



Bachelor of Arts in **Science for Prospective Chemistry Teachers Grade 5–12**

The Bachelor of Arts in Science (5–12, Chemistry) is a competency-based degree program that prepares students to be licensed as chemistry 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 the Liberal Arts, the Foundations of Teaching, Effective Teaching Practices, Natural Science, Mathematics, General Chemistry, Advanced Chemistry, and Demonstration Teaching.

Understanding the Competency-Based Approach

Practically speaking, what does it mean when we say that WGU 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, students earn their degrees by demonstrating their skills, knowledge, and understanding of important concepts through a series of carefully designed assessments.

Progress through your degree program is governed, not by classes, but by satisfactory completion of the required assessments 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 mentor. You will work closely with your mentor to schedule your program for completing the assessments. (We discuss assessments in much more detail later in this guide.) You will 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 individual assessments.

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 your skills and knowledge of a subject on the job, accumulated wisdom through years of life experience, or, indeed, took a course on a particular subject. WGU awards a degree to you based on the skills and knowledge that you possess and can demonstrate, not the number of credits you have 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 university is also accredited by the Distance Education and Training Council (DETC), and 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 Academic Action Plan (AAP)

The focus of your program is your Academic Action Plan (AAP). The AAP is a detailed blueprint of the learning resources and assessments that comprise your program. The length of 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.

Students will vary widely in the specific skills and information they need to learn. For example, some may be highly knowledgeable in a subject matter and would not need to engage in new

learning opportunities. Others may find that portions of the program require completely new learning 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 have more time. For this reason, you will complete pre-assessments to help your mentor form a profile of your prior knowledge and experience for use in creating your AAP.

WGU’s Mentoring Approach

Our mentoring approach is a powerful component of the WGU educational experience. When you enroll at WGU, you will begin interacting with your personal mentor, course mentors, and support staff. Your mentor takes an active role and a personal interest in your success. Whether by e-mail or phone, your mentor will be your “point person” of communication throughout your program. Your mentor will help motivate you to work hard to complete your program. When you have questions or concerns, your mentor team will help you resolve them.

You and your mentor will work together to evaluate your educational background, strengths, and weaknesses. With this analysis, your mentors will help determine in which areas you are already competent (and can move quickly to assessment) and areas you need to work on; this will become your personalized AAP. Your mentor will direct you to the Courses of Study that contain the best learning resources for you (courses, texts, independent study modules, etc.) and are supported by course mentors that serve as your content experts for each area of study. As you proceed through your academic program, you and your mentor will determine when you are ready for the required assessments. If you are ready, your assessment will be scheduled. You will follow this same process as you proceed through each domain.

Connecting with Other Mentors and Fellow Students

As you proceed through your AAP, you may also have direct contact with other faculty members. These communications can take a variety of forms, including participation in learning communities, office hours via the courses of study, and webinars. As a WGU student, you will have access to your own personal MyWGU Student Portal that will provide a gateway to courses of study, learning communities, and program communities where you will have interactions with faculty and other students. Courses of study and communities are specifically designed to support you as you develop competencies in preparation for your assessments through the utilization of threaded discussions, blogs, and chats that are guided by content experts. You will access your program community during the Education Without Boundaries introductory 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 a Student Services Associate to help you and your mentor solve any special problems that may arise.

Education Without Boundaries

Education Without Boundaries (EWB) is a required introductory course that focuses on acquainting the student with WGU’s competency-based model, distance education, technology, and other resources and tools available for students. You will also utilize tutorials, message boards, online chats, and other activities to connect with other students in your program. During the EWB course you will be introduced to your mentor and you will develop your Academic Action Plan (AAP).

Transferability of Prior College Coursework

Because WGU is a competency-based institution, it does not award degrees based on credits but on demonstration of competency. However, if you have completed college coursework at another accredited institution, you may have your transcripts evaluated and may be able to have some lower-division or co-requisite assessments cleared. The guidelines for determining what will “clear” through transfer vary based on the degree program.

The following transfer guidelines generally apply to undergraduate programs: Requirements in the domains that can be considered the degree major cannot be cleared through transfer. Furthermore, WGU does not clear any requirements based on the student's professional experience and does not perform a "resume review" or "portfolio review" that will automatically clear 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.

Satisfactory Academic Progress and Continuous Enrollment

WGU is a “continuous enrollment” institution, which means you will be automatically enrolled in each of your new terms while you are at WGU. Your terms are six months long, and your first term will begin the first day of the month that you enrolled in the EWB introductory course. Longer terms and continuous enrollment allow you to focus on your studies without the hassle of unnatural breaks between the shorter terms that you would experience in a more traditional environment. At the end of every six-month term, you and your mentor will review the progress you have made and revise your Academic Action 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 satisfactory academic progress (SAP). SAP will be particularly important for financial aid students because you must make SAP in order to maintain eligibility for financial aid. We measure your progress based on the assessments you are able to pass, not on your accumulation of credit hours or course grades. Every time you pass an assessment, you are demonstrating that you have mastered skills and knowledge in your degree program. For comparison to traditional grading systems, passing an assessment means you have demonstrated competency equivalent to a “B” grade or better.

