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*The Bachelor of Arts, Educational Studies in Secondary Chemistry Science Education (BAESSESC), includes content knowledge related to secondary chemistry sciences (5-12) teaching. This program consists of online courses which take the learner from general education, through methods of instruction, assessment, and classroom management to science education courses for interacting with secondary grades students. It does not include a supervised teaching practicum in a real classroom and therefore does not meet the requirements for initial teacher licensure. This program is for individuals who, for various reasons, want the academic knowledge that relates to teaching, but who cannot or do not want to participate in a supervised classroom practicum and do not expect to be eligible to teach as a result of completing the program.*



pre-assessments are there to help your program mentor form a profile of your prior knowledge and create a personalized Degree Plan.

At WGU, faculty serve in specialized roles, and they will work with you individually to provide the guidance, instruction, and support you will need to succeed and graduate. As a student, it is important for you to take advantage of this support. It is key to your progress and ultimate success.

Upon your enrollment, you will be assigned a program mentor—an expert in your field of study who will provide you with regular program-level guidance and support from the day you start until the day you graduate. Your program mentor will set up regular telephone appointments (weekly at first) with you, which you will be expected to keep. The mentor will review program competencies with you and work with you to develop a plan and schedule for your coursework. Your program mentor will serve as your main point of contact throughout your program—helping you set weekly study goals, recommending specific learning materials, telling you what to expect in courses, and keeping you motivated. In addition to regular calls, your program mentor is available to help you resolve questions and concerns as they arise.

For many of the courses at WGU, you will be required to complete performance assessments. These include reports, papers, presentations, and projects that let you demonstrate your mastery of the required competencies. A separate group of faculty members, called evaluators, will review your work to

'Requirement Satisfied' (RS) in some cases. Refer to your specific program transfer guidelines to determine what can be satisfied by previously earned college credits. In most cases, WGU does not accept college transfer credits at the graduate (master's) level. Students entering graduate programs must have their undergraduate degree transcripts verified before being admitted to WGU. In addition to a program's standard course path, there may be additional state-specific 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

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.

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.

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.

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

Mobile Compatibility:

The following article provides additional details about the current state of mobile compatibility for learning resources at WGU.

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

As previously mentioned, competency units (CUs) have been assigned to each course in order to measure your academic progress. If you are an undergraduate student, you will be expected to enroll in a minimum of 12 competency units each term. Graduate students are expected to enroll in a minimum of 8 competency units each term. A standard plan for a student for this program who entered WGU without

any transfer units would look similar to the one on the following page. Your personal progress can be faster, but your pace will be determined by the extent of your transfer units, your time commitment, and





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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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.

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Welcome to Composition: Writing with a Strategy! In this course, you will focus on three main topics: understanding purpose, context, and audience, writing strategies and techniques, and editing and revising. In addition, the first section, will offer review on core elements of the writing process, cross-cultural communication, as well as working with words and common standards and practices.

Each section includes learning opportunities through readings, videos, audio, and other relevant resources. Assessment activities with feedback also provide opportunities to check your learning, practice, and show how well you understand





invitation to see the world through the humanities, examine the humanities during the Information Age, and explore the global origins of music—essentially questioning what makes us human, and how people are connected across culture and time. Each module includes learning opportunities through readings, videos, audio, and other relevant resources. Assessment activities with feedback also provide opportunities to practice and check learning. With no prior knowledge or experience, a learner 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 diverse voices, ideas, perspectives, and cultural interactions through the lens of the humanities.*

*The learner analyzes the humanities during the Information Age.*

*The learner analyzes how music shapes and is shaped by diverse cultures and perspectives.*

