



The B.S. in Data Management/Data Analytics is designed to prepare science professionals who can set up a database environment, design

Practically speaking, how do competency-based programs like those offered at Western Governors University (WGU) work? Unlike traditional universities, WGU does not award degrees based on completion of a certain number of credit hours or a certain set of required courses. Instead, you will earn

Progress through a degree program is governed not by the amount of time you spend in class but by your ability to demonstrate mastery of competencies as you complete required courses. Of course, you will need to engage in learning experiences as you review competencies or develop knowledge and skills in areas in which you may be weak. To help you acquire the knowledge and skills you need to complete your courses and program, WGU provides a rich array of learning resources. Your program mentor will work closely with you to help you understand the competencies required for your program and to help you create a schedule for completing your courses. You will also work closely with course instructors as you engage in each of your courses. As subject matter experts, course instructors will guide you through the

The benefit of this competency-based system is that it enables students who are knowledgeable about a particular subject to make accelerated progress toward completing a degree, even if they lack college

as 15–20 hours per week to the program, while others may need to devote more time. For this reason, pre-assessments are there to help your program mentor form a profile of your prior knowledge and create a personalized Degree Plan.

At WGU, faculty serve in specialized roles, and they will work with you individually to provide the guidance, instruction, and support you will need to succeed and graduate. As a student, it is important for

The WGU orientation course focuses on acquainting you with WGU's competency-based model, distance education, technology, and other resources and tools available for students. You will also utilize WGU program and course communities, participate in activities, and get to know other students at WGU. The orientation course must be completed before you can start your first term at WGU.

Because WGU is a competency-based institution, it does not award degrees based on credits but rather on demonstration of competency. However, if you have completed college coursework at another accredited institution, or if you have completed industry certifications, you may have your transcripts and certifications evaluated to determine if you are eligible to receive some transfer credit. The guidelines for determining what credits will be granted varies based on the degree program. Students entering graduate programs must have their undergraduate degree verified before being admitted to WGU. To review more information in regards to transfer guidelines based on the different degree programs, you may visit the Student Handbook found at the link below and search for "Transfer Credit Evaluation."

[Click here for the Student Handbook](#)

WGU does not waive any requirements based on a student's professional experience and does not perform a "résumé review" or "portfolio review" that will automatically waive any degree requirements. Degree requirements and transferability rules are subject to change in order to keep the degree content

Remember, WGU's competency-based approach lets you take advantage of your knowledge and skills, regardless of how you obtained them. Even when you do not directly receive credit, the knowledge you possess may help you accelerate the time it takes to complete your degree program.

WGU is a "continuous enrollment" institution, which means you will be automatically enrolled in each of your new terms while you are at WGU. Each term is six months long. Longer terms and continuous enrollment allow you to focus on your studies without the hassle of unnatural breaks between terms that you would experience at a more traditional university. At the end of every six-month term, you and your program mentor will review the progress you have made and revise your Degree Plan for your next six-

WGU requires that students make measurable progress toward the completion of their degree programs every term. We call this "On-Time Progress," denoting that you are on track and making progress toward on-time graduation. As full-time students, graduate students must enroll in at least 8 competency units each term, and undergraduate students must enroll in at least 12 competency units each term. Completing at least these minimum enrollments is essential to On-Time Progress and serves as a baseline from which you may accelerate your program. We measure your progress based on the courses you are able to pass, not on your accumulation of credit hours or course grades. Every time you pass a course, you are demonstrating that you have mastered skills and knowledge in your degree program. For comparison to traditional grading systems, passing a course means you have demonstrated competency

WGU assigns competency units to each course in order to track your progress through the program. A competency unit is equivalent to one semester credit of learning. Some courses may be assigned 3