WGU has assigned competency units to each assessment so that we can track your progress through the program. A competency unit is equivalent to one semester credit of learning. Some assessments may be assigned three competency units while other assessments may be as large as 12 competency units.

We will measure your SAP quantitatively by reviewing the number of competency units you have completed each term. Graduate students must enroll in at least eight competency units each term, and undergraduate students must enroll in at least 12 competency units each term. In order to remain in good academic standing, you *must* complete at least 66.67% of the units you attempt. Additionally, during your first term at WGU you must pass at least three competency units in order to remain eligible for financial aid. We know that SAP is complex, so

we will discuss it in greater detail during the EWB introductory course and your mentor will provide additional guidance.

Assessments

Your AAP will include the assessments needed to complete your program. To obtain your degree you will be required to demonstrate your skills and knowledge by completing the following assessments:

Performance Assessments contain, in most cases, multiple scored tasks such as projects, essays, and research papers. Performance assessments contain detailed instructions and rubrics for completing each task and are submitted in TaskStream, an online project management and grading tool. Performance assessments also include observations and reflections of videotaped and real classroom situations. These pre-clinical experience performance assessments provide reflection instruction and enable students to analyze teaching and learning in real classroom situations and to apply pedagogical knowledge.

Objective Assessments are designed to evaluate your knowledge and skills in a domain of knowledge. Most 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.

Essay Assessments are used to measure your ability to integrate and apply concepts. Your writing will be scored against competency-based rubrics established by the faculty.

Observations are used to measure your ability to perform the skills you have acquired as a student at WGU. These classroom observations occur during the Demonstration Teaching experience and are conducted and evaluated by a trained local clinical supervisor.

As previously mentioned, we have assigned competency units (CUs) to each assessment in order to measure your academic progress. As an undergraduate student, you will be expected to enroll in a minimum of 12 competency units each term. A standard plan for the program, at 12 units per term, for a student who has no transfer units would look similar to the one on the next 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.

The standard path below lists the required liberal arts competencies. Your previous courses in these areas will be evaluated for transfer of credit (TOC). You will be notified which competencies have been met by TOC and which ones you will still need to complete.

STANDARD PATH FOR BACHELOR OF ARTS IN SCIENCE, 5-12 (CHEMISTRY)

CODE	ASSESSMENTS	CU	TERM
EWB2	Education Without Boundaries	2	1
BAC1	Foundations of College Mathematics	2	1
BBC1	Communications Fundamentals	2	1
LAE1	Language and Communication: Essay	2	1
LAT1	Language and Communication: Research	2	1
LUT1	Language and Communication : Presentation	2	1
INC1	Integrated Natural Sciences	4	2
INT1	Integrated Natural Sciences Applications	4	2
SSC1	General Education Social Sciences	1	2
SST1	General Education Social Sciences: Analysis and Applications	2	2
BOC1	Precalculus and Calculus	1	2
BOT1	Problems in Precalculus and Calculus	2	3
IWC1	Literature, Arts and the Humanities	2	3
IWT1	Literature, Arts and the Humanities: Analysis and Interpretation	2	3
BQC1	Chemistry Theories and Concepts	4	3
BQT1	Chemistry Lab	4	3
AZC1	United States Constitution	1	4
GKE1	Themes in U.S. and World History	1	4
GKT1	Applications in U.S. and World History	1	4
CLC1	Reasoning and Problem Solving	3	4
BVT1	Physical Chemistry	3	4
BWT1	Inorganic Chemistry	3	4
AIT1	Organic Chemistry	3	5
AIC1	Organic and Integrated Chemistry	4	5
GRT1	Biochemistry	3	5
GST1	Geochemistry	2	5
FST4	Schools and Society	3	6
FHT4	Human Development and Learning	3	6
FDT4	Diversity and Inclusion	3	6
FCT4	Classroom Management	3	6
FTT4	Testing	3	7
FTC4	Foundations of Teaching Practice Integration	6	7
EIT4	Instructional Planning and Strategies	3	7
ETT4	Instructional Presentation and Follow-Up	6	8
EIO4	Instructional Planning, Strategies and Presentation Integration	3	8
DEC1	Specific Teaching Practices: Science Pedagogy	2	8
DET1	Specific Teaching Practices: Science	4	8
DUT1	Cohort Seminar in Science	3	9
DUA1	Supervised Teaching Practicum Science, Observations 1 and 2	3	9
DUA3	Supervised Teaching Practicum Science, Observation 3 and Midterm	3	9
DUA5	Supervised Teaching Practicum Science, Observations 4 and 5	3	9
DUA7	Supervised Teaching Practicum Science, Observation 6 and Final	3	10
DVT1	Professional Portfolio in Science	6	10

In this example, the program will take 10 terms for the student to complete. The standard path shown above lists the courses of study (assessments) and the associated competency units by term. The AAP will include greater detail about the courses of study, including the assessments and their associated standard learning resources.

