



Program Guidebook

Bachelor of Science, Cloud Computing - Amazon Web Services track

Understanding the Competency-Based Approach

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.

How You Will Interact with Faculty

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.

Transferability of Prior College Coursework

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 relevant and current.

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.

Continuous Enrollment, On Time Progress, and Satisfactory Academic Progress

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-month term.

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 equival

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

Standard Path

Course Description	CUs	Term
Ethics in Technology	3	9
Technical Communication	3	10
Cloud Computing Capstone	4	10

Changes to Curriculum

WGU publishes an Institutional Catalog, which describes the academic requirements of each degree program. Although students are required to complete the program version current at the time of their enrollment, WGU may modify requirements and course offerings within that version of the program to maintain the currency and relevance of WGU's competencies and programs. When program requirements are updated, students readmitting after withdrawal from the university will be expected to re-enter into the most current catalog version of the program.

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system; a knowledge of computer data storage and retrieval; and skills in classifying, installing, configuring, optimizing, upgrading, and troubleshooting printers, laptops, portable devices, operating systems, networks, and system security. This course also gives learners the ability to recommend appropriate tools, diagnostic procedures, preventative maintenance, and troubleshooting techniques for personal computer components in a desktop system; strategies for identifying, preventing, and reporting safety hazards and environmental or human accidents in technological environments; and effective communication skills for interacting with colleagues and clients, including job-related professional behavior. The course prepares learners for the CompTIA A+ Core 1 certification exam.

This syllabus follows the following curriculum:

The learner applies the basic principles and foundational theory of systems thinking to a scenario.

The learner analyzes complex problems and solutions using a systems thinking methodology.

The learner designs a solution to a complex problem using systems thinking.

Introduction to Physical and Human Geography

This is Introduction to Physical and Human Geography, a three-module course that addresses the question of what geography really is in today's complex world; how migration affects—and has been affected by—geography; and one of the biggest present problems related to geography: climate change. Because the course is self-paced, you may move through the material as quickly or as slowly as you need to, with the goal of demonstrating proficiency in the five competencies covered in the final assessment. If you have no prior knowledge of this material, 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 analyzes the message of a data visualization for a specific purpose.

The learner interprets complex global systems through the lenses of physical and human geography.

The learner analyzes the various causes and effects of human migration.

The learner analyzes the connections among the various factors contributing to climate change.

The learner applies logical reasoning to the analysis of climate change.

American Politics and the US Constitution

American Politics and the U.S. Constitution examines the evolution of representative government in the United States and the changing interpretations of the civil rights and civil liberties protected by the Constitution. This course will give candidates an understanding of the powers of the branches of the federal government, the continual tensions inherent in a federal system, the shifting relationship between state and federal governments, and the interactions between elected officials and the ever-changing electorate. This course will focus on such topics as the role of a free press in a democracy, the impact of changing demographics on American politics, and the debates over and expansion of civil rights. Upon completion of the course, candidates should be able to explain the basic functions of the federal government, describe the forces that shape American policy and politics, and be better prepared to participate in America's civic institutions. This course has no prerequisite.

This course covers the following competencies:

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

The graduate describes the influence of competing political ideologies on the development of the United States government.

The graduate explains how the structure and powers of the United States government interact to form public policy.

The graduate examines the influence of political parties, citizens, and non-governmental organizations on elections and other political processes inside a participatory democracy.

The graduate examines the struggle to balance individual liberty, public order, and state's rights.

The graduate examines the influence of the media, public opinion, and political discourse on American democracy.

Integrated Physical Sciences

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.

The learner describes the nature and process of science.

The learner examines applications of physics including fundamental concepts such as forces, motion, energy, and

waves.

The learner examines applications of key chemistry concepts including the structure of matter and the behavior and conservation of matter in chemical reactions.

The learner describes the underlying organization, interactions, and processes within the Earth system including the Earth's structure and atmosphere, and Earth's interactions within the solar system.

Applied Algebra

Applied Algebra is designed to help you develop competence in working with functions, the algebra of functions, and using some applied properties of functions. You will start learning about how we can apply different kinds of functions to relevant, real-life examples. From there, the algebra of several families of functions will be explored, including linear, polynomial,

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

The learner implements ethical decision-making frameworks in the information age.

The learner describes ethical issues regarding data privacy, accuracy, access, and security.

The learner explains professional ethical codes and their role in guiding professional behavior.

The learner identifies interventions for personal bias and related legal concerns.

Cloud Applications

Cloud Applications prepares learners for the CompTIA Cloud+ certification exam. Learners will gain skills in designing cloud infrastructure and services and in recommending cloud security solutions, policies, and procedures. The course will also introduce skills in deploying cloud solutions for storage, networking, and security, and in managing cloud operations with processes, procedures, and improvements. Learners will also gain skills in troubleshooting cloud services issues in networking, security, and performance.

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 designs cloud infrastructure and services.

The learner recommends cloud security solutions, policies, and procedures.

The learner deploys cloud solutions for storage, networking, and security.

