WESTERN GOVERNORS UNIVERSITY

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Program Guidebook

Bachelor of Arts, Science (5-12, Bio)

The Bachelor of Arts in Science (5-12, Biological Science) is a competency-based degree program that prepares students to be licensed as biology teachers in grades 5-12. All work in this degree program is online with the exception of the Demonstration Teaching and in-classroom field experience components. The program consists of work in General Education, Teacher Education Foundations and Diversity, General Science and Advanced Biology Content, Science Education, Pre-Clinical Experiences and Demonstration Teaching.

Understanding the Competency-Based Approach

Practically speaking, what does it mean when we say that WGU's programs are competency-based? Unlike traditional universities, WGU does not award degrees based on credit hours or on a certain set of required courses. Instead, you will earn your degree by demonstrating your skills, knowledge, and understanding of important concepts through a series of carefully designed courses.

Progress through your degree program is governed not by classes but by satisfactory completion of the required courses that demonstrate your mastery of the competencies. Of course, you will need to engage in learning experiences as you brush up on competencies or develop knowledge and skills in areas in which you may be weak. For this learning and development, WGU has a rich array of learning resources in which you may engage under the direction of your student mentor. You will work closely with your mentor to schedule your program for completing the courses. You will also work closely with additional faculty members as you proceed through courses of study that are designed to lead you through the content you must master in order to pass the assessment(s) for each course.

The benefit of this competency-based system is that it makes it possible for people who are knowledgeable about a particular subject to make accelerated progress toward completing a WGU degree, even if they lack college experience. You may have gained skills and knowledge of a subject while on the job, accumulated wisdom through years of life experience, or, indeed, taken a course on a particular subject. WGU will award your degree based on the skills and knowledge that you possess and can demonstrate—not the number of credits hours on your transcript.

Accreditation

Western Governors University is the only university in the history of American higher education to have earned accreditation from four regional accrediting commissions. WGU's accreditation was awarded by (1) the Northwest Commission on Colleges and Universities, (2) the Higher Learning Commission of the North Central Association of Colleges and Schools, (3) the Accrediting Commission for Community and Junior Colleges of the Western Association of Schools and Colleges, and (4) the Accrediting Commission for Senior Colleges and Universities of the Western Association of Schools and Colleges. The university's accreditation status is now managed by the Northwest Commission on Colleges and Universities (NWCCU). The WGU Teachers College is accredited by the National Council for Accreditation of Teacher Education (NCATE). The nursing programs are accredited by the Commission on Collegiate Nursing Education (CCNE). The Health Informatics program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM).

The Degree Plan

The focus of your program is your personalized Degree Plan. The Degree Plan is a detailed blueprint of the courses you will need to complete in order to earn your degree. The Degree Plan also lays out the accompanying learning resources and assessments that compose your program. The list of courses in the Degree Plan is often referred to as the standard path. The amount of time it takes to complete your program depends on both the amount of new information you need to learn and the amount of time you plan to devote each week to study.

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Students will vary widely in the specific skills and information they need to learn. For example, some students may be highly knowledgeable in a particular subject matter and would not need to engage in new learning opportunities. Other students may find that portions of the program require them to learn new information and that they may need to take an online class or participate in a study module to acquire the knowledge and skills needed to pass the program competencies in that area. Some individuals may be able to devote as little as 15–20 hours per week to the program, while others may need to devote more time. For this reason, you will complete preassessments to help your mentor form a profile of your prior knowledge and experience for use in creating your personalized Degree Plan.

WGU's Mentoring Approach

The mentoring approach is a powerful component of the WGU educational experience. When you enroll at WGU, you will begin interacting with your student mentor, course mentors, and other support staff. Your student mentor will meet with you on a regular basis and take an active role and a personal interest in your success. Your student mentor will be your point of contact throughout your program and will be available to communicate with you via e-mail or phone. Your mentor will help you set weekly study goals, guide you to learning materials, help you understand what to expect in courses, and motivate you to work hard to complete your program. When you have questions or concerns, your mentor will help you resolve them.

As you work on each course, you will also be assigned course mentors. These course mentors are content experts who can discuss your learning for the course, help you find answers to content questions, and help you navigate the course successfully. Your course mentors are available to meet with you individually to provide personal support. You can also communicate with them by posting in the online learning community and participating in live discussion sessions such as webinars and cohorts.

Working closely with your own personal mentoring team will help you engage in the learning process and be a successful student while at WGU.

Connecting with Other Mentors and Fellow Students

As you proceed through your Degree Plan, you will have direct contact with multiple faculty members. These communications can take a variety of forms, including participation in one-on-one discussions, chats in the learning communities, and live cohort and webinar opportunities. As a WGU student, you will have access to your own personal myWGU Student Portal, which will provide a gateway to your courses of study, learning resources, and learning communities where you will have interactions with faculty and other students.

The resources in each course are specifically designed to support you as you develop competencies in preparation for your assessments through the utilization of reading materials, videos, tutorials, cohort opportunities, community discussions, and live discussions that are guided by content experts. You will access your program community during your orientation course to network with peers who are enrolled in your program and to receive continued support through professional enrichment and program-specific chats, blogs, and discussions. WGU also provides Student Services Associates to help you and your mentor solve any special problems that may arise.

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Orientation

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." Within the Teachers College, there may be additional courses to meet state requirements.

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 student 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 eight (8) competency units each term, and undergraduate students must enroll in at least twelve (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

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demonstrated competency equivalent to a "B" grade or better.