Learning Resources

You will work with your mentor to select the various learning resources needed to prepare for the required assessments. In most cases, the learning materials you will use are independent learning resources (ILRs) 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 many learning resources is included in your tuition, and you can enroll directly in those through your AAP as your mentor has scheduled them. Some resources (e.g., many textbooks) 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.

Areas of Study Within the Bachelor of Arts in Science (5–12, Chemistry)

The content of the WGU Bachelor of Arts in Science (5–12, Chemistry) derives from research on effective instruction as well as national and state standards. It provides the knowledge and skills that enable teachers to perform effectively in diverse classrooms. The B.A. in Science (5–12 Chemistry) program content and training processes are consistent with the accountability intent of the No Child Left Behind Act of 2001. The degree program is focused on the preparation of highly qualified teachers. As described in the federal legislation, a highly qualified teacher is one who not only possesses full state certification, but also has solid content knowledge of the subject(s) he or she teaches. The hallmarks of our program include: (a) appropriate and rigorous subject-matter preparation, (b) scientifically based pedagogical course preparation, and (c) clinical field experiences in which teacher candidates are supervised by trained coaches.

The following section includes the larger domains of knowledge, which are then followed by the subject-specific subdomains of knowledge, their associated assessments (including the four-character code that is used to identify the assessment), and the sample learning resources that have recently been used to help students gain the competencies needed to pass the assessments. 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. Please note that the learning resources included in the following sections are *sample resources* that will vary based on your own academic action plan (AAP) and the resources current at the time you enroll in the program. The AAP and learning resources are dynamic, so you need to review your AAP and seek the advice of your mentor regarding the resources before you purchase them.

Foundations Domain

The Foundations domain focuses on basic subject matter knowledge that is typically required for baccalaureate level study.

Foundations

Focuses on application of grammatical standards, reading skills, basic numeracy and calculation skills, basic algebra skills, basic geometry principles, and basic data and probability skills.

Communications Fundamentals (BBC1)

Proctored, computer-based objective exam

Foundations of College Mathematics (BAC1)

Proctored, computer-based objective exam

Sample Learning Resources:

SkillsBuilder for Language and Communication is an online interactive system which allows students to move at their own pace as they work through the content to develop language and communication skills.

SkillsBuilder for Quantitative Literacy is an online interactive system which allows students to move at their own pace as they work through the content to develop quantitative literacy skills.

Liberal Arts Domain

The liberal arts domain focuses on basic subject matter knowledge that is typically included in baccalaureate level programs. Evaluation of your previous college transcripts may clear assessment requirements for some areas of the liberal arts domain, which could shorten your program of study by removing assessments. To waive or clear a subdomain, the transcript must show that you have taken equivalent classes in the subdomain content areas and passed those classes with a C grade or higher at an accredited institution of higher education.

Language and Communication

Content focuses on collegiate reading skills, basic information retrieval skills, writing skills, and speaking and writing skills.

Language and Communication: Essay (LAE1)

Proctored, computer-based essay exam

Language and Communication: Research (LAT1)

Performance assessment that includes writing a research paper

Language and Communication: Presentation (LUT1)

Performance assessment that includes an oral presentation

Sample Learning Resources:

Reading, Writing, and Composition with eBooks. This online resource includes e-text version of the following texts:

Faigley, L. (2007). *Writing: A guide for college and beyond*. New York: Pearson Longman. ISBN 0-321-39626-X.

Ruszkiewicz, J., Seward, D. E., & Hairston, M. (2007). *SF writer* (4th ed.). New York: Pearson Longman. ISBN 0-13-233458-5.

Smith, B. D. (2007). *The reader's handbook: Reading strategies for college and everyday life* (3rd ed.). New York: Pearson Longman. ISBN-10 0321476840.

Literature, Arts, and the Humanities

Content focuses on content, concepts, terminology, methodology, models, and issues within and across the disciplines of the humanities.

Literature, Arts, and the Humanities (IWC1)

Proctored, computer-based objective exam

Literature, Arts, and the Humanities: Analysis and Interpretation (IWT1)

Performance assessment that includes subjective and objective analysis and interpretation in the humanities

Sample Learning Resources:

MindEdge Humanities Learning Resource. An online interactive module system.