Satisfactory Academic Progress (SAP) is particularly important to students on financial aid because you must achieve SAP in order to maintain eligibility for financial aid. We will measure your SAP quantitatively by reviewing the number of competency units you have completed each term. In order to remain in good

academic standing, you must complete at least 66.67% of the units you attempt over the length of your program—including any courses you add to your term to accelerate your progress. Additionally, during your first term at WGU you must pass at least 3 competency units in order to remain eligible for financial aid. We know that SAP is complex, so please contact a financial aid counselor should you have additional questions. *Please note: The Endorsement Preparation Program in Educational Leadership is not eligible

Your Degree Plan includes courses needed to complete your program. To obtain your degree, you will be required to demonstrate your skills and knowledge by completing the assessment(s) for each course. In general there are two types of assessments: performance assessments and objective assessments. Performance assessments contain, in most cases, multiple scored tasks such as projects, essays, and research papers. Objective assessments include multiple-choice items, multiple-selection items, matching, short answer, drag-and-drop, and point-and-click item types, as well as case study and video-based items. Certifications verified through third parties may also be included in your program. More

WGU works with many different educational partners, including enterprises, publishers, training companies, and higher educational institutions, to provide high-quality and effective learning resources that match the competencies you are developing. These vary in type, and may be combined to create the best learning experience for your course. A learning resource can be an e-textbook, online module, study guide, simulation, virtual lab, tutorial, or a combination of these. The cost of most learning resources are included in your tuition and Learning Resource Fee. They can be accessed or enrolled for through your courses. Some degree-specific resources are not covered by your tuition, and you will need to cover those costs separately. WGU also provides a robust library to help you obtain additional learning

The following article provides additional details about the current state of mobile compatibility for learning resources at WGU. It includes a list that can be referenced to determine the mobile friendliness of all core

[Student Handbook article: Can I use my mobile device for learning resources?](#)

As previously mentioned, competency units (CUs) have been assigned to each course in order to measure your academic progress. If you are an undergraduate student, you will be expected to enroll in a minimum of 12 competency units each term. Graduate students are expected to enroll in a minimum of 8 competency units each term. A standard plan for a student for this program who entered WGU without any transfer units would look similar to the one on the following page. Your personal progress can be faster, but your pace will be determined by the extent of your transfer units, your time commitment, and



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The following section includes the areas of study in the program, with their associated courses. Your specific learning resources and level of instructional support will vary based on the individual competencies you bring to the program and your confidence in developing the knowledge, skills, and abilities required in each area of the degree. The Degree Plan and learning resources are dynamic, so you need to review your Degree Plan and seek the advice of your mentor regarding the resources before you purchase them.

Introduction to IT examines information technology as a discipline and the various roles and functions of the IT department as business support. Students are presented with various IT disciplines including systems and services, network and security, scripting and programming, data management, and business of IT, with a survey of technologies in every area and how they relate to each other and to the business.

This course covers the following competencies:

Begin your course by discussing your course planning tool report with your instructor and creating your personalized course plan together.

The graduate describes IT as a discipline and discusses the history and future of computing as well as the currently used infrastructure.

The graduate describes information technology systems and their role in converting data to organizational knowledge.

The graduate identifies the role of different types of software in a computing environment and explains the fundamentals of software development.

The graduate recognizes and describes functions of basic computer hardware components.

The graduate describes the structure, function, and security associated with networks.

The graduate identifies common software architectures, development techniques, and the relationship between software and its environment.

The graduate explains the structure and function of databases.

The graduate explains the role of technology in today's business environment and describes basic concepts of project management.

The graduate evaluates ethical concerns involved in the use of technology.

IT Foundations is the first course in a two-part series that will prepare you for the CompTIA A+ exam, Part I. This course focuses mostly on hardware and will afford you the skills you need to support five core components: Mobile Devices; Networking; Hardware; Virtualization and Cloud Computing; and Network and Hardware Troubleshooting. These are essential skills to set up and troubleshoot any system. Whether you work in a data center or an office, most of your work as an IT professional will execute in a hardware platform; understanding the hardware layer of the IT infrastructure will allow

This course covers the following competencies:

Begin your course by discussing your course planning tool report with your instructor and creating your personalized course plan together.