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 competency units while others may be as large as 12 competency units.

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 for federal financial aid.

Courses

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 detailed information about each assessment is provided in each course of study.

External Content & Basic Skills Exams

Western Governors University requires that candidates pass the state-mandated content exam that aligns with their WGU program in addition to a basic skills exam (initial licensure programs only). Specific information regarding required content and basic skills exams required for each program and state can be found in the WGU Student Handbook. In many cases, it is the candidates' responsibility to register and pay for the required exams and submit their official passing score reports to WGU.

State Licensure Requirements

Many states have specific licensure requirements that are not part of WGU programs that you will have to fulfill in addition to the degree requirements of your program. These state licensure requirements might include, but are not limited to: subject-specific licensure exams, state-specific teacher performance assessments, course work related to state history, basic skills exams, and background clearances. The WGU Student Handbook outlines the credentialing requirements of each state. Teacher candidates should consult the applicable section to become familiar with their state's expectations regarding licensure.

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Learning Resources

You will work with your mentor to select the various learning resources needed to prepare for the assessments in each course. In most cases, the learning materials you will use are independent learning resources such as textbooks, e-learning modules, study guides, simulations, virtual labs, and tutorials. WGU works with dozens of educational providers, including enterprises, publishers, training companies, and higher educational institutions to give you high-quality and effective instruction that matches the competencies that you are developing. The cost of most learning resources is included in your tuition, and you can enroll directly in those through your Degree Plan as your mentor has scheduled them. Some resources are not covered by your tuition, and you will need to cover those costs separately. WGU has excellent bookstore and library arrangements to help you obtain the needed learning resources.

Standard Path

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 your determination to proceed at a faster rate.

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Standard Path *for* Bachelor of Arts, Science (5-12, Bio)

Course Description	CUs	Term
Foundational Perspectives of Education	3	1
Intermediate Algebra	3	1
English Composition I	3	1
English Composition II	3	1
College Algebra	4	2
Probability and Statistics I	4	2
Elements of Effective Communication	3	2
Integrated Natural Science	4	2
Integrated Natural Science Applications	4	3
Critical Thinking and Logic	3	3
Introduction to Humanities	3	3
General Chemistry I	4	3
General Chemistry Laboratory I	1	4
Survey of United States Constitution and Government	3	4
Survey of United States History	3	4
General Chemistry II	4	4
General Chemistry Laboratory II	1	4
Principles of Biology	5	5
Science, Technology, and Society	5	5
Advanced Biology	4	5
Evolution	4	6
Biology: Content Knowledge	7	6
Fundamentals of Educational Psychology	3	6
Fundamentals of Diversity, Inclusion, and Exceptional Learners	3	7
Classroom Management, Engagement, and Motivation	3	7
Educational Assessment	3	7
Introduction to Preclinical Experiences	3	7
Introduction to Instructional Planning and Presentation	3	8
Instructional Planning and Presentation in Science	3	8
Preclinical Experiences in Science	3	8
Science Teaching and Learning	4	8

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Course Description	CUs	Term
Supervised Demonstration Teaching in Science, Observations 1 and 2	3	9
Supervised Demonstration Teaching in Science, Observation 3 and Midterm	3	9
Supervised Demonstration Teaching in Science, Observations 4 and 5	3	9
Supervised Demonstration Teaching in Science, Observation 6 and Final	3	9
Teacher Performance Assessment in Science	2	9
Professional Portfolio	1	9
Cohort Seminar	3	9

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. As these changes are implemented, WGU will ensure that the length of the student's degree program (i.e., total competency unit requirements) will not increase and that competency units already earned will be applied to the updated program version. When program requirements are updated, students returning from term break or returning after withdrawal from the university will be expected to re-enter the updated version of the program.

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Areas of Study for Bachelor of Arts, Science (5-12, Bio)

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.

Teacher Education Foundations

Foundational Perspectives of Education

This course provides an introduction to the historical, legal, and philosophical foundations of education. Current educational trends, reform movements, major federal and state laws, legal and ethical responsibilities, and an overview of standards-based curriculum are the focus of the course. The course of study presents a discussion of changes and challenges in contemporary education. It covers the diversity found in American schools, introduces emerging educational technology trends, and provides an overview of contemporary topics in education.

This course covers the following competencies:

- *The graduate evaluates the impact of various educational philosophies on historical and current educational trends.*
- *The graduate evaluates the impact of various social issues and influences on students, teachers, instruction, and schools.*
- *The graduate evaluates the affordances and challenges of standards-based curriculum on students, teachers, instruction, and schools.*
- *The graduate analyzes the role of federal and state governance in determining standard educational practices and ensuring access to educational opportunities.*
- *The graduate analyzes the relationship of current trends in education and educational reform to historical foundations and evolution of the industry.*

Fundamentals of Educational Psychology

Students will learn the major theories of typical and atypical physical, social, cognitive, and moral development of children and adolescents. Information processing, brain research, memory, and metacognition will also be covered.