Janaro, R. P., & Altshuler, T. C. (2009). *The art of being human* (9th ed.). New York: Longman. ISBN-10: 0205605427.

General Education Social Sciences

Content includes social science theory and method; human development and behavior; modern economic, social, and political institutions; and geography and human cultures.

General Education Social Science (SSC1)

Proctored, computer-based objective exam

General Education Social Science: Analysis and Applications (SST1)

Performance assessment that includes analysis and application of social science theories and methods

Sample Learning Resources:

General Education Social Sciences. An online interactive module system which includes e-text versions of the following:

Bergman, E., & Renwick, W. H. (2008). *Introduction to geography: People, places and environment* (4th ed.). Upper Saddle River, NJ: Pearson Prentice Hall. ISBN-13: 9780132238991.

Perry, J., & Perry, E. (2009). *Contemporary society: An introduction to social science* (12th ed.). Boston: Pearson Allyn and Bacon. ISBN-13: 9780205578672.

History and Civics

Content includes major themes in world history and United States history; basic economic concepts; and the nature and development of American government.

United States Constitution (AZC1)

Proctored, computer based objective exam

Themes in U.S. and World History (GKE1)

Proctored, essay

Applications in U.S. and World History (GKT1)

Performance assessment

Sample Learning Resources:

Thinkwell Economics and Civics. Thinkwell modules provide text- and video-based explanation and analysis of major concepts.

History and Civics. An online interactive resource that includes e-text versions of the following:

Craig, Graham, Kagan, Ozment, & Turner (2009). *Heritage of world civilizations*. (Combined Volume, Brief 4th ed.). Upper Saddle River, NJ: Pearson Prentice Hall. ISBN-13: 9780205661046.

Divine, R., et al. (2007). *America past and present* (Combined Volume, Brief 7th ed.). New York: Pearson Longman. ISBN-13: 9780321421807.

Greenberg, E. & Page, B. (2007). *Struggle for democracy* (8th ed.). New York: Pearson Longman. ISBN-13: 9780321420831.

Collegiate Level Reasoning and Problem Solving

Content includes problem identification and clarification, planning and information gathering, 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.

Reasoning and Problem Solving (CLC1)

Proctored, computer-based objective exam

Sample Learning Resources:

MindEdge Collegiate Level Reasoning and Problem-Solving Skills. Online interactive module system which allows students to move at their own pace as they work through the content of Critical Thinking.

Paul, R., & Elder, L. (2006). *Critical thinking: Tools for taking charge of your learning and your life* (2nd ed.). Upper Saddle River, NJ: Pearson Prentice Hall. ISBN 0-13-114962-8.

Natural Science

Content focuses on scientific concepts and inquiry as well as key concepts across and within the scientific disciplines.

Integrated Natural Sciences (INC1)

Proctored, computer-based objective exam

Integrated Natural Sciences Applications (INT1)

Performance assessment that utilizes scientific inquiry and analysis of evidence

Sample Learning Resources:

Integrated Natural Science. An online resource includes an e-text version of the following text:

Hewitt, P. G., Lyons, S., Suchocki, J., & Yeh, J. (2007). *Conceptual integrated science*. (1st ed.). San Francisco: Addison-Wesley. ISBN 0805390383.

Thinkwell's Scientific Inquiry. An online text that communicates the fundamentals of science to students using interactive media.

General Science Content Domain

Below are all of the subdomains that make up this content domain. Each subdomain is made up of specific competencies, or performance descriptions, that correspond to the specific skills or knowledge areas you must master.

Precalculus and Calculus

In this subdomain, students will concentrate on the trigonometric, logarithmic, exponential, polynomial, and rational functions. There will also be a study of limits, continuous functions, differentiation, and integration.

Precalculus and Calculus (BOC1)

Proctored, computer-based objective exam

Problems in Precalculus and Calculus (BOT1)

Performance assessment

Sample Learning Resources:

Safier, F. (1998). *Schaum's outline for precalculus* (4th ed.). New York: McGraw-Hill Companies. ISBN-13: 9780070572614.

Ayres, F., & Mendelson, E. (1999). *Schaum's outline of calculus* (4th ed.). New York: McGraw-Hill Companies. ISBN-13: 9780070419735

Thinkwell Precalculus CD and Workbook. This web-based resource includes multimedia video lectures, review notes, interactive animations, and sample exercises.

Thinkwell Calculus for Science. This web-based resource includes multimedia video lectures, review notes, interactive animations, and sample exercises.

Chemistry

The focus in this subdomain is on chemical structure, chemical reactions, stoichiometry, solutions, rates, and energy changes.