The graduate configures client-side virtualization to meet organizational requirements.

The graduate determines appropriate diagnostic and repair strategies for common personal computer hardware, access to network resources, and network connectivity.

The graduate recommends appropriate strategies for classifying, installing, configuring, optimizing, upgrading, and troubleshooting laptops and mobile devices.

The graduate recommends appropriate strategies for classifying, installing, configuring, optimizing, and upgrading basic network types.

The graduate demonstrates an understanding of personal computer components and their function in a desktop system.

IT Applications explores personal computer components and their functions in a desktop system. Topics cover computer data storage and retrieval, including classifying, installing, configuring, optimizing, upgrading, and troubleshooting printers, laptops, portable devices, operating systems, networks, and system security. Other areas in this course include recommending appropriate tools, diagnostic procedures, preventive maintenance, and troubleshooting techniques for personal computer components in a desktop system. The course then finishes with strategies for identifying, preventing, and

course plan together.

The learner implements appropriate communication styles based on audience and setting.

The learner uses communication strategies for managing conflict.

The learner uses communication strategies to influence others.

Welcome to Composition I: Writing with a Strategy! In this course, you will focus on three main topics: writing strategies, writing style, format and grammar, and editing and revising text. This course consists of an introduction and five sections aligned to the three main topics. The sections address understanding purpose and audience, writing strategies and techniques, format, style, structure, and grammar, editing and revision strategies, and constructive feedback. Each section includes learning opportunities through readings, videos, audio, and other relevant resources. Assessment activities with feedback also provide opportunities to check your learning, practice, and show how well you understand course content. Because the course is self-paced, you may move through the material as quickly or as slowly as you need to gain proficiency in the five competencies that will be covered in the final assessment. If you have no prior knowledge or experience, you can expect to spend 30-40 hours on the course content.

This course covers the following competencies:

Begin your course by discussing your course planning tool report with your instructor and creating your personalized course plan together.

The individual writes with purpose for a given context and target audience.

prerequisites are required for this course.

This course covers the following competencies:

Begin your course by discussing your course planning tool report with your instructor and creating your personalized course plan together.

The graduate applies the operations, processes, and procedures of fractions, decimals, and percentages to evaluate quantitative expressions.

The graduate applies the operations, processes, and procedures of basic algebra to evaluate quantitative expressions, and to solve equations and inequalities.

The graduate evaluates categorical and quantitative data pertaining to a single variable using appropriate graphical displays and numerical measures.

The graduate evaluates the relationship between two variables through interpretation of visual displays and numerical measures.

The graduate evaluates the relationship between two quantitative variables through correlation and regression.

The graduate applies principles and methods of probability-based mathematics to explain and solve problems.

Begin your course by discussing your course planning tool report with your instructor and creating your personalized course plan together.

literature, visual and performing arts, or philosophy, all humanities courses stress the need to form reasoned, analytical, and articulate responses to cultural and creative works. Studying a wide variety of creative works allows candidates to more effectively enter the global community with a broad and enlightened perspective.

This course covers the following competencies:

Begin your course by discussing your course planning tool report with your instructor and creating your personalized course plan together.

The graduate assesses the development of humans through the study of key concepts, disciplines, and primary influences of the humanities.

The graduate analyzes the primary contributions and characteristics of humanities during the Classical period.

The graduate analyzes the primary contributions and characteristics of humanities during the Renaissance.

The graduate analyzes the primary contributions and characteristics of humanities during the Neoclassical and Enlightenment period.

The graduate analyzes the primary contributions and characteristics of humanities during the Romantic period.

The graduate analyzes the primary contributions and characteristics of humanities during the Realism movement.

This course provides students with an overview of the basic principles and unifying ideas of the physical sciences: physics, chemistry, and earth sciences. Course materials focus on scientific reasoning and practical, everyday applications of physical science concepts to help students integrate conceptual knowledge with practical skills.

This course covers the following competencies:

Begin your course by discussing your course planning tool report with your instructor and creating your personalized course plan together.