This course covers the following competencies:

- *The graduate analyzes the relationships between cognition and metacognition as they pertain to the construction of knowledge, thinking skills, and problem-solving strategies.*
- *The graduate evaluates the appropriateness and effectiveness of various technology tools in supporting development and learning.*
- *The graduate analyzes contemporary and emerging research on the development and learning of individuals.*
- *The graduate recommends strategies for supporting the needs of students with typical and atypical development.*
- *The graduate analyzes how classic theories of development and learning can be applied in an educational situation.*
- *The graduate analyzes the various influences and contexts that inform students' individual approaches to learning.*
- *The graduate analyzes the relationships among motivation, engagement, and cognition as they pertain to the design and selection of instructional materials and approaches.*

Classroom Management, Engagement, and Motivation

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Students will learn the foundations for effective classroom management as well as strategies for creating a safe, positive learning environment for all learners. Students will be introduced to systems that promote student self-awareness, self-management, self-efficacy, and self-esteem

This course covers the following competencies:

- *The graduate designs emotionally safe classroom environments that foster learning and deal effectively with emotions, conflicts, and serious behavior problems.*
- *The graduate appropriately uses technology to enhance teaching, learning, engagement, and motivation.*
- *The graduate analyzes major strategies of classroom management as they apply to specific areas of specialization.*
- *The graduate generates appropriate instructional interventions for a variety of students and learning contexts.*
- *The graduate evaluates best practices that encourage positive social interaction, self-motivation, and active engagement in learning environments.*
- *The graduate incorporates evidence-based strategies and materials in the design of classroom management plans.*
- *The graduate integrates strategies for managing routine misbehaviors into classroom management strategies and procedures.*
- *The graduate analyzes classroom management strategies and approaches that promote student self-awareness, self-management, self-efficacy, and self-esteem.*

Educational Assessment

Educational Assessment assists students in making appropriate data-driven instructional decisions by exploring key concepts relevant to the administration, scoring, and interpretation of classroom assessments. Topics include ethical assessment practices, designing assessments, aligning assessments, and utilizing technology for assessment.

This course covers the following competencies:

- *The graduate analyzes assessment information to inform instructional decision-making and to support and adapt instruction for all students, including those individuals with exceptional learning needs.*
- *The graduate evaluates assessment results to make informed educational recommendations, including those for program and school improvement.*
- *The graduate applies effective methods and strategies in the planning, development, and evaluation of student assessment.*
- *The graduate recommends effective strategies for ensuring the responsible and ethical assessment of students.*
- *The graduate effectively and appropriately communicates the results of assessments with stakeholders, including students.*
- *The graduate plans and designs assessments aligned to learning outcomes, standards, benchmarks, and objectives.*

General Education

Intermediate Algebra

This course provides an introduction of algebraic concepts and the development of the essential groundwork for College Algebra. Topics include: A review of basic mathematical skills, the real number system, algebraic expressions, linear equations, graphing, exponents and polynomials

This course covers the following competencies:

- *The graduate solves linear equations and applications.*
- *The graduate translates, simplifies, and evaluates algebraic expressions.*
- *The graduate determines absolute values, adds and subtracts integers, multiplies and divides real numbers, and determines whether or not a particular integer is a solution.*

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- *The graduate graphs ordered pairs and lines on the Cartesian coordinate system.*
- *The graduate identifies, evaluates, and multiplies exponents and polynomials.*

English Composition I

This course introduces learners to the types of writing and thinking that is valued in college and beyond. Students will practice writing in several genres and several media, with emphasis placed on writing and revising academic arguments. The course contains supporting media, articles, and excerpts to support a focus on one of five disciplinary threads (covering the topics of nursing, business, information technology, teaching, and literature, art, and culture) designed to engage students and welcome them into discussion about contemporary issues. The course supports peer review activities, though it may be completed asynchronously as well. Instruction and exercises in grammar, mechanics, research documentation, and style are paired with each module so that writers can practice these skills as necessary. This course includes full access to the MindEdge Writing Pad to support student writing and coaching sessions.

This course covers the following competencies:

- *The graduate integrates credible and relevant sources into written arguments.*
- *The graduate uses appropriate writing and revision strategies*
- *The graduate composes an appropriate argumentative essay for a given context.*
- *The graduate composes an appropriate narrative for a given context.*
- *The graduate appropriately uses a given writing style.*
- *The graduate selects appropriate rhetorical strategies that improve writing and argumentation.*
- *The graduate applies appropriate grammatical rules, sentence structure, and writing conventions.*

English Composition II

English Composition II introduces learners to research writing and thinking that are valued in college and beyond. The Composition II course at WGU should be seen as a foundational course designed to help undergraduate students build fundamental skills for ongoing development in writing and research. Students will complete an academic research paper.

This course covers the following competencies:

- *The graduate applies steps of the writing process appropriately to improve quality of writing.*
- *The graduate composes an argumentative research paper.*
- *The graduate evaluates the quality, credibility, and relevance of evidence in order to integrate evidence into a final research paper.*

College Algebra

This course provides further application and analysis of algebraic concepts and functions through mathematical modeling of real-world situations. Topics include: real numbers, algebraic expressions, equations and inequalities, graphs and functions, polynomial and rational functions, exponential and logarithmic functions, and systems of linear equations.

This course covers the following competencies:

- *The graduate simplifies and factors polynomial expressions, and solves polynomial equations.*
- *The graduate solves systems of linear equations and their related applications.*
- *The graduate simplifies rational, radical, and quadratic expressions, solves corresponding equations, and extends this knowledge to the study of functions.*
- *The graduate combines functions, finds inverse functions, solves exponential and logarithmic equations and functions.*
- *The graduate classifies and performs operations on real numbers; solves linear equations and inequalities; connects a*

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linear equation to its graph; and identifies a function.