Chemistry Theories and Concepts (BQC1)

Proctored, computer-based assessment

Chemistry Lab (BQT1)

Performance assessment

Sample Learning Resources:

Zumdahl, S. & Zumdahl, S. (2007). *Chemistry* (7th ed.). Boston: Houghton Mifflin Company. ISBN-13: 9780618528448.

Chemistry Lab provided by Latenitelabs. Chemistry Lab is a simulation program that encourages learning by allowing you to model and experiment with virtual chemicals.

Labpaq: Science Methods. These self-contained laboratory kits include the lab manual, science equipment, specimens, supplies, and chemicals necessary to complete college laboratory experiments at home. The experiments reinforce science content and teach laboratory techniques.

Thinkwell Chemistry. This web-based resource includes multimedia video lectures, review notes, interactive animations, and sample exercises.

Advanced Chemistry Content Domain

This domain covers Organic Chemistry I, Physical Chemistry, Inorganic Chemistry, Biochemistry, Applied Geochemistry, and Organic Chemistry II.

Organic Chemistry

This subdomain covers the following topics: organic compounds, chemical bonds, organic reactions, stereochemistry, functional groups, and lab techniques.

Organic Chemistry (AIT1)

Performance assessment

Sample Learning Resources:

Brown, W., & Poon, T. (2005). *Introduction to organic chemistry* (3rd ed.). Holbrook, NJ: Willey.

Virtual Chemistry: Inquiry-based lab simulation environment allows students and teachers to perform key chemistry labs accurately and efficiently, without costly equipment and cleanup. It stresses proper procedures and safety.

Labpaq: Chemistry. This self-contained laboratory kit includes the lab manual, science equipment, specimens, supplies, and chemicals necessary to complete college laboratory experiments at home. The experiments reinforce science content and teach laboratory techniques.

Physical Chemistry

This subdomain covers the following topics: thermodynamics, equilibrium, real gases, phase diagrams, solutions, electrochemistry, and chemical kinetics.

Physical Chemistry (BVT1)

Performance assessment

Sample Learning Resources:

Olmsted, J., & Williams, G. M. (2006). *Chemistry* (4th ed.). Hoboken, NJ: Wiley.

Virtual Chemistry: Inquiry-based lab simulation environment allows students and teachers to perform key chemistry labs accurately and efficiently, without costly equipment and cleanup. It stresses proper procedures and safety.

Labpaq: Chemistry. This self-contained laboratory kit includes the lab manual, science equipment, specimens, supplies, and chemicals necessary to complete college

laboratory experiments at home. The experiments reinforce science content and teach laboratory techniques.

Inorganic Chemistry

This subdomain covers the following topics: atomic structure, periodic trends, bonding models, complex ions and coordination compounds, solid state, and material chemistry.

Inorganic Chemistry (BWT1)

Performance assessment

Sample Learning Resources:

Olmsted, J., & Williams, G. M. (2006). *Chemistry* (4th ed.). Hoboken, NJ: Wiley.

Labpaq: Chemistry. This self-contained laboratory kit includes the lab manual, science equipment, specimens, supplies, and chemicals necessary to complete college laboratory experiments at home. The experiments reinforce science content and teach laboratory techniques.

Biochemistry

This subdomain covers the following topics: DNA and RNA, protein structure, protein function, enzymology and catalytic mechanism, carbohydrate metabolism, and ATP.

Biochemistry (GRT1)

Performance assessment

Sample Learning Resources:

Olmsted, J., & Williams, G. M. (2006). *Chemistry* (4th ed.). Hoboken, NJ: Wiley.

Labpaq: Chemistry. This self-contained laboratory kit includes the lab manual, science equipment, specimens, supplies, and chemicals necessary to complete college laboratory experiments at home. The experiments reinforce science content and teach laboratory techniques.

Geochemistry

This subdomain covers the following topics: organic contaminants in ground water, geochemistry of the atmosphere and atmospheric precipitation, global carbon cycle and climate change, heavy metal contamination of the environment, freshwater lake geochemistry, and nuclear energy.

Geochemistry (GST1)

Performance assessment

Sample Learning Resources:

Olmsted, J., & Williams, G. M. (2006). *Chemistry* (4th ed.). Hoboken, NJ: Wiley.

Labpaq: Chemistry. This self-contained laboratory kit includes the lab manual, science equipment, specimens, supplies, and chemicals necessary to complete college laboratory experiments at home. The experiments reinforce science content and teach laboratory techniques.

Comprehensive Exam

This assessment measures student knowledge in several subdomains, including organic chemistry, physical chemistry, inorganic chemistry, and biochemistry. There is an emphasis on organic chemistry.

