | Math & Logic | 3 |
| Approved Substitutes: 804-118 OR 804-116 OR 804-195 OR 804-198 | | |
| 804-189 | Introductory Statistics | 3 |
| 809-195 | Economics | 3 |
| Approved Substitutes: 809-143 OR 809-287 | | |
| 809-199 | Psychology of Human Relations | 3 |

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|---|---|---|
| Approved Substitute: 809-198 | | |
| **Total Credits** | | **63** |

# Full-time, Fall Start Plan

**First Year**

| **Fall Term 1** | | **Credits** |
|---|---|---|
| 152-101 | Python Programming | 1 |
| 156-108 | Intro to Databases & Reporting | 1 |
| 804-133 | Math & Logic | 3 |
| | **Credits** | **5** |
| **Fall Term 2** | | |
| 152-112 | Intro to Programming with C# | 3 |
| 156-109 | Intro to SQL | 2 |
| 156-107 | Data Modeling | 2 |
| | **Credits** | **7** |
| **Winter Interim** | | |
| 890-108 | Employment Success | 1 |
| | **Credits** | **1** |
| **Spring Term 1** | | |
| 156-102 | Advanced SQL This course will run 16 weeks. | 3 |
| 156-110 | Data Visualization & Reporting | 2 |
| 809-199 | Psychology of Human Relations | 3 |
| | **Credits** | **8** |
| **Spring Term 2** | | |
| 156-113 | Python Data Manipulation | 2 |
| 801-136 | English Composition 1 | 3 |
| | **Credits** | **5** |
| **Summer Term** | | |
| 801-197 | Technical Reporting | 3 |
| 804-189 | Introductory Statistics | 3 |
| | **Credits** | **6** |
| **Second Year** | | |
| **Fall Term 1** | | |
| 156-106 | Data Warehouse Development This course will run 16 weeks. | 4 |
| 156-111 | Intro to Data Analytics | 2 |
| 107-119 | System Analysis Agile Methods | 3 |
| | **Credits** | **9** |
| **Fall Term 2** | | |
| 150-190 | Network Fundamentals | 2 |
| 156-112 | Predictive Analytics | 2 |
| | **Credits** | **4** |
| **Spring Term 1** | | |
| 150-137 | MS Server | 3 |
| 152-170 | IS Project This course runs 16 weeks. | 4 |
| 156-117 | Big Data Engineering | 3 |
| | **Credits** | **10** |
| **Spring Term 2** | | |
| 156-103 | Database Administration | 3 |
| | **Credits** | **3** |
| **Summer Term** | | |
| 107-123 | IT Internship | 2 |
| 809-195 | Economics | 3 |
| | **Credits** | **5** |
| | **Total Credits** | **63** |

# Part-time, Fall Start Plan

**First Year**

| **Fall Term 1** | | **Credits** |
|---|---|---|
| 156-108 | Intro to Databases & Reporting | 1 |
| 804-133 | Math & Logic | 3 |
| | **Credits** | **4** |
| **Fall Term 2** | | |
| 156-107 | Data Modeling | 2 |
| 156-109 | Intro to SQL | 2 |
| | **Credits** | **4** |
| **Spring Term 1** | | |
| 156-102 | Advanced SQL | 3 |
| This course runs 16 weeks. | | |
| 156-110 | Data Visualization & Reporting | 2 |
| | **Credits** | **5** |
| **Spring Term 2** | | |
| 801-136 | English Composition 1 | 3 |
| | **Credits** | **3** |
| **Summer Interim** | | |
| 152-101 | Python Programming | 1 |
| | **Credits** | **1** |
| **Summer Term** | | |
| 801-197 | Technical Reporting | 3 |
| 804-189 | Introductory Statistics | 3 |
| | **Credits** | **6** |
| **Second Year** | | |
| **Fall Term 1** | | |
| 156-106 | Data Warehouse Development | 4 |
| This course runs 16 weeks. | | |
| 156-111 | Intro to Data Analytics | 2 |
| | **Credits** | **6** |
| **Fall Term 2** | | |
| 150-190 | Network Fundamentals | 2 |
| | **Credits** | **2** |
| **Spring Term 1** | | |
| 150-137 | MS Server | 3 |
| 152-112 | Intro to Programming with C# | 3 |
| | **Credits** | **6** |
| **Spring Term 2** | | |
| 156-103 | Database Administration | 3 |
| 156-113 | Python Data Manipulation | 2 |
| | **Credits** | **5** |
| **Summer Term** | | |
| 809-195 | Economics | 3 |
| 809-199 | Psychology of Human Relations | 3 |
| | **Credits** | **6** |

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|---|---|---|
| **Third Year** | | |
| **Fall Term 1** | | |
| 107-119 | System Analysis Agile Methods | 3 |
| | **Credits** | **3** |
| **Fall Term 2** | | |
| 156-112 | Predictive Analytics | 2 |
| | **Credits** | **2** |
| **Winter Interim** | | |
| 890-108 | Employment Success | 1 |
| | **Credits** | **1** |
| **Spring Term 1** | | |
| 152-170 | IS Project | 4 |
| This course runs 16 weeks. | | |
| 156-117 | Big Data Engineering | 3 |
| | **Credits** | **7** |
| **Summer Term** | | |
| 107-123 | IT Internship | 2 |
| | **Credits** | **2** |
| | **Total Credits** | **63** |