Elements of Effective Communication

Elements of Effective Communication introduces learners to elements of communication that are valued in college and beyond. Materials are based on five principles: being aware of your communication with yourself and others; using and interpreting verbal messages effectively; using and interpreting nonverbal messages effectively; listening and responding thoughtfully to others, and adapting messages to others appropriately.

This course covers the following competencies:

- *The graduate applies foundational elements of effective communication.*
- *The graduate applies appropriate communication strategies in interpersonal and group contexts.*
- *The graduate demonstrates effective presentational communication strategies in a given context.*

Integrated Natural Science

Integrated Natural Sciences explores the natural world through an integrated perspective and helps students begin to see and draw numerous connections among events in the natural world. Topics include the universe, the Earth, ecosystems and organisms.

This course covers the following competencies:

- *The graduate analyzes the organization, interactions, and predictable processes of the universe.*
- *The graduate identifies and analyzes the organization, interactions, and processes of the Earth.*
- *The graduate recognizes and analyzes various natural phenomena and applies natural science methods and approaches to these natural phenomena.*
- *The graduate recognizes and applies underlying principles of matter and chemical reactions to analyze the structure, organization, interactions, and processes of organisms.*
- *The graduate examines fundamental concepts and theories in the natural sciences.*
- *The graduate analyzes the components, organization, interactions, and processes of ecosystems.*

Integrated Natural Science Applications

Integrated Natural Sciences Applications explores the natural world through an integrated perspective and helps students apply scientific concepts and methodologies to the examination of natural science fundamentals.

This course covers the following competencies:

- *The graduate recognizes and analyzes various natural phenomena and applies natural science methods and approaches to these natural phenomena.*
- *The graduate examines fundamental concepts and theories in the natural sciences.*
- *The graduate analyzes the components, organization, interactions, and processes of ecosystems.*

Critical Thinking and Logic

Reasoning and Problem Solving helps students internalize a systematic process for exploring issues that takes them beyond an unexamined point of view and encourages them to become more self-aware thinkers by applying principles of problem identification and clarification, planning and information gathering, identifying assumptions and values, analysis and interpretation of information and data, reaching well-founded conclusions, and identifying the role of critical thinking in the disciplines and professions.

This course covers the following competencies:

- *The graduate recognizes the value of critical thinking in identifying and understanding the underlying structures of the*

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disciplines and professions.

- *The graduate evaluates different sources representing a range of perspectives on a problem in order to weigh the implications and consequences of different solutions to the problem.*
- *The graduate synthesizes information to understand a problem's complexities and potential solutions, and then evaluates the reasoning and evidence in support of these different solutions.*
- *The graduate identifies internal and external biases and assumptions related to a problem, and evaluates the influence and validity of these biases and assumptions.*
- *The graduate logically brings together information to arrive at a viable solution to a problem, and then clearly and accurately communicates the results.*
- *The graduate analyzes open-ended problems by learning about the problem and evaluating the accuracy and relevance of different perspectives on the problem.*

Introduction to Humanities

This introductory humanities course allows students to practice essential writing, communication, and critical thinking skills necessary to engage in civic and professional interactions as mature, informed adults. Whether through studying 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 students to more effectively enter the global community with a broad and enlightened perspective.

This course covers the following competencies:

- *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 Romantic period.*
- *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 Renaissance.*
- *The graduate analyzes the primary contributions and characteristics of humanities within the Neoclassical and Enlightenment period.*
- *The graduate analyzes the primary contributions and characteristics of humanities during the Realist movement.*

Survey of United States Constitution and Government

In Survey of United States Constitution and Government, you will examine the structure, institutions and principles of the American political system. The foundation of the United States government is the U.S. Constitution, and this course will introduce the concepts of (a) separation of powers, (b) checks and balances, (c) civil liberties and civil rights, and (d) federalism and republicanism.

By completing this course, you will have proven competency in the structures of government, your own role in the policy-making process, and the ways in which the Constitution and government has changed over time.

This course covers the following competencies:

- *The graduate analyzes the role of individuals, interest groups, and political parties in the U.S. electoral system.*
- *The graduate analyzes the powers of each branch of government and the relationships among them.*
- *The graduate analyzes the division of power between national and state governments.*
- *The graduate analyzes the formation of personal and collective political opinions and the influence of the media.*
- *The graduate analyzes the development and protection of individual civil liberties and civil rights.*
- *The graduate analyzes the dilemmas and principles of government.*
- *The graduate analyzes the central themes and founding principles of the U.S. Constitution and the U.S. government.*

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Survey of United States History

This course presents a broad and thematic survey of U.S. history from European colonization to the mid-twentieth century. Students will explore how historical events and major themes in American history have affected a diverse population.

This course covers the following competencies:

- *The graduate explains significant international and domestic challenges that the United States confronted since World War I.*
- *The graduate analyzes the colonial experience and the foundations of the American Revolution.*
- *The graduate analyzes the challenges of partisan politics and sectionalism in the Early Republic and Civil War eras.*
- *The graduate examines the major changes that defined the United States in the late-nineteenth and early-twentieth centuries.*

Mathematics Content

Probability and Statistics I

Probability and Statistics I covers the knowledge and skills necessary to apply basic probability, descriptive statistics, and statistical reasoning, and to use appropriate technology to model and solve real-life problems. It provides an introduction to the science of collecting, processing, analyzing, and interpreting data. Topics include creating and interpreting numerical summaries and visual displays of data; regression lines and correlation; evaluating sampling methods and their effect on possible conclusions; designing observational studies, controlled experiments, and surveys; and determining probabilities using simulations, diagrams, and probability rules. College Algebra is a prerequisite for this course.