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The School as a Community of Care is a key component of WGU's Professional Core and is a required course for all initial licensure candidates. This course prepares candidates to meet the social and emotional needs of learners, taking into account theories and philosophical perspectives on child and adolescent development and learning. Candidates learn to effectively collaborate with parents, families, caregivers, and other community stakeholders in each child's education, to build a strong foundation for academic and personal success. Emphasis is placed on family engagement as candidates gain knowledge of individual, cultural, and community assets that can be used to facilitate learner growth and development, as well as understand mental health and emotional differences among learners that may necessitate leveraging additional resources to support students' well-being. Issues of youth mental health, substance abuse, suicide awareness and prevention, and abuse within families will be addressed with the importance of parent involvement. Candidates will engage in seven hours of preclinical experiences, which include visual observations of learning environments that involve parents and families in their children's education while supporting the social and emotional learning (SEL) needs of learners and an interview with an educational professional to explore topics related to parent involvement, youth mental health issues, and professional responsibilities to ensure student well-being. Additionally, crosscutting themes of technology and diversity are interwoven for further development.

*This course covers the following competencies:*

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

*The graduate plans for learning environments that meet all students' cultural, social, and emotional learning needs by incorporating knowledge of individual learners, diverse cultures, and communities.*

*The graduate develops strategies to address the social and emotional learning (SEL) needs of students, including the incorporation of trauma-informed or restorative instructional practices.*

*The graduate identifies appropriate resources and processes to support the mental health and emotional well-being of students.*

*The graduate analyzes the role of historical and cultural influences, including issues of federal and state governance, in determining standard educational practices and ensuring equal access to educational opportunities.*

*The graduate examines the impact of standards-based curriculum on students and teachers to determine how it supports a school's goals.*

*The graduate evaluates the application of educational best practices in diverse learning settings to inform teaching practice.*

*The graduate explores pathways and opportunities for professional development to grow as an educator.*

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*The graduate evaluates the application of educatrecomC ds instruclearninstrtiegiesP patrwilinpost tvtlyeimEMn stg*

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*The graduate recommends strategies to engage with students, families, administrators, and other stakeholders in ways that are effective, legal, and ethical.*

Managing Engaging Learning Environments is a key component of WGU's Professional Core and is a required course for all initial licensure candidates. This course prepares candidates to establish and contribute to safe and productive learning environments that support the success of all learners by ensuring student engagement and motivation for learning. Candidates will learn strategies, such as incorporating consistent routines and expectations, to provide positive behavior supports, increase learner motivation, promote active learning and self-direction, and ensure a safe and productive classroom setting that fosters a sense of community through collaborative educational practices. The course will culminate

knowledge in ways that support academic success. Candidates will engage in three hours of preclinical experiences that include virtual classroom observations. Cross-cutting themes of technology and diversity are interwoven for further development.

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*The graduate analyzes inter-dependencies of organisms and their environments.*

This course explores the science of climate change. Students will learn how the climate system works; what factors cause climate to change across different time scales and how those factors interact; how climate has changed in the past; how scientists use models, observations, and theory to make predictions about future climate; and the possible consequences of climate change for our planet. The course explores evidence for changes in ocean temperature, sea level, and acidity due to global warming. Students will learn how climate change today is different from past climate cycles and how satellites and other technologies are revealing the global signals of a changing climate. Finally, the course looks at the connection between human activity and the current warming trend and considers some of the potential social, economic, and environmental consequences of climate change.

*This course covers the following competencies:*

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

*The graduate evaluates climate as a system and the components of the climate system.*

*The graduate interprets climate system factors to evaluate drivers and forcings related to climate change.*

*The graduate evaluates models, observations, past evidence, and theories to understand the changing climate.*

*The graduate utilizes knowledge of risks and uncertainties in predicting consequences of climate change to educate others.*

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Concepts in Science for undergraduates provides students seeking a bachelor's degree and initial teacher licensure in science education with an introduction to essential science themes present within and across all science disciplines, including chemistry, physics, biology, and the geosciences. These themes include comprehending the magnitude of the physical and natural world, analyzing and converting measurements, understanding the basic nature and behavior of matter and energy, examining atomic structure, identifying and naming basic types of chemical bonds, and analyzing and interpreting scientific data. Concepts in Science provides a solid foundation for future, in-depth scientific studies and should be taken prior to any other science content course. There are no prerequisites for this course.

