This course supports the assessment for the MA, Science Education (5-12 Chemistry) Teacher Work Sample project. The course represents 6 competency units.

Introduction

The Teacher Work Sample (TWS) serves as the culminating project in your degree program. It is a formal, scholarly piece of work. You are required to design and deliver a 2-week-long (approximately 10 seat hours), original, standards-based curriculum unit in your subject matter area. Your unit of instruction will be taught to a single classroom. You will conduct pretesting, formative assessments, and a posttest. You are required to analyze the data gathered from the assessment and present conclusions concerning the effectiveness of the instructional unit. The TWS allows students to demonstrate the integration of the major degree competencies.

This course supports one performance assessment consisting of the TWS.

Competencies

This course provides guidance to help you demonstrate the following competencies:

- **Competency 657.1.1: Contextual Factors**
  The graduate evaluates the teaching context to accommodate student differences to plan for instruction and assessment.

- **Competency 657.1.2: Learning Environments**
  The graduate plans learning environments that support individual learning, collaboration, and positive social interaction.

- **Competency 657.1.3: Planning for Instruction and Assessment**
  The graduate plans comprehensive learning segments of instruction and assessment that align with standards and the needs of students.

- **Competency 657.1.4: Instructing and Engaging Students**
  The graduate applies instructional strategies that promote learning, engage students, and provide differentiated instruction.

- **Competency 657.1.5: Developing Academic Language**
  The graduate integrates strategies to develop academic language that facilitates effective student participation and engagement in learning.

- **Competency 657.1.6: Assessing Student Learning**
  The graduate utilizes assessment data to profile student learning, communicate information about student progress and achievement, and guide and modify instruction.

- **Competency 657.1.7: Reflection**
  The graduate evaluates teaching experiences including the planning and implementing of curriculum and instruction through ongoing reflection.

- **Competency 658.1.2: Ethical Responsibilities and Teaching Dispositions**
  The graduate demonstrates ethical responsibilities and appropriate teaching dispositions, including those outlined in the Western Governors University Teachers College Code of Ethics.
Competency 658.1.5: Academic Language
The graduate recommends strategies that support the development of academic language for all students.

Competency 658.1.6: Differentiated Instruction
The graduate recommends various strategies to differentiate instruction to meet the diverse needs of individual students.

Competency 658.1.9: Professional Growth
The graduate develops appropriate plans for professional growth in subject matter knowledge and pedagogical skills, including habits and skills of continual inquiry and learning.

Competency 658.1.10: Reflection
The graduate recommends improvements for instruction and professional practice through personal reflection.

Competency 981.1.1: Capstone
The graduate integrates and synthesizes competencies from across the degree program and thereby demonstrates the ability to participate in and contribute value to the chosen professional field.

Teaching Dispositions Statement
Please review the Statement of Teaching Dispositions.

Preparing for TWS Success
All of the TWS tasks have been included in this course. It is important that you take the time to read through this course in its entirety, noting all of the necessary goals, objectives, assessments, data, teaching experiences, and student work samples that you will have to create and/or collect in order to complete this project.

Note: TWS tasks are incremental and sequential. All tasks must be submitted in order, one at a time. Only after a task is evaluated and passed can the next task in the sequence be submitted.

Multiple tasks submitted at the same time or out of sequence will be returned to the student and may result in evaluation delays.

Course Instructor Assistance
As you prepare to successfully demonstrate competency in this subject, remember that course instructors stand ready to help you reach your educational goals. As subject matter experts, mentors enjoy and take pride in helping students become reflective learners, problem solvers, and critical thinkers. Course instructors are excited to hear from you and eager to work with you.

Successful students report that working with a course instructor is the key to their success. Course instructors are able to share tips on approaches, tools, and skills that can help you apply the content you're studying. They also provide guidance in assessment preparation strategies and troubleshoot areas of deficiency. Even if things don't work out on your first try, course instructors act as a support system to guide you through the revision process. You should expect to work with course instructors for the duration of your coursework, so you are welcome to contact them as soon as you begin. Course instructors are fully committed to your success!
Field Placement Requirements
Prior to beginning any in-school activities for this course, you are required to complete your field experience application. The two-week unit is considered a practicum activity, which necessitates approval obtained through this application process.