In this course you will learn key critical thinking concepts and how to apply them in the analysis and evaluation of reasons and evidence. The course examines the basic components of an argument, the credibility of evidence sources, the impact of bias, and how to construct an argument that provides good support for a claim. The course consists of an introduction and four major sections. Each section includes learning opportunities through readings, videos, audio, and other relevant resources. Assessment activities with feedback also provide opportunities to check your learning, practice, and show how well you understand course content. Because the course is self-paced, you may move through the material as quickly or as slowly as you need to gain proficiency in the four competencies that will be covered in the final assessment. If you have no prior knowledge or experience, you can expect to spend 30-40 hours on the course content.

This course covers the following competencies:

Begin your course by discussing your course planning tool report with your instructor and creating your personalized course plan together.

The learner evaluates the quality of an argument

The learner evaluates evidence based on source credibility.

The learner evaluates bias and its impact.

The learner makes claims based on evidence.

Scripting and Programming - Foundations provides an introduction to programming, covering basic elements such as variables, data types, flow control, and design concepts. The course is language-agnostic in nature, ending in a survey of languages and introduces the distinction between interpreted and compiled languages. There are no prerequisites for this course.

This course covers the following competencies:

Begin your course by discussing your course planning tool report with your instructor and creating your personalized course plan together.

The graduate examines basic computer programming elements, including data types, constants, variables, operators, and expressions.

The graduate determines how to achieve programming goals through functions and control structure.

The graduate interprets algorithms.

The graduate describes steps of the software design process.

The graduate compares various scripting and programming languages.

Introduction to Programming in Python provides the fundamentals of the Python language and its features to control program flow and to manipulate data sets. This course teaches how to develop Python scripts that extract and manipulate data from unstructured data sources. Python libraries including acquisition and configuration are also covered. Scripting and Programming Foundations and Web Development Foundations are prerequisites to this course.

This course covers the following competencies:

Begin your course by discussing your course planning tool report with your instructor and creating your personalized course plan together.

The graduate integrates Python elements including data types, constants, variables, operators, and expressions to create programming solutions.

The graduate constructs functions and control structures to interact with data structures and direct program flow.

The graduate writes code in the Python environment, incorporating libraries to support data analytics tasks including data collection, manipulation, and storage.

This course introduces students to the concepts and terminology used in the field of data management. Students will be introduced to Structured Query Language (SQL) and will learn how to use Data Definition Language (DDL) and Data Manipulation Language (DML) commands to define, retrieve, and manipulate data. This course covers differentiations of data—structured vs. unstructured and quasi-structured (relational, hierarchical, XML, textual, visual, etc); it also covers aspects of data management (quality, policy, storage methodologies). Foundational concepts of data security are included.

This course covers the following competencies:

Begin your course by discussing your course planning tool report with your instructor and creating your personalized course plan together.

The graduate explains how data, databases, and data management are used in today's organizations.

The graduate analyzes the relational model of data.

The graduate implements SQL concepts and coding.

The graduate demonstrates an understanding of the concepts involved in the modeling of data.

The graduate demonstrates appropriate strategies to normalize data.

The graduate interprets the concepts of analytical processing within the context of business intelligence.

This course covers conceptual data modeling and provides an introduction to MySQL. Students will learn how to create simple to complex SELECT queries including subqueries and joins, and students will also learn how to use SQL to update and delete data. Topics covered in this course include exposure to MySQL; developing physical schemas; creating and modifying databases, tables, views, foreign keys/primary keys (FKs/PKs), and indexes; populating tables; and developing simple Select-From-Where (SFW) queries to complex 3+ table join queries.

This course covers the following competencies:

Begin your course by discussing your course planning tool report with your instructor and creating your personalized course plan together.

The graduate creates conceptual data models and translates them into physical schemas.

The graduate creates databases utilizing SQL Data Definition Language (DDL) in MySQL environment.

The graduate writes code to create and modify tables and views employing SQL Data Definition Language (DDL) in MySQL environment.