*This course covers the following competencies:*

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

*The graduate applies principles of measurement to solve scientific problems.*

*The graduate explains how various forms of matter and energy respond to physical and chemical changes to understand how matter and energy flow within and among systems.*

*The graduate determines the composition of atoms and compounds to understand the properties of matter.*

*The graduate analyzes numeric data to identify patterns and relationships.*

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General Chemistry I with Lab for undergraduates provides students seeking initial teacher licensure in secondary chemistry with an introduction to the field of chemistry, the branch of science that studies the composition, structure, properties, and behavior of matter. This course provides students with opportunities to examine the electronic structure of atoms, study periodic trends, name chemical compounds, write chemical formulas, determine the structure of molecules, balance chemical reactions, and discover the changing states of matter. Laboratory experiences facilitate the study of matter and the application of laboratory safety and maintenance procedures. Concepts in Science is a prerequisite for this course.

*This course covers the following competencies:*

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

*The graduate conducts safe and effective investigations to examine the physical and chemical characteristics of*





Inorganic Chemistry introduces the concepts of inorganic chemistry—the branch of chemistry that studies the properties and behavior of any compound avoiding a specific focus on carbon. It will focus on the three most important areas of inorganic chemistry: the structure, properties, and reactions of various groups of inorganic compounds.

*This course covers the following competencies:*

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

*The graduate analyzes atomic structure and can demonstrate major principles and rules of atomic structure.*

*The graduate demonstrates that groups of elements possess similar physical and chemical properties and can determine trends using the periodic chart.*

*The graduate demonstrates how atoms or ions in minerals are glued together by electrical bonds that are ionic or covalent, and computes the bond order in a molecule.*

*The graduate demonstrates properties of compounds and constructs models of bonding compounds and complex ions.*

*The graduate demonstrates the microscopic and macroscopic features of solids and demonstrates how crystallography informs solid state chemistry.*

*The graduate can demonstrate how the structure of a material's molecules can determine its strength and uses.*

This course focuses on the study of compounds that contain carbon, much of which is learning how to organize and group these compounds based on common bonds found within them in order to predict their structure, behavior, and reactivity.

*This course covers the following competencies:*

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

*The graduate uses drawings and models to communicate and predict the structure and shape of organic molecules.*

*The graduate applies concepts of acid-base chemistry to determine the relative acidities of organic acids and the position of equilibrium in an acid-base reaction.*

*The graduate applies the IUPAC nomenclature to name organic molecules.*

*The graduate applies concepts of stereochemistry to analyze organic molecules.*

*The graduate applies mechanisms to analyze organic reactions, including organic synthesis.*

*The graduate analyzes properties and reactions of important organic compounds, including aromatic compounds.*

*The graduate applies instrumental methods of analysis to determine the structure of organic compounds.*

Biochemistry covers the structure and function of the four major polymers produced by living organisms. These include nucleic acids, proteins, carbohydrates, and lipids. This course focuses on application. Be sure to understand the underlying biochemistry in order to grasp how it is applied. By successfully completing this course, you will gain an introductory understanding of the chemicals and reactions that sustain life. You will also begin to see the importance of this subject matter to health.

*This course covers the following competencies:*

*Begin your course by discussing the results of your Course Planning Assessment with your Course Instructor and design a course plan together.*

*The graduate demonstrates how nucleic acid polymers can transform cells and transmit information within the cell.*

*The graduate explains how the structure and composition of amino acids and proteins impact the human body.*

*The graduate explains how the structure and function of myoglobin and hemoglobin impact the human body.*

*The graduate explains how the structure and function of enzymes and inhibitors in reactions impact the human body.*

*The graduate analyzes the role of ATP in carbohydrate metabolism and the impact of irregular ATP synthesis on the human body.*

*The graduate explains how lipids are essential to the normal function of cells and the impact of abnormal lipid metabolism on the human body.*