This course covers the following competencies:

- *The graduate evaluates the sampling methods used in studies including the effect they have on conclusions that can be made.*
- *The graduate evaluates the relationship between two variables through the creation and interpretation of numerical summaries and visual displays.*
- *The graduate determines the probability of events using simulations, diagrams, and probability rules.*
- *The graduate designs and conducts observational studies, controlled experiments, and surveys to explore population characteristics.*

General Science Content

General Chemistry I

Chemistry is the study of matter. Everything you see and many of the things you don't see are made up of atoms. By understanding these atoms and their interactions, chemists have been able to cure disease, travel to the moon, and feed a growing world. By understanding chemistry, you will find your own world expanded. You will find boiling water interesting and the back of the shampoo bottle fascinating.

The National Science Teachers Association (NSTA) has published principles and standards that address important chemistry topics that should be covered through the K-12 curriculum. Many states have followed the NSTA's lead and are increasingly requiring that these concepts be taught to the students throughout the course of their science education. A firm grasp of the concepts covered in this course will allow you to confidently teach this material when you enter the classroom.

This course covers the following competencies:

- *The graduate predicts the nature of chemical bonds formed between atoms from various elemental groups.*
- *The graduate applies the principles of measurement and the concepts of matter and energy to solve problems.*

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- *The graduate applies the modern atomic theory to explain the structure of atoms and periodic trends.*
- *The graduate determines quantities of materials consumed and produced in chemical reactions using moles and stoichiometry.*
- *The graduate analyzes the structure of atoms and compounds and applies systems for naming compounds.*

General Chemistry Laboratory I

In this course students will attain a solid understanding of fundamental chemistry concepts and a reasonable ability to solve chemical problems. Topics include measurement, elements and compounds, properties of matter and energy, the periodic table and chemical nomenclature, quantities in chemistry, chemical reactions, the modern atomic theory, and the chemical bond. Laboratory work focuses on using effective laboratory techniques to examine the physical and chemical characteristics of matter.

This course covers the following competencies:

- *The graduate applies effective laboratory techniques to examine physical and chemical characteristics of matter.*

General Chemistry II

Objective assessment

Chemistry is the study of matter. Everything you see and many of the things you don't see are made up of atoms. By understanding these atoms and their interactions. chemists have been able to cure disease, travel to the moon, and feed a growing world. By understanding chemistry, you will find your own world expanded. You will find boiling water interesting and the back of the shampoo bottle fascinating.

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This course covers the following competencies:

- *The graduate applies the collision theory to explain how various factors affect the rate and equilibrium of reactions.*
- *The graduate analyzes the fundamental concepts of organic chemistry and biochemistry.*
- *The graduate evaluates the dangers and benefits of naturally occurring radioactivity and induced nuclear changes.*
- *The graduate analyzes factors that affect the solubility of compounds and the composition and properties of aqueous solutions.*
- *The graduate examines practical applications of redox reactions by analyzing, predicting, and balancing oxidation-reduction reactions.*
- *The graduate applies acid-base models to analyze the properties, relative acidities, and reactions of acids and bases.*
- *The graduate applies models to explain the properties and behavior of gases, liquids, and solids and explore the process by which matter changes state.*

General Chemistry Laboratory II

In this course students will attain a solid understanding of fundamental chemistry concepts and a reasonable ability to solve chemical problems. Topics include the gaseous state, the solid and liquid states, aqueous solutions, acid-base models, oxidation-reduction reactions, reaction rates and equilibrium, nuclear chemistry, organic chemistry, and biochemistry. Laboratory work focuses on using effective laboratory techniques to analyze chemical processes in real-world contexts.

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This course covers the following competencies:

- *The graduate applies effective laboratory techniques to analyze chemical processes in real-world contexts.*

Principles of Biology

In this course, key elements of biology, from the molecular level to ecosystems, are explored. Specifically, students are introduced to the macromolecules and cellular biology as well as genetics and the link to evolution. Students learn about plant and animal organismal biology, including how organisms interact with the environment. Additional important topics in ecology, such as population and community ecology and the effect of humans on the biosphere are also covered.

This course covers the following competencies:

- *The graduate has a broad understanding of important concepts of ecology.*
- *The graduate has a broad understanding of the important concepts related to the biology of organisms.*
- *The graduate has a broad understanding of the important concepts in molecular and cellular biology.*
- *The graduate has a broad understanding of evolution and the history of life on earth.*

Science Education

Science, Technology, and Society

Science, Technology, and Society explores the ways in which science influences and is influenced by society and technology. A humanistic and social endeavor, science serves the needs of ever-changing societies by providing methods for observing, questioning, discovering, and communicating information about the physical and natural world. This course prepares educators to explain the nature and history of science, the various applications of science, and the scientific and engineering processes used to conduct investigations, make decisions, and solve problems. There are no prerequisites for this course.

This course covers the following competencies:

- *The graduate conducts investigations in science to solve open-ended problems using appropriate scientific methods.*
- *The graduate analyzes the historical development of science, including how scientific knowledge evolves.*
- *The graduate analyzes the various ways in which science, technology, and society are interrelated.*
- *The graduate analyzes the nature of science, including how science distinguishes itself from other ways of knowing.*
- *The graduate analyzes the relationships among themes that appear across multiple scientific ideas.*
- *The graduate formulates testable hypotheses for scientific investigations.*
- *The graduate analyzes socially relevant scientific issues to make informed decisions based on data and context.*
- *The graduate uses technology tools and mathematics to improve investigations and the communication of results.*
- *The graduate analyzes the principles, processes, and assumptions of investigations in science to engage students in the nature of inquiry.*

Science Teaching and Learning

This course focuses on how to teach science and on preparing preservice science educators to teach science in a way that is accurate, current and engaging. Topics include models for teaching science through inquiry, evaluation of alignment to standards, effective use of learning communities, formative assessment strategies, and safety responsibilities.