The graduate writes code to create and modify Primary Keys (PKs) and Foreign Keys (FKs) and Indexes with SQL Data Definition Language (DDL) in MySQL environment.

Data Definition Language (DDL) in MySQL environment. The graduate writes code to create and modify Primary Keys (PKs), Foreign Keys (FKs), and Indexes with SQL Data Definition Language (DDL) in MySQL environment.

This course elaborates on concepts covered in Introduction to Data Science, helping to develop skills crucial to the field of data science and analysis. It explores how to wrangle data from diverse sources and shape it to enable data-driven applications—a common activity in many data scientists' routine. Topics covered include gathering and extracting data from widely-used data formats, assessing the quality of data, and exploring best practices for data cleaning.

This course covers the following competencies:

Begin your course by discussing your course planning tool report with your instructor and creating your personalized course plan together.

The graduate conducts data extraction and wrangling with data in complex formats for parsing and scraping.

The graduate ensures data cleanliness through auditing and intervention.

Data System Administration provides students with foundational skills to become a Database Administrator (DBA). This course illustrates how DBA's ensure businesses are able to leverage significant data to increase profitability and support key business functions. Topics include database management tools, account administration, recovery procedures, and maintenance through upgrades and migrations.

This course covers the following competencies:

Begin your course by discussing your course planning tool report with your instructor and creating your personalized course plan together.

The graduate performs database administration tasks from resource allocation to performance tuning.

The graduate manages user accounts, roles, and privileges to enforce data access according to enterprise standards and policies.

The graduate performs backup and restore procedures in accordance with enterprise policies and requirements.

The graduate upgrades Oracle processes and procedures.

Network and Security - Foundations introduces students to the components of a computer network and the concept and role of communication protocols. The course covers widely used categorical classifications of networks (e.g., LAN, MAN, WAN, WLAN, PAN, SAN, CAN, and VPN) as well as network topologies, physical devices, and layered abstraction. The course also introduces students to basic concepts of security, covering vulnerabilities of networks and mitigation techniques, security of physical media, and security policies and procedures. This course has no prerequisites.

This course covers the following competencies:

Begin your course by discussing your course planning tool report with your instructor and creating your personalized course plan together.

The graduate identifies fundamental networking concepts to support an organization.

The graduate identifies the fundamentals of network security concepts to support an organization.

The graduate determines appropriate network security operations to protect an organization's assets.

Networks for undergraduates focuses on the general concepts and applications of computer operating systems and network topologies. The fundamental knowledge and skills gained in this course prepares students for the CompTIA Network+ certification exam. Network and Security – Foundations is a pre-requisite for this course.

This course covers the following competencies:

Begin your course by discussing your course planning tool report with your instructor and creating your personalized course plan together.

The graduate configures basic networking components to support an organization's operations.

The graduate manages a network infrastructure to support an organization's operations.

The graduate manages networks to support an organization's operations.

The graduate troubleshoots network issues in support of an organization's operations.

students will explore the core principles of ITIL practices for service management to prepare them for careers as IT professionals, business managers, and business process owners. This course has no prerequisites. This course prepares students for the Axelos ITIL v4 certification exam.

This course covers the following competencies:

Begin your course by discussing your course planning tool report with your instructor and creating your personalized course plan together.

The graduate understands the key concepts of service management.

This course covers basic elements of technical communication, including professional written communication proficiency;

This course covers the following competencies:

Begin your course by discussing your course planning tool report with your instructor and creating your personalized course plan together.

The graduate integrates basic elements of professional discourse, including audience analysis, the writing process, correct grammar, and appropriate design elements, into technical communication artifacts.

The graduate makes strategic and appropriate communication decisions based on the audience.

The graduate creates various technically written artifacts using appropriate technical communication concepts.

The graduate explains the principles and concepts of exploratory data analysis.

The graduate conducts exploratory data analysis.

The graduate predicts an outcome based on the results of the exploratory data analysis.