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

*The graduate analyzes the relationships among themes that appear across multiple scientific ideas.*

*The graduate analyzes the nature of science, including how science distinguishes itself from other ways of knowing.*

*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 socially relevant scientific issues to make informed decisions based on data and context.*

*The graduate analyzes the principles, processes, and assumptions of investigations in science to engage students in the nature of inquiry.*

*The graduate uses technology tools and mathematics to improve investigations and the communication of results.*

*The graduate formulates testable hypotheses for scientific investigations.*

*The graduate conducts investigations in science to solve open-ended problems using appropriate scientific methods.*

Science Methods—Secondary Chemistry provides an introduction to teaching methods specific to science for undergraduate students seeking initial licensure or endorsement in secondary chemistry. Course content focuses on the design and teaching of standards-based lessons using the three dimensions of science (science and engineering practices, crosscutting concepts, and disciplinary core ideas) and the appropriate integration of technology into those lessons. Students in this course work within their content areas to evaluate, enhance, and plan appropriate science instruction. This course includes laboratory safety training and certification, which includes safe laboratory practices and procedures for science classrooms and the proper use of personal protective equipment. A prerequisite for this course is Curriculum, Instruction, and Assessment.

*This course covers the following competencies:*

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

*The graduate analyzes connections among the three dimensions of science instruction—disciplinary core ideas, crosscutting concepts, and science and engineering practices—to prepare and plan for instruction.*

*The graduate integrates technology into science activities to support student engagement and content mastery.*

*The graduate develops assessment strategies that measure three-dimensional science learning to determine the effectiveness of teaching and learning experiences.*

*The graduate develops lessons that integrate the three dimensions of science with applicable technologies to connect scientific concepts and phenomena.*

*The graduate develops plans for the use, storage, and maintenance of science materials and protective equipment and for the care of living organisms to comply with district, state, and federal safety, ethical, and legal standards for science teachers.*

*The graduate establishes an emergency response plan to prepare for potential emergency situations in the science learning environment.*

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Secondary Reading Instruction and Interventions explores the comprehensive, student-centered response to intervention (RTI) model used to identify and address the needs of learners in middle school and high school who struggle with reading comprehension and/or information retention. Course content provides educators with effective strategies designed to scaffold instruction and help learners develop increased skill in the following areas: reading, vocabulary, text structures and genres, and logical reasoning related to the academic disciplines. This course is designed to be taken after successful completion of the Introduction to Curriculum, Instruction, and Assessment course OR Introduction to Instructional Planning and Presentation AND Instructional Planning and Presentation in Special Education.

*This course covers the following competencies:*

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

*The graduate explains how the Response to Intervention (RTI) approach identifies, monitors, and differentiates instruction to ensure that struggling readers obtain the appropriate support and interventions to improve academic progress.*

*The graduate develops effective vocabulary instruction to enhance students' reading comprehension in the content areas.*

*The graduate integrates knowledge of effective comprehension strategies to help students monitor and improve their own comprehension when reading.*

*The graduate integrates reading strategies that scaffold instruction for students when reading increasingly complex texts.*

*The graduate integrates reading assessments to make informed instructional and placement decisions.*

Secondary Disciplinary Literacy examines teaching strategies designed to help learners in middle and high school improve upon the literacy skills required to read, write, and think critically while engaging content in different academic disciplines. Themes include exploring how language structures, text features, vocabulary, and context influence reading comprehension across the curriculum. The course highlights strategies and tools designed to help teachers assess the reading comprehension and writing proficiency of learners and provides strategies to support students' reading and writing success in all curriculum areas. This course has no prerequisites.

*This course covers the following competencies:*

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

*The graduate distinguishes between the basic strategies used to facilitate comprehension in the content areas and the specialized reading practices needed to assessing yoursB-1. gding practices nens n0 T inpersonal2turey7D 15 >>BDC 0.271 0.271 0.2*

Western Governors University is committed to providing equal access to its academic programs to all qualified