Organic and Integrated Chemistry (AIC1)

Proctored, computer-based comprehensive objective exam

Foundations of Teaching Domain

The Foundations of Teaching domain contains competencies underlying our knowledge about children, learning, and teaching. As you begin to work in the Foundations of Teaching domain, your mentor will assess your readiness to begin state-required content knowledge testing needed for certification. Your mentor will also assist you in beginning the process of application and acceptance into the two different components of WGU field experiences: the pre-clinical experiences (PCE) and demonstration teaching (DT). Video-based pre-clinical field experiences are embedded in the performance assessments of the Foundations of Teaching domain and require observation, analysis, and reflection based on real classroom situations (in-class PCE will take place in a school near you when you start work on the Effective Teaching Practices domain).

You may **not** transfer credits or prior years of teaching experience from other institutions to meet requirements of the Foundations of Teaching domain. In the first six months of working in the Foundation of Teaching domain, you must also register for and pass a Basic Skills Test. Many states require such a test for licensure, and you will need to take the one applicable to your state. For states with no specific Basic Skills Test, you will sign up for and take the Praxis 1 exam. More information about the Basic Skills requirement is available from your mentor and in the student handbook/knowledge base at www.wgu.edu/sh.

Schools and Society

Focuses on fundamental knowledge about the field of education, including education; teaching standards; legal rights and responsibilities; and the history and organization of education.

Schools & Society (FST4)

Performance assessment

Sample Learning Resources:

Foundations of Teaching: Schools and Society Learning Community and Course of Study which includes the following textbook:

Kauchak, D., & Eggen, P. (2008). *Introduction to teaching: Becoming a professional* (3rd ed.). Upper Saddle River, NJ: Pearson.

Human Development and Learning

Content relates to various dimensions of child development (e.g., cognitive, social, emotional, physical, cultural); learning theory and conditions of learning; influences on learning; and the impact of various developmental influences on instruction.

Human Development and Learning (FHT4)

Performance assessment

Sample Learning Resources:

WGU Guide to Human Development and Learning includes the following textbooks:

Slavin, R. (2009). *Educational psychology: Theory and practice* (9th ed.). Englewood Cliffs, NJ: Allyn & Bacon.

Garguilo, R. (2006). *Special education in contemporary society: An introduction to exceptionality* (2nd ed.). Thousand Oaks, CA: SAGE Publications.

Diversity and Inclusion

Content deals with exceptionalities, legal rights of students with disabilities, inclusion tactics, multiculturalism, bilingual education, and at-risk factors.

Diversity and Inclusion (FDT4)

Performance assessment.

Sample Learning Resources:

Foundations of Teaching: Diversity and Inclusion Learning Community and Course of Study which includes the following textbooks:

Garguilo, R. (2006). *Special education in contemporary society: An introduction to exceptionality* (2nd ed.). Thousand Oaks, CA: SAGE Publications.

Gollnick, D., & Chinn, P. (2009). *Multicultural education in a pluralistic society* (8th ed.). Upper Saddle River, NJ: Prentice Hall.

Gunning, T. (2008). *Creating literacy instruction for all students* (6th ed.).

Testing

Content addresses evaluating, selecting, developing, and administering assessments; analyzing, diagnosing, and reporting assessment results; and using results to plan and improve instruction.

Testing (FTT4)

Performance assessment

Sample Learning Resources:

Canter and Associates: Designing Assessment to Promote Learning

Foundations of Teaching: Testing Learning Community and Course of Study which includes the following textbooks:

Linn, R., & Miller, M. (2009). *Measurement and assessment in teaching*. (10th ed.). Upper Saddle River, NJ: Prentice Hall.

Slavin, R. (2009). *Educational psychology: Theory and practice*. (9th ed.). Englewood Cliffs, NJ: Allyn & Bacon.

Classroom Management

Content includes competencies related to establishing and managing a classroom environment (e.g., organization of physical space, organization of time, behavior/academic expectations, social environment, culture for learning) and managing behavior (e.g., principles for changing behavior, establishment/management systems for classroom behavior management, systems for individual behavior change).

Classroom Management (FCT4)

Performance Assessment.

Sample Learning Resources:

Canter and Associates: Classroom Management for New Teachers/Motivating Today's Learner.

Foundations of Teaching: Classroom Management Learning Community and Course of Study which includes the following textbooks:

Borich, G. (2007). *Effective teaching methods* (6th ed.).

Evertson, C., Emmer, E., & Worsham, M. (2009). *Classroom management for elementary teachers* (8th ed.). Englewood Cliffs, NJ: Prentice Hall.

Jones, V., & Jones, L. (2004). *Comprehensive classroom management: Creating communities of support and solving problems* (7th ed.). Boston, MA: Allyn & Bacon.