This course covers the following competencies:

- *The graduate integrates formative assessment strategies into the design of learning activities and curriculum.*
- *The graduate develops emergency response plans for the science classroom that account for various potential emergencies.*

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- *The graduate integrates various models for teaching science through inquiry into the design of learning activities and curriculum.*
- *The graduate creates appropriate resources for communicating safety and emergency procedures to students.*
- *The graduate integrates the legal and ethical responsibilities of a science teacher into the design of instruction.*
- *The graduate develops plans for the use, storage, and maintenance of science materials and safety equipment and the care of living organisms.*
- *The graduate evaluates the quality of a unit of study with regard to pedagogical strength and alignment to science education standards.*
- *The graduate integrates learning communities that foster understanding into the design of learning activities and curriculum.*

Biology Content

Advanced Biology

Advanced Biology builds on the four main themes of biological science that have been introduced in earlier courses, providing students with an in-depth exploration of cellular biology, heredity, interdependence of life, and ecology. Course content provides students with opportunities to investigate the structure and function of prokaryotic and eukaryotic cells and to analyze the structure and regulation of DNA to learn how genetics influences inheritance patterns. Ecology themes in the course explain how climate variations, interactions between organisms, biodiversity and population growth impact the environment. RJT1: Principles of Biology is a pre-requisite for this course.

This course covers the following competencies:

- *The graduate has a deep understanding of cells as the structural and functional units of life, including an understanding of prokaryotic cells, eukaryotic cells, viruses, homeostasis, cell differentiation analysis, and tissue and organ development.*
- *The graduate understands important ecological issues, ideas, and structures, including population dynamics, community energetics, and biogeochemical cycles.*
- *The graduate has a deep understanding of heredity as the continuity and variations of traits from one generation to the next, including the structure and regulation of RNA, the model of protein synthesis, mitosis, meiosis, human karyotype, DNA sequences, and embryology.*

Evolution

Students will learn why evolution is the fundamental concept that underlies all life sciences and how it contributes to advances in medicine, public health and conservation. Course participants will gain a firm understanding of the basic mechanisms of evolution including the process of speciation --- and how these systems have given rise to the great diversity of life in the world today. They will also explore how new ideas, discoveries and technologies are modifying prior evolutionary concepts. Ultimately, the course will explain how evolution works and how we know what we know.

This course covers the following competencies:

- *The graduate appreciates the different opinions about how species are defined based on using molecular data to understand evolutionary processes.*
- *The graduate can explain the basic theory of evolution and how evolutionary mechanisms have driven diversification among organisms.*
- *The graduate recognizes how evolutionary theory impacts our lives through modern medicine, agriculture, and conservation efforts.*
- *The graduate has an in-depth understanding of how coevolution, genetic drift, natural selection, and sexual selection contribute to the organization of the Earth's biodiversity.*
- *The graduate has a practical understanding of Darwin and the evidence that led him to propose his theory of*

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evolution.

- *The graduate recognizes the complexities of human evolution, where humans fit with respect to other organisms on the Tree of Life, and what sets humans apart from other animals.*

Biology: Content Knowledge

This comprehensive course examines a student's conceptual understanding of a broad range of Biology topics. High School Biology teachers must help students make connections between isolated topics. For example, when studying hormones created by endocrine glands traveling through the circulatory system to maintain homeostasis – a student is connecting many Biology topics. This course starts with macromolecules that make up cellular components and continues with understanding the many cellular processes that allow life to exist. Connections are then made between genetics and evolution. Classification of organisms leads into plant and animal development that study the organ systems and their role in maintaining homeostasis. The course finishes by studying ecology and humans effects on the environment.

This course covers the following competencies:

- *The graduate understands the historical changes in life forms (evolution of life) and the diversity of life (similarities and differences among organisms), including natural selection, global catastrophes, human influence, environmental change, and the development of hierarchical classification systems.*
- *The graduate understands and provides safe, effective, research-based instruction in science.*
- *The graduate has a deep understanding of cells as the structural and functional units of life, including an understanding of prokaryotic cells, eukaryotic cells, viruses, homeostasis, cell differentiation analysis, and tissue and organ development.*
- *The graduate understands the interdependence of life and the flow of energy and matter.*
- *The graduate has a broad understanding of important concepts of ecology.*
- *The graduate has a broad understanding of the important concepts related to the biology of organisms.*
- *The graduate has a broad understanding of the important concepts in molecular and cellular biology.*
- *The graduate understands important ecological issues, ideas, and structures, including population dynamics, community energetics, and biogeochemical cycles.*
- *The graduate has a broad understanding of evolution and the history of life on earth.*
- *The graduate has a deep understanding of heredity as the continuity and variations of traits from one generation to the next, including the structure and regulation of RNA, the model of protein synthesis, mitosis, meiosis, human karyotype, DNA sequences, and embryology.*
- *The graduate understands evolutionary patterns and the history of life.*