# Full-time, Spring Start Plan

| | | |
|---|---|---|
| **First Year** | | |
| **Spring Term 1** | | **Credits** |
| 156-108 | Intro to Databases & Reporting | 1 |
| 801-136 | English Composition 1 | 3 |
| 804-133 | Math & Logic | 3 |
| | **Credits** | **7** |
| **Spring Term 2** | | |
| 156-107 | Data Modeling | 2 |
| 801-197 | Technical Reporting | 3 |
| | **Credits** | **5** |
| **Fall Term 1** | | |
| 107-119 | System Analysis Agile Methods | 3 |
| 152-101 | Python Programming | 1 |
| 804-189 | Introductory Statistics | 3 |
| | **Credits** | **7** |
| **Fall Term 2** | | |
| 152-112 | Intro to Programming with C# | 3 |
| 156-109 | Intro to SQL | 2 |
| | **Credits** | **5** |
| **Second Year** | | |
| **Spring Term 1** | | |
| 156-102 | Advanced SQL This course runs 16 weeks. | 3 |
| 156-110 | Data Visualization & Reporting | 2 |
| 809-195 | Economics | 3 |
| | **Credits** | **8** |
| **Spring Term 2** | | |
| 156-113 | Python Data Manipulation | 2 |
| 809-199 | Psychology of Human Relations | 3 |
| | **Credits** | **5** |
| **Fall Term 1** | | |
| 150-137 | MS Server | 3 |
| 156-111 | Intro to Data Analytics | 2 |
| 156-106 | Data Warehouse Development This course runs 16 weeks. | 4 |
| | **Credits** | **9** |
| **Fall Term 2** | | |
| 150-190 | Network Fundamentals | 2 |
| 156-112 | Predictive Analytics | 2 |
| | **Credits** | **4** |
| **Third Year** | | |
| **Winter Interim** | | |
| 890-108 | Employment Success | 1 |
| | **Credits** | **1** |
| **Spring Term 1** | | |
| 107-123 | IT Internship This course runs 16 weeks. | 2 |
| 152-170 | IS Project This course runs 16 weeks. | 4 |
| 156-117 | Big Data Engineering | 3 |
| | **Credits** | **9** |
| **Spring Term 2** | | |
| 156-103 | Database Administration | 3 |
| | **Credits** | **3** |
| | **Total Credits** | **63** |

# Part-time, Spring Start Plan

| | | |
|---|---|---|
| **First Year** | | |
| **Spring Term 1** | | **Credits** |
| 152-112 | Intro to Programming with C# | 3 |
| 156-108 | Intro to Databases & Reporting | 1 |
| | **Credits** | **4** |
| **Spring Term 2** | | |
| 156-107 | Data Modeling | 2 |
| 804-133 | Math & Logic | 3 |
| | **Credits** | **5** |
| **Summer Interim** | | |
| 152-101 | Python Programming | 1 |
| | **Credits** | **1** |
| **Summer Term** | | |
| 156-109 | Intro to SQL | 2 |
| 801-136 | English Composition 1 | 3 |
| | **Credits** | **5** |
| **Fall Term 1** | | |
| 107-119 | System Analysis Agile Methods | 3 |
| 156-102 | Advanced SQL This course runs 16 weeks. | 3 |
| | **Credits** | **6** |
| **Fall Term 2** | | |
| 150-190 | Network Fundamentals | 2 |
| | **Credits** | **2** |
| **Second Year** | | |
| **Spring Term 1** | | |
| 150-137 | MS Server | 3 |

| | | |
|---|---|---|
| 156-110 | Data Visualization & Reporting | 2 |
| | **Credits** | **5** |
| **Spring Term 2** | | |
| 156-113 | Python Data Manipulation | 2 |
| | **Credits** | **2** |
| **Summer Term** | | |
| 801-197 | Technical Reporting | 3 |
| 804-189 | Introductory Statistics | 3 |
| | **Credits** | **6** |
| **Fall Term 1** | | |
| 156-106 | Data Warehouse Development This course runs 16 weeks. | 4 |
| 156-111 | Intro to Data Analytics | 2 |
| | **Credits** | **6** |
| **Fall Term 2** | | |
| 156-112 | Predictive Analytics | 2 |
| | **Credits** | **2** |
| **Third Year** | | |
| **Spring Term 1** | | |
| 156-117 | Big Data Engineering | 3 |
| 809-199 | Psychology of Human Relations | 3 |
| | **Credits** | **6** |
| **Spring Term 2** | | |
| 156-103 | Database Administration | 3 |
| 890-108 | Employment Success | 1 |
| | **Credits** | **4** |
| **Summer Term** | | |
| 107-123 | IT Internship | 2 |
| 809-195 | Economics | 3 |
| | **Credits** | **5** |
| **Fall Term 1** | | |
| 152-170 | IS Project This course runs 16 weeks. | 4 |
| | **Credits** | **4** |
| | **Total Credits** | **63** |