Candidates enrolled in degree programs with the designation of (5-12), must design and deliver their instructional unit in a high school level classroom, grades 9-12, which is specific to their degree area (i.e. math, biology, chemistry, physics, or earth and space science). Those in degree programs with the designation of (5-9), must design and deliver their unit in a middle or junior high school setting, which is specific to their degree area (i.e. math or science).

Open your Degree Plan and click on the "Field Experience" button at the top to access your application. You will see your field experience requirements listed. Instructions are provided on the page, and you may also work with your program mentor if you have any questions related to your application process. All requirements must be completed so that you may be approved prior to beginning any in-school activities for this course or submitting any tasks.

Teacher Work Sample (TWS)
You will now begin to build your TWS by surveying the learning environment to discuss any important contextual factors that affect your teaching and the students' learning.

CLASSROOM CONTEXT: Task 1
Consider the contextual factors that make your classroom unique. You may have a multitude of community, district, and school factors that influence the teaching/learning process in your classroom. When you decide on a specific contextual factor, you need to clearly discuss the connection between this contextual factor and the teaching/learning process within your classroom.

It is important for classroom teachers to realize how contextual factors affect planning, instruction, and assessment. Characteristics of the teaching environment (e.g., geographic, socioeconomic, political, ethnic/racial) as well as individual student characteristics can influence the effectiveness of instruction and impact student learning.

• Describe general information, including the course name, age of students, and number of students in the class, and class length and schedule (e.g., 50 minutes per day, five days a week).
• Discuss the impact that one contextual factor has had on teaching and learning for each of the following areas:
  • community
  • district
  • school
• Describe how the availability of technology equipment and resources may impact teaching and learning.
• Explain how two specific learning needs (e.g., students with exceptional learning needs, English Language Learners, students with physical challenges, students with behavioral challenges, accelerated students, students with IEPs) of students in your classroom may influence the design of instruction and assessment of learning.
• For support with describing contextual factors, refer to the Course Search section on the right hand side of the course or contact the course instructor.

Follow the task instructions and submit Task 1.

Unit Plan: Task 2

To become a competent and independent teacher, you must be able to realistically plan instruction and assessment. You must also be able to determine clear and appropriate goals for student learning, use developmentally appropriate teaching methods, collect solid background information pertaining to your students, plan instruction, and make adaptations to instruction and materials based on your students' needs. This must be implemented in an effective manner to reach the designated learning goals and objectives.

Reflect back on what you have previously learned about assessment. The effective assessment plan contains different types of assessments. Such a plan allows you to monitor student learning and provides feedback on your teaching strategies.

Create a two-week, science-based unit plan for your classroom by doing the following:

1. Identify the course name, grade level, and topic for the unit.
2. Identify the state and national standards the unit will align with.
3. List three learning goals that describe the key concepts and skills related to the unit.
4. Include at least one of your measurable learning objectives (condition, behavior, and criterion) for each learning goal provided in part A2

Lesson objectives are the specific and measurable requirements of exactly what is expected of students during the lesson. Include at least one objective for each goal. For additional information on how to write objectives which include conditions, behavior, and criterion, please refer to the website linked below.

• Setting Targets and Writing Objectives

Describe (suggested length of 1-2 pages) the formative, summative, and pre-assessments, both formal and informal (e.g., observations, projects, quizzes, exams), you will use in your two-week unit.

1. Submit blank copies of your pre- and post-assessment instruments.
2. Explain how the pre-assessment you will administer is a valid measure of each learning goal in your unit.
3. Explain how the summative assessment you will administer is a valid measure of the following:
1. each learning goal in your unit
2. the development of students' understanding of scientific knowledge
3. whether students can distinguish science from nonscience
4. students' understanding of the evolution and practice of science as a human endeavor
5. students' ability to critically analyze assertions made in the name of science

If you need help with starting this task, please view the following video which provides an example and explanation of the task requirements.

- Task 2 Instructional Video Recording

Follow the instructions and submit Task 2.

Once your unit is complete, you will need to teach it to your class. Be sure to reflect upon what is happening on a daily basis during your unit. It is a good idea to take daily notes so that you have a record of what worked and what did not. Then you will be able to recommend changes to the unit based on the data you collect.