Data Visualization covers the application of design principles, human perception, color theory, and effective storytelling in the context of data visualization. It addresses presenting data to others and advancing technology with visualization tools, enabling data scientists to share their findings and support organizational decision-making processes. Additionally, this course focuses on how to visually encode and present data to an audience.

This course covers the following competencies:

Begin your course by discussing your course planning tool report with your instructor and creating your personalized course plan together.

The graduate defines key data elements in the context of data science.

The graduate produces graphics from a given data set using visualization tools and techniques.

The graduate incorporates best practices for design with focus on presentation elements.

The graduate creates an interactive visualization that communicates the meaning of data to an appropriate audience.

Data and Information Governance provides students with the knowledge that establishing rules of engagement, policies, procedures, and data stewardship is essential to exercising organizational control over, and extracting maximum value from, its data assets. Good data governance helps an organization lower costs, create efficiencies, and achieve its strategic goals and objectives. Data governance provides a framework for properly managing information across the entire data lifecycle and establishes strategies in support of disaster recovery and continuity of operations. This course will prepare IT professionals to assist their organization in the definition and implementation of best practices related to the planning and implementation of managed systems that meet business, technical, security, auditing, disaster recovery, and business continuity requirements.

This course covers the following competencies:

Begin your course by discussing your course planning tool report with your instructor and creating your personalized course plan together.

The graduate creates data and information management plans including risk assessment, data recovery, and infrastructure solutions to support organizational functions and continuity of operations.

The graduate recommends data and information governance policies, standards, procedures, and best practices.

This course introduces the data analysis process and common statistical techniques necessary for the analysis of data. Students will ask questions that can be solved with a given data set, set up experiments, use statistics and data wrangling to test hypotheses, find ways to speed up their data analysis code, make their data set easier to access, and communicate their findings.

This course covers the following competencies:

Begin your course by discussing your course planning tool report with your instructor and creating your personalized course plan together.

The graduate describes the foundations of data science.

The graduate creates a data set that is usable for analysis by applying data wrangling techniques.

The graduate incorporates statistical techniques to assist with parametric, nonparametric, and linear regression analyses.

This course presents the end-to-end process of investigating data through a machine learning lens. Topics covered include techniques for extracting data, identifying useful features that best represent data, a survey of commonly-used machine

learning algorithms, and methods for evaluating the performance of machine learning algorithms.

This course covers the following competencies:

Begin your course by discussing your course planning tool report with your instructor and creating your personalized course plan together.

Western Governors University is committed to providing equal access to its academic programs to all qualified collaboration, and academic accommodations for students with disabilities and other qualifying conditions under the Americans with Disabilities Act (ADA). WGU encourages student to complete the Accommodation Request Form as soon as they become aware of the need for an accommodation. Current and prospective students can reach the Accessibility Services team Monday through Friday 8:00 a.m. to 5:00 p.m. MST at 1-877-HELP-WGU (877-435-7948) x5922 or at ADASupport@wgu.edu.

WGU's Student Services team is dedicated exclusively to helping you achieve your academic goals. The Student Services office is available during extended hours to assist with general questions and requests. The Student Services team members help you resolve issues, listen to student issues and concerns, and

Student Services team members also assist with unresolved concerns to find equitable resolutions. To contact the Student Services team, please feel free to call 877-435-7948 or e-mail studentservices@wgu.edu. We are available Monday through Friday from 6:00 a.m. to 10:00 p.m.,

If you have inquiries or concerns that require technical support, please contact the WGU IT Service Desk. The IT Service Desk is available Monday through Friday, 6:00 a.m. to 10:00 p.m. and Saturday and Sunday, 10:00 a.m. to 7:00 p.m., mountain standard time. To contact the IT Service Desk, please call 1-877-HELP-WGU (877-435-7948) or e-mail servicedesk@wgu.edu. The support teams are generally

For the most current information regarding WGU support services, please visit "Student Support" on the Student Portal at <http://my.wgu.edu>.