The learner manages cloud operations with processes, procedures, and improvements.

The learner troubleshoots cloud services issues in networking, security, and performance.

Information Technology Management

Cloud Foundations

Cloud Foundations introduces learners to real-world issues and practical solutions to cloud computing. This course covers the business value of cloud computing, examining cloud types, the steps to successful cloud adoption, and the effect cloud adoption has on IT service management, as well as the risks and consequences of implementing cloud solutions. This course prepares learners for the AWS Certified Practitioner certification exam. 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 learner articulates the value proposition of cloud solutions in business scenarios.

The learner defines cloud security and compliance.

The learner identifies cloud technology solutions in IaaS, PaaS, and SaaS models.

The learner determines the best-fit solution for a project based on the cost and support structures.

Internet of Things (IoT) and Infrastructure

Internet of Things (IoT) and Infrastructure introduces students to emerging technologies connecting the internet to a variety of physical objects. The course reviews the business requirements for sensors and securely storing, transmitting, and processing the data they generate. As new use cases emerge, ethical and privacy issues become relevant aspects of business development. 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 learner identifies Internet of Things (IoT) network and cloud architectures.

The learner determines business requirements for data collection and analysis for the Internet of Things (IoT).

The learner describes Internet of Things (IoT) security solutions.

The learner defines requirements and parameters for Internet of Things (IoT) ethics, access, and privacy issues.

The learner identifies emerging Internet of Things (IoT) use cases within organizations, marketplaces, and industries.

Operating Systems

Linux Foundations

Linux Foundations prepares learners for the LPI Linux Essentials certification, and is an introduction to Linux as an operating system as well as an introduction to open-source concepts and the basics of the Linux command line. Learners

will gain skills in identifying the fundamentals of open-source software and to develop resources for data access and security.

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 identifies the fundamentals of open-source software.

The learner develops resources for data access and security.

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

The learner applies Information Technology Infrastructure Library (ITIL) concepts, core components, principles, and models of service management.

The learner applies the Information Technology Infrastructure Library (ITIL) six activities of the service value chain.

IT Leadership Foundations

IT Leadership Foundations is an introductory course that provides students with an overview of organizational structures, communication, and leadership styles specific to information technology in organizations. It also introduces students to some of the power skills that help make successful IT professionals, including time management, problem solving, and emotional intelligence. Students in this course explore their own strengths and passions in relation to the field. 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 learner selects appropriate influential leadership strategies for workplace situations.

The learner communicates ideas, opinions, and information suitable for various professional settings.

The learner reflects on the emotional reactions of self and others in a variety of professional situations.

Business of IT - Project Management

In this course, students will build on industry standard concepts, techniques, and processes to develop a comprehensive foundation for project management activities. During a project's life cycle, students will develop the critical skills necessary to initiate, plan, execute, monitor, control, and close a project. Students will apply best practices in areas such as scope management, resource allocation, project planning, project scheduling, quality control, risk management, performance measurement, and project reporting. This course prepares students for the following certification exam: CompTIA Project+.

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 determines requirements of a project management plan.

The learner identifies project factors, constraints, and risk strategies.

The learner applies communication methods and change control processes within a project.

Scripting and Programming

Scripting and Programming - Foundations

Scripting and Programming - Foundations introduces programming basics 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. Learners will gain skills in identifying scripts for computer program requirements and in using fundamental programming elements as part of common computer programming tasks. Learners will also gain an understanding of the logic and outcome of simple 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.

The learner identifies scripts for computer program requirements.

The learner uses fundamental programming elements as part of common computer programming tasks.

The learner explains the logic and outcome of simple algorithms.

Scripting and Automation

Scripting and Automation is the foundation for automating tasks in operating systems. Students will learn how to create

PowerShell scripts that take tedious and repetitious tasks and turn them into programs that will save time. Students will learn PowerShell, an automation and configuration management tool based on a command-line shell and .NET Framework.

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 implements tools that automate manual processes for an organization.

Web Development

Web Development Foundations

Web Development Foundations introduces students to web design and development using HTML, XML, and Cascading Style Sheets (CSS), the foundational languages of the web. This course also covers how to troubleshoot problems using developer tools and integrated development environments commonly employed in web development. 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 learner creates the structure of basic web documents using HTML and XML.

The learner implements web page formatting and interface aesthetics using CSS

The learner resolves software problems in web development environments with debugging tools.

Networking

Python for IT Automation

Python for IT Automation covers the fundamentals of the Python language and its features to control program flow, inform decisions, and automate IT tasks and processes. The course emphasizes a systematic approach to solving problems and the application of programming logic to administer secure, scalable, and resilient IT networks and systems.

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 applies Python principles and syntax to manage variables, data structures, and operators and to perform IT tasks.

The learner creates Python scripts using control structures to automate system tasks.

The learner integrates Python scripts, modules, packages, and libraries to automate networking tasks and processes.

Data Management

Data Management - Foundations

Data Management Foundations offers an introduction in creating conceptual, logical and physical data models. Students gain skills in creating databases and tables in SQL-enabled database management systems, as well as skills in normalizing databases. No 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 learner explains attributes of databases, database tables, and structured and associated query language (SQL) commands.