Slavin, R. (2009). *Educational psychology: Theory and practice* (9th ed.). Englewood Cliffs, NJ: Allyn & Bacon.

Comprehensive Exam

The FTC4 is a comprehensive exam assessing the student's knowledge of the subdomains listed above. The student may participate in a comprehensive review session with a mentor and peers to prepare for the assessment.

Foundations of Teaching (FTC4)

Proctored, computer-based comprehensive objective exam.

Effective Teaching Practices Domain

The Effective Teaching Practices domain deals with knowledge and skills related to how to teach. All competencies in this domain are derived from research. While you are engaged in the learning opportunities of Effective Teaching Practices, you will also participate in pre-clinical experiences (PCE) that now go beyond the FOT video cases to actual teaching experiences in real classroom situations. You will apply for, and be given approval, by the Field Experiences Office to do your pre-clinical experiences in a school. PCE takes place prior to your actual demonstration teaching (DT) (student teaching) and will require you to spend time in a school completing various required tasks. While you are completing your Effective Teaching Practices domain, you will be assigned a placement specialist who will work to place you in an appropriate classroom for your demonstration teaching as you approach that point.

As you continue your work in this domain, you must pay careful attention to the cohort requirements and deadlines pertaining to your specified demonstration teaching entry date.

Your final acceptance into your desired DT cohort will be approved only when you have met all the requirements. Your mentor and the Field Experiences Office will help you through this process. An additional fee is required prior to beginning demonstration teaching (the fee, except for the DT application fee, can be covered through the use of financial aid proceeds). This fee covers the cost of in-classroom clinical supervision. You may not transfer credits or prior years of teaching experience from other institutions to meet requirements of the Effective Teaching Practices domain.

Instructional Strategies and Approaches

Content refers to curriculum design and evaluation; lesson planning and materials development; and adapting instruction, accommodating diverse learners, and using technology to facilitate learning. Additional content deals with empirically based methods of teaching, both general case (e.g., learning strategies) and content specific (e.g., reading methods).

Instructional Planning and Strategies (EIT4)

Performance assessment

Sample Learning Resources:

Canter and Associates: Designing, Curriculum, Instruction, and Assessment

ASCD

- Differentiating Instruction
- Strategies for Literacy and Learning

ETP: Instructional Planning and Strategies, Learning Community, and Course of Study, which includes the following textbooks:

Borich, G. D. (2007). *Effective teaching methods: Research-based practice*. Upper Saddle River, NJ: Pearson.

Gunning, T. G. (2010). *Creating literacy instruction for all students* (7th ed.) Boston, MA: Allyn & Bacon.

Linn, R. L., Miller, M. D., & Gronlund, N. E. (2009). *Measurement and assessment in teaching* (10th ed.). Upper Saddle River, NJ: Pearson.

Slavin, R. E. (2009). *Educational psychology: Theory and practice* (9th ed.). Boston, MA: Pearson/Merrill.

Smaldino, S. E., Lowther, D. L., & Russell, J. D. (2008). *Instructional technology and media for learning* (9th ed.). Upper Saddle River, NJ: Pearson.

Instructional Presentation and Follow-Up

Content relates explicitly to teaching skills and information to children.

Instructional Presentation and Follow-Up (ETT4)

Performance assessment

Sample Learning Resources:

Canter and Associates: Designing, Curriculum, Instruction, and Assessment

ASCD

- Differentiating Instruction

- Strategies for Literacy and Learning

ETP: Instructional Planning and Strategies, Message Board, and Course of Study, which includes the following textbooks:

Borich, G. D. (2007). *Effective teaching methods: Research-based practice* (6th ed.). Upper Saddle River, NJ: Pearson.

Gunning, T. G. (2010). *Creating literacy instruction for all students* (7th ed.) Boston, MA: Allyn & Bacon.

Linn, R. L., Miller, M.D., & Gronlund, N.E. (2009). *Measurement and assessment in teaching* (10th ed.). Upper Saddle River, NJ: Pearson.

Slavin, R. E. (2009). *Educational psychology: Theory and practice* (9th ed.). Boston, MA: Pearson/Merrill.

Smaldino, S. E., Lowther, D. L., & Russell, J. D. (2008). *Instructional technology and media for learning* (9th ed.). Upper Saddle River, NJ: Pearson.

Comprehensive Exam

The comprehensive exam will assess the student's knowledge of the subdomains listed above. The student may participate in a comprehensive review session with a mentor and peers to prepare for the assessment.

Instructional Planning, Strategies and Presentation Integration (EIO4)

Proctored, computer-based comprehensive objective exam

Specific Teaching Practices (Science)

Content focuses on the knowledge and skills necessary to provide safe, effective, research-based instruction in science.