Teacher Education Diversity

Fundamentals of Diversity, Inclusion, and Exceptional Learners

Students will learn the history of inclusion and develop practical strategies for modifying instruction, in accordance with legal expectations, to meet the needs of a diverse population of learners. This population includes learners with disabilities, gifted and talented learners, culturally diverse learners, and English language learners

This course covers the following competencies:

- *The graduate selects effective and appropriate learning opportunities for the specific needs of diverse learners.*
- *The graduate selects research-based and data-driven assessment strategies that meet the needs of diverse learners.*
- *The graduate integrates knowledge of characteristics, contexts, and conditions of students in the process to address the needs of multicultural learners, exceptional learners, atypical development, English language learners, and gifted and talented learners and to implement equity pedagogy into their practice.*

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- *The graduate selects appropriate strategies to effectively and ethically engage with students, families, administrators, and other stakeholders in support of the education of diverse learners.*
- *The graduate selects appropriate behavioral intervention strategies for students with special educational needs.*
- *The graduate selects appropriate technology tools and accommodations to support the education of diverse learners.*
- *The graduate recommends best practices to plan classroom instruction in a supportive learning environment for ELL students.*
- *The graduate applies appropriate policies, programs, accepted practices, and legal requirements to classroom and instructional practices as they relate to special education, English language learners, and gifted and talented learners.*

Pre-Clinical Experiences

Introduction to Preclinical Experiences

Introduction to Preclinical Experiences engages students seeking a bachelor's degree and initial teacher licensure in utilizing video observations to reflect on ways they will interact with students and manage their classrooms. Concepts include Classroom Environment and Management, Instructional Models and Strategies, Emotional Climate and Teacher Responsiveness, Standards and School Law, and Teaching Diverse and Exceptional Learners. The course also guides students through the Field Experience and Demonstration Teaching application processes. There are no prerequisites for this course.

This course covers the following competencies:

- *The graduate analyzes the legal and ethical responsibilities of teachers in the classroom.*
- *The graduate analyzes the theoretical and practical implications of various instructional practices intended to support equity and the teaching of diverse learners.*
- *The graduate analyzes observed professional practices in relation to a personal teaching philosophy.*
- *The graduate analyzes the effectiveness of instructional practices intended to address atypical development and exceptional learning.*
- *The graduate analyzes how various professional practices intended to support learners relate to theories of learning and development.*
- *The graduate analyzes the theoretical and practical implications of various instructional practices intended to support classroom management, engagement, and motivation.*
- *The graduate analyzes the use of standards, state and federal regulations, and educational policy for classroom teaching and learning.*
- *The graduate evaluates various uses of academic language and classroom discourse to determine possible theoretical and practical implications for instructional practice and student learning.*
- *The graduate analyzes the theoretical and practical implications of various instructional strategies and models intended to support teaching and learning.*

Preclinical Experiences in Science

Preclinical Experiences in Science provides students the opportunity to observe and participate in a wide range of in-classroom teaching experiences in order to develop the skills and confidence necessary to be an effective teacher. Students will reflect on and document at least 60 hours of in-classroom observations. Prior to entering the classroom for the observations, students will be required to meet several requirements including a cleared background check, passing scores on the state or WGU required basic skills exam, a completed resume, philosophy of teaching, and professional photo.

This course covers the following competencies:

- *The graduate evaluates the theoretical, legal, ethical, and practical applications of teaching students with exceptional*

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learning needs.

- *The graduate develops a classroom management plan that integrates best practices for engagement and motivation.*
- *The graduate evaluates the theoretical and practical applications of various assessment practices as they relate to student learning and instructional design.*
- *The graduate evaluates the theoretical and practical implications of various strategies that are intended to support the use of academic language, metacognition, and communication in classroom contexts.*
- *The graduate evaluates various applications of technological integration in support of learning for all students.*
- *The graduate evaluates the theoretical and practical implications of various instructional strategies, models, and trends for science in the context of classrooms and schools.*
- *The graduate evaluates the theoretical and practical implications of various general instructional strategies, models, and trends in the context of classrooms and schools.*
- *The graduate evaluates educational observations and experiences connected to professional practices to support the development of appropriate teaching dispositions and a personal teaching philosophy.*

Instructional Planning and Presentation

Introduction to Instructional Planning and Presentation

Students will develop a basic understanding of effective instructional principles and how to differentiate instruction in order to elicit powerful teaching in the classroom.

This course covers the following competencies:

- *The graduate selects appropriate and effective instructional strategies to support the full range of learners.*
- *The graduate evaluates various influences on learning and instruction to ensure positive and engaging learning experiences.*
- *The graduate analyzes the role of assessment in the cycle of instruction.*
- *The graduate analyzes the relationships among technology, pedagogy, instruction, and learning.*
- *The graduate selects appropriate and effective tools for communicating with students, colleagues, families, and others to support and facilitate student success and achievement.*
- *The graduate evaluates appropriate and effective learning resources that support student learning.*
- *The graduate incorporates best principles and practices into the design of learning outcomes.*
- *The graduate applies research-based and evidence-based instructional design and presentation principles in the evaluation of effective unit and lesson plans.*
- *The graduate applies strategies to develop academic language through learning and instruction.*

Effective Teaching Practices

Instructional Planning and Presentation in Science

Students will continue to build instructional planning skills with a focus on selecting appropriate materials for diverse learners, selecting age- and ability- appropriate strategies for the content areas, promoting critical thinking, and establishing both short- and long- term goals

This course covers the following competencies:

- *The graduate integrates appropriate and effective presentation strategies in the planning or delivery of lessons for a variety of learners.*
- *The graduate effectively evaluates and integrates standards, learning outcomes, assessment, instructional strategies,*

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and learning resources in the development and modification of unit and lesson plans.