**Lesson Plans: Task 3**

Active student engagement in learning is an important goal. As a teacher, it is imperative that you demonstrate a variety of techniques and instructional strategies to teach subject matter that engages students. Evidence of student interests, support for individual learning and collaboration, and positive social interaction should be found in the classroom daily. An effective teacher utilizes knowledge of content, planning, academic language, assessment, and social interaction to entice students to become active in the educational process.

Lesson plans contain the specific information to accomplish learning goals and objectives. The lesson plans you create need to detail the instructional strategies you will employ. The lessons must incorporate instructional strategies which meet particular requirements. Read the task directions for a list of lesson plan requirements and be prepared to describe how your lessons meet these requirements.

It is critical that you align your curriculum to the standards. You need to demonstrate your ability to develop lesson plans that deliver effective instructions and incorporate assessments that would verify the effectiveness of those instructions.

Submit three standards-based lesson plans from your two-week unit plan. *Each* lesson plan should include the following:

(Note: *The lesson plans should highlight the use of academic language, technology, use of content discussions and/or questioning strategies, and differentiated instruction.*)

- identification of general information (i.e., topic, grade, level setting, and where the lesson fits in the unit plan)
- identification of standards and measurable objectives (condition, behavior, and criterion)
• instructional materials (e.g., class handouts) for students and teacher
• description of technology to be used by students and teacher
• prerequisite skills, connections to previous learning, and common misconceptions
• description of instructional activities (presentation of new information, guided practice, independent practice, time allotment for each activity) in enough detail that another teacher could follow them
• description of formative assessments used to monitor student learning
• description of sense-making and/or wrap-up opportunities

Note: You may create new lesson plans or adapt or utilize existing ones. The lesson plans should all fit within the focus of the unit, but they do not need to be consecutive lessons. Each of the three lesson plans you submit must include the presentation of new material rather than a review of material or the administration of an assessment. You may use the attached “5E Science Lesson Plan Template” or any other lesson plan template of your choosing that supports the instructional sequence of the lesson and includes the given points. If you do not use the attached WGU lesson plan template, you must add any missing components and label them clearly.

Discuss the instructional strategies used in your three lesson plans by doing the following:

1. Describe how one lesson was designed to accommodate specific learning needs.
2. Describe how one lesson was designed to integrate technology to build understanding, including an explanation of the SAMR level at which the technology fits.
3. Describe how one lesson was designed to use science discourse and/or questioning strategies to engage students.
4. Describe how one lesson was designed to allow students to collect and interpret data to develop explanations.
5. Describe how one lesson was designed to address a common misconception.
6. Describe how one lesson was designed to address possible safety concerns.

The task requires specific items to be included in the lesson plans. Use the Lesson Plan Template attached to the task directions in the assessment. Be sure to include all required information.

Follow the instructions and submit Task 3.

Self-Reflection: Task 4

Teachers are faced with choices on a daily basis. Some choices are routine; others are more complex. Effective teachers know when to make decisions quickly and when to take the time to reflect and think more carefully about the available options and potential consequences. Reflection is key to learning to evaluate the learning environment, understand individual students, plan for effective instruction, and assess appropriately and fairly to achieve success in the classroom. Self-reflection is an effective tool to help teachers deal with the uncertainties found in today’s modern classroom.

After teaching the lessons, reflect on the instructional decisions you made and how these decisions affected these lessons and your students.
Discuss (suggested length of 1-2 pages) the strategies you used during instruction by doing the following:

1. Describe one specific example of a technique you used to engage all students in learning.
2. Describe one specific example of a technique you used to promote a positive environment.
3. Describe one specific example of how you provided an opportunity for students to reflect on their learning.
4. Describe one specific example of how you promoted the use of academic language in instruction.
5. Describe one specific example of how you promoted scientific thinking.

Follow the instructions and submit Task 4.

**Assessment of Learning: Task 5**

How will you evaluate your performance in the delivery of your multi-week unit? Which learning goals were students most or least successful with? Your ability to reflect on unit successes is an important skill for educators and a component of the TWS and portfolio presentation.