Specific Teaching Practices: Science (DET1)

Performance assessment

Specific Teaching Practices: Science Pedagogy (DEC1)

Proctored, computer-based objective exam

Sample Learning Resources:

CourseCompass: MyLabSchool. This learning resource includes video clips used for Pre-Clinical Experiences. Students view the video clips as directed and submit reflections.

Gallagher, J. J. (2007). *Teaching science for understanding: A practical guide for middle and high school teachers*. Columbus, Ohio: Pearson. ISBN-13: 9780131144255.

King, K. P. (2007). *Integrating the national science education standards into classroom practice*. Columbus, Ohio: Pearson. ISBN-13: 9780131173453.

Moyer, R. H., Hackett, J. K., & Everett, S. A. (2007). *Teaching science as investigations: Modeling inquiry through learning cycle lessons*. Columbus, Ohio: Pearson. ISBN-13: 9780132186278.

Pearson: Teaching Science Grades 5–12. This resource includes a CD that is shipped via UPS and includes the following online text:

Chaipetta, E., Koballa, & Thomas, R. (2002). *Science instruction in the middle and secondary schools* (5th ed.).

Demonstration Teaching Domain

The Demonstration Teaching Domain deals with the competencies a prospective teacher must demonstrate when teaching. Before you begin Demonstration Teaching, you must complete a number of requirements. These include a background check, standardized content examinations, and a dispositions inventory. Also, you must have completed all the above academic requirements before beginning Demonstration Teaching.

Demonstration Teaching is a full-time, in-classroom supervised experience required of all teacher candidates. The Demonstration Teaching phase of a teacher candidate's program includes a series of classroom performance observations designed to gather data about your actual performance skills. A WGU clinical supervisor (an experienced educator who lives and works near your teaching location) will observe you on multiple occasions—at least six observations are required—and evaluate you in accordance with published checklists and observation rubrics. In addition, where authorized, principals may provide one or more independent observations of WGU candidates. The clinical supervisors submit the results to WGU for review and recording. During your time in Demonstration Teaching, you will participate in a weekly cohort session via conference call. Your cohort is led by a facilitator and is comprised of a group of students teaching at about the same grade level. Your cohort facilitator will guide and support you through the Demonstration Teaching processes. For questions specifically related to placement for Demonstration Teaching, please contact the Demonstration Teaching Team at wgudt@wgu.edu. You will be required to complete the following assessments:

Cohort Seminar (DUT1)

Addresses information about schools (e.g., finance, law), professional behavior, and other common job-related expectations (committee work, reporting, etc.)

Supervised Teaching Practicum (DUA1, DUA3, DUA5, DUA7)

Includes a series of classroom performance observations gathered across time that serve as comprehensive performance data about the teacher candidate's skills

Professional Portfolio (DVT1)

The professional portfolio is a written document containing a comprehensive Teacher Work Sample. It provides direct evidence of the teacher candidate's ability to design and implement a multiweek, standards-based unit of instruction; assess student learning; and then reflect on the learning process. The WGU Teacher Work Sample requires teacher candidates to plan and teach a multiweek, standards-based instructional unit consisting of seven components: (1) contextual factors, (2) learning goals, (3) assessment, (4) design for instruction, (5) instructional decision making, (6) analysis of student learning, and (7) self-evaluation and reflection.

California Teacher Candidates

Effective July 1, 2008, teacher candidates matriculating in a WGU teacher licensure program and seeking licensure in California will be required to pass the California Teacher Performance Assessment (TPA). This assessment consists of four performance tasks that will ask you to plan and give instruction for elementary or secondary classes; you will also be asked to develop and administer assessment plans. In addition, WGU candidates will demonstrate how to adapt instruction and assessments to accommodate the needs of English language learners and students who are instructionally challenged. WGU will facilitate the completion of this credentialing requirement concurrent with the teacher candidate's completion of program assessments in the Effective Teaching Practices and Demonstration Teaching domains. California students will receive guidance and support on the TPA from participation in the CATPA Learning Community during their program.

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, 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.

Need More Information? WGU Student Services

You may also contact the Student Services office by e-mail at studentservices@wgu.edu or by phone at 1-866-903-0110, **Monday through Friday from 6:00am to 8:00pm, MT, and Saturday from 9:00am to 1:00pm, MT**, for general student questions or concerns. Contact the service desk for technical support issues by accessing the "HELP" tab at <http://my.wgu.edu> or by phone at 1-877-HELP-WGU (801-435-7948). **The WGU IT Service Desk is open Monday through Friday from 6:00am to midnight, MT, and Saturday and Sunday from 10:00am to 7:00pm, MT.** You can visit the student portal at <http://my.wgu.edu> for the most current information regarding WGU support services and contact information for individual WGU staff.