- *The graduate integrates research derived from evidence-based practice into the planning and delivery of meaningful, relevant, and engaging instruction and assessment.*
- *The graduate uses technology appropriately in the planning and delivery of meaningful, relevant, and engaging instruction.*
- *The graduate develops active learning opportunities for a variety of students to promote meaningful, relevant, and engaging student-focused instruction.*
- *The graduate effectively and appropriately uses data, including assessment results, in the planning, delivery, and evaluation of meaningful, relevant, and engaging instruction.*
- *The graduate develops instructional materials that effectively incorporate prior learning and cross-curricular learning outcomes to promote relevant, meaningful, and engaging instruction.*
- *The graduate incorporates various grouping strategies into instruction to facilitate learning for all students.*
- *The graduate plans safe and engaging learning environments that foster cultural and community understanding, collaboration, student voice, positive social interactions, and that include individuals with exceptional learning needs.*

Demonstration Teaching

Supervised Demonstration Teaching in Science, Observations 1 and 2

Supervised Demonstration Teaching in Science involves a series of classroom performance observations by the host teacher and clinical supervisor that develop comprehensive performance data about the teacher candidate's skills.

Supervised Demonstration Teaching in Science, Observation 3 and Midterm

Supervised Demonstration Teaching in Science involves a series of classroom performance observations by the host teacher and clinical supervisor that develop comprehensive performance data about the teacher candidate's skills.

Supervised Demonstration Teaching in Science, Observations 4 and 5

Supervised Demonstration Teaching in Science involves a series of classroom performance observations by the host teacher and clinical supervisor that develop comprehensive performance data about the teacher candidate's skills.

Supervised Demonstration Teaching in Science, Observation 6 and Final

Supervised Demonstration Teaching in Science involves a series of classroom performance observations by the host teacher and clinical supervisor that develop comprehensive performance data about the teacher candidate's skills.

Teacher Performance Assessment in Science

The Teacher Performance Assessment is a culmination of the wide variety of skills learned during your time in the Teachers College at WGU. In order to be a competent and independent classroom teacher, you will showcase a collection of your content, planning, instructional, and reflective skills in this professional assessment.

This course covers the following competencies:

- *The graduate integrates strategies to develop academic language that facilitates effective student participation and engagement in learning.*
- *The graduate utilizes assessment data to profile student learning, communicate information about student progress and achievement, and guide and modify instruction.*
- *The graduate evaluates the teaching context to accommodate student differences to plan for instruction and assessment.*

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- *The graduate plans comprehensive learning segments of instruction and assessment that align with standards and the needs of students.*
- *The graduate evaluates teaching experiences including the planning and implementing of curriculum and instruction through ongoing reflection.*
- *The graduate plans learning environments that support individual learning, collaboration, and positive social interaction.*
- *The graduate applies instructional strategies that promote learning, engage students, and provide differentiated instruction.*

Professional Portfolio

You will create an online teaching portfolio that includes professional artifacts (e.g. resume and Philosophy of Teaching Statement) that demonstrate the skills you have acquired throughout your Demonstration Teaching experience.

This course covers the following competencies:

- *The graduate demonstrates ethical responsibilities and appropriate teaching dispositions, including those outlined in the Western Governors University Teachers College Code of Ethics.*
- *The graduate recommends strategies that support the development of academic language for all students.*
- *The graduate recommends various strategies to differentiate instruction to meet the diverse needs of individual students.*
- *The graduate recommends improvements for instruction and professional practice through personal reflection.*
- *The graduate develops appropriate plans for professional growth in subject matter knowledge and pedagogical skills, including habits and skills of continual inquiry and learning.*

Cohort Seminar

Cohort Seminar provides mentoring and supports teacher candidates during their demonstration teaching period by providing weekly collaboration and instruction related to the demonstration teaching experience. It facilitates their demonstration of competence in becoming reflective practitioners, adhering to ethical standards, practicing inclusion in a diverse classroom, exploring community resources, building collegial and collaborative relationships with teachers, and considering leadership and supervisory skills.

This course covers the following competencies:

- *The graduate recommends effective strategies to maintain high levels of student engagement.*
- *The graduate demonstrates the ability to positively impact student learning through work samples, student artifacts, assessment results, and reflection.*
- *The graduate demonstrates ethical responsibilities and appropriate teaching dispositions, including those outlined in the Western Governors University Teachers College Code of Ethics.*
- *The graduate recommends strategies that support the development of academic language for all students.*
- *The graduate recommends various strategies to differentiate instruction to meet the diverse needs of individual students.*
- *The graduate selects community resources that support students' non-instructional needs in and out of the classroom.*
- *The graduate recommends improvements for instruction and professional practice through personal reflection.*
- *The graduate recommends best practices for classroom management, effective transitions, and pacing to maximize instructional time.*
- *The graduate recommends strategies for effectively collaborating with colleagues, parents, and community professionals to support student development, learning, and well being.*
- *The graduate develops appropriate plans for professional growth in subject matter knowledge and pedagogical skills,*

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including habits and skills of continual inquiry and learning.

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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 administrative or accessibility issues. 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. The Student Services team provides a formal means by which you can express your views, which in turn will inform the decisions we make.

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.

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