The learner determines how to run queries for creation and manipulation of data in relational databases.

Data Systems Administration

Data System Administration provides learners with foundational skills to become a Database Administrator (DBA). This course illustrates how DBAs 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 learner performs database administration tasks from resource allocation to performance tuning.

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

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

The learner upgrades database processes and procedures for business optimization.

Data Management - Applications

Cloud Platform Solutions

Cloud Platform Solutions examines skills in identifying cloud system administration tasks related to user access groups, single sign-on (SSO), and server deployments. Students will gain skills in determining machine access for cloud storage solutions and in explaining the configuration of virtual machines for availability, scalability, performance, and security. Students will also be introduced to implementing virtual networking services and machine image monitoring. The following courses are prerequisites: Network and Security - Foundations, Network and Security - Applications, Networks, and Cloud Applications.

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 identifies cloud system administration tasks related to user access groups, single sign-on (SSO), and server deployments.

The learner determines machine access for cloud storage solutions.

The learner explains the configuration of virtual machines for availability, scalability, performance, and security.

The learner explains how to implement virtual networking services and machine image monitoring.

AWS Cloud Architecture

AWS Cloud Architecture examines the skills and knowledge needed to effectively design structured cloud environments. Through practical application, students will gain experience in designing control measures for resilient architectures with cloud solutions and concepts, and to design high-performing and scalable architectures for software performance workloads. Students will also learn skills in designing security policies and access for cloud applications and architectures, and designing cost optimized storage, database and network architectures based on situational feedback.

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 designs control measures for resilient architectures with cloud solutions and concepts.

The learner designs high-performing and scalable architectures for software performance workloads.

The learner designs security policies and access for cloud applications and architectures.

The learner designs cost-optimized storage, database, and network architectures based on situational feedback.

Cloud Deployment and Operations

Cloud Deployment and Operations provides students with technical skills in the deployment, management, and operations of cloud services. This course allows students to examine stability and scalability, backup and recovery processes, and deployment best practices. Provisioning of cloud resources, monitoring of cloud resources, and managing connectivity are also examined. The following courses are prerequisites: Cloud Applications and AWS Cloud Architecture.

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 remediates issues based on the output of implemented AWS systems monitoring and logging services.

The learner implements AWS system scalability, elasticity, and backup systems in support of business continuity operations.

The learner automates cloud provisioning processes and maintenance.

The learner implements AWS data and infrastructure protection services for information security and compliance.

The learner configures network connectivity as part of AWS network infrastructure design, troubleshooting, and remediation.

The learner determines optimal baseline for cost and performance using AWS Services.

AWS Developer

AWS Developer examines the skills and knowledge needed to effectively implement automated and continuous testing processes for software deployments with cloud solutions. Students will learn to design software with Amazon Web Services

(AWS), software development kits (SDKs), and command line interface (CLI), and to implement authentication, encryption, and authorization within an AWS environment. Students will also learn to design cloud service deployments with AWS infrastructure services, platform services, and features. Students will learn skills to monitor automated testing for quality control and to perform root cause analysis on testing or production failures.

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 implements automated and continuous testing processes for software deployments with cloud solutions.

The learner implements authentication, encryption, and authorization within an Amazon Web Services (AWS) environment.

The learner designs software applications with Amazon Web Services (AWS), software development kits (SDKs), and command line interface (CLI).

The learner designs cloud service deployments with Amazon Web Services (AWS) infrastructure services, platform services, and features.

The learner monitors automated testing for quality control.

The learner performs root cause analysis on testing or production failures.

Cloud Computing Capstone

The Cloud Computing Capstone offers learners opportunities to demonstrate the culmination of their skills learned within the Cloud Computing program. In this course, learners will show their skills by defining system components and creating implementation plans for cloud solutions. The course also offers learners ways to demonstrate their skills in determining configurations for API, performing system administration tasks, and creating test plans for cloud solutions.

This course covers the following competencies:

The learner defines system components for cloud solutions.

The learner creates implementation plans for cloud solutions.

The learner determines configurations for API and system administration tasks.

The learner creates test plans for cloud solutions.

Information Assurance

Introduction to Cryptography

Introduction to Cryptography introduces skills in applying cryptography principles in alignment with organizational and information security guidelines. Students will determine requirements and techniques for cryptanalysis. This course builds skills in implementing encryption methods with symmetric and asymmetric 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.

The learner applies cryptography principles in alignment with organizational and information security guidelines.

The learner implements encryption methods with symmetric and asymmetric algorithms.

Accessibility and Accommodations

Western Governors University is committed to providing equal access to its academic programs to all qualified students. WGU's Accessibility Services team supports this mission by providing support, resources, advocacy, 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.

Need More Information? WGU Student Services

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 make recommendations for improving policy and practice based on student feedback.

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., Saturday from 7:00 a.m. to 7:00 p.m., mountain standard time. Closed Sundays.

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 closed in observance of university holidays.

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