Assessment of student learning is a critical component of the teaching and learning process. Providing evidence of student achievement is important to a variety of stakeholders, including the teacher, the student, the parents, the administration, the district, and the state. Assessment is needed to demonstrate improvement, show accountability, and provide feedback to students on their knowledge and skills. Reflection on the outcomes of assessments before, during, and after instruction is crucial for all students, including students with diverse learning needs.

Create a graphic representation (e.g., table, graph, chart) to show student performance results on the pre- and post-assessments for each learning goal in your unit.

Analyze your assessment data from Part A to determine student progress toward the defined learning goals from Task 2 by doing the following (suggested length of 2-3 pages):

1. Discuss the learning goal with which your students were most successful, including two plausible reasons for this success, addressing your goals instruction, and assessment.
2. Discuss the learning goal with which your students were least successful, including two plausible reasons for this lack of success, addressing your goals, instruction, and assessment.
   1. Discuss possible modifications you could make if you were to teach this unit again. (i.e., What specifically could you modify to increase student performance in this particular learning goal?)
3. Explain how your assessment data show a growth in students' understanding of scientific knowledge.

Explain how your assessment data from Part A is a valid measure that students can do the following:
1. Distinguish science from nonscience

2. Understand the evolution and practice of science as a human endeavor

3. Critically analyze assertions made in the name of science

Explain how your assessment results demonstrate that students engaged in developmentally appropriate inquiries that required them to develop concepts and relationships in a scientific manner from their observations, data, and inferences.

Describe the next steps of instruction you would take after teaching this unit, based on the results of the summative assessment.

For this task, you will reflect on your performance as a teacher and how you affected student learning.

Follow the instructions and submit Task 5.

**Professional Portfolio: Task 6**

You have learned about becoming a reflective practitioner, adhering to ethical standards, practicing inclusion in a diverse classroom, exploring community resources, building collegial and collaborative relationships with teachers, and building leadership and supervisory skills.

One of the final assessments to be completed is creating an online teaching portfolio. A portfolio is a collection of materials you select or create in order to summarize to your colleagues and potential employers your experiences, growth, and strengths as a teacher.

Create a professional portfolio by following the [OneNote E-Portfolio Instructions](#).

Include a concise philosophy of teaching essay (suggested length of no longer than 2 pages).

*Note: You may update a previous version of your philosophy of teaching essay, but the updated version must meet the requirements listed below.*

1. Discuss why teaching is important to you.
2. Describe your beliefs as a professional educator about teaching and learning.
   1. Explain how your beliefs about teaching and learning are supported by theory and/or research.
3. Describe the desired outcomes (e.g., problem solving, determination, standards) you want to foster in your students.
   1. Describe the teaching methods (i.e., instructional strategies) you feel are important to achieve your desired outcomes.
   2. Describe the assessment strategies you feel are important to evaluate your desired outcomes.
4. Describe characteristics of a positive relationship with students, families, and colleagues.
1. Discuss how your decisions and actions impact this positive relationship with students, families, and colleagues.

**Resume**: Update your resume following these guidelines. Also, access the sample résumé provided for the format to be utilized as you create your updated resume. These sample professional profiles can assist you with wording you can use on your resume. Additionally, the WGU Career and Professional Development office is available to assist with your resume.

Create an individualized professional growth plan (suggested length of 1-3 pages) by doing the following:

1. Describe how you have developed as a teacher.
   1. Describe how professional development activities (e.g. research, community project, conference) specific to content and content pedagogy have contributed to your development.
   2. Describe a specific example of how collaborating with a colleague has improved your teaching.
   3. Describe a specific example of how utilizing resources (e.g., print, digital, virtual) from professional education organizations has improved your teaching.
2. Describe a specific goal for how you want to improve as a teacher.
   1. Discuss how you will accomplish the goal described in part D2.

Include four artifacts that you have created (e.g., lesson plans; assessments; projects you have completed for WGU, TWS, edTWS, or CalTWS material) that showcase your abilities in each of the following competencies:

- using and promoting academic language in the classroom
- differentiating instruction to meet the needs of students in the classroom
- incorporating technology into your instruction to enhance student learning
- applying engaging and effective instructional strategies

You have also developed a Teacher Work Sample for submission as part of your professional portfolio. Below is a link to a sample of an electronic portfolio:

**Professional Portfolio Example**

Follow the instructions and submit Task 6.