

Welcome to Science Education 492!

Learning Guide:

SCED 492: Middle School Practicum - The study and practice of effective science instruction; including planning, teaching and reflection of middle school science lessons with an authentic audience.

Most students who come into SCED 492 know they want to teach in the elementary grades. By the end of this course, many decided they are open to teaching middle school science! During this course, you will have the opportunity to reflect on, connect to and apply research, experience and knowledge from SCED 480 and 490 . We will analyze middle school science units, observe high quality science teaching, support students' development of ideas and eventually lead parts of lessons!

Credits: 3

Prerequisites: SCED 480 and SCED 490

Instructor:	<p>Whitney Morrison- pronouns she/her(s)</p> <p>Please call me Whitney.</p> <p>I welcome you to contact me outside of class hours. Come find me in my new office inside the Learning Resource Center of SMATE, SL 226.</p>	
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Meeting Spaces:	Zoom Office Hours: Set up a meeting with me using this link: https://calendly.com/morrisonmeeting/meeting-with-whitney-morrison Office Zoom: https://wwu-edu.zoom.us/my/wamorrisonmeetingroom	Weekly Meeting : TBD Zoom Meeting (in needed): https://wwu-edu.zoom.us/my/wamorrisonmeetingroom Links to an external site.
Communication:	Please do not use Canvas to communicate- Only email please Email: houckw@wwu.edu	

I am committed to setting up partnerships with teachers and classrooms in the Bellingham Public Schools and working with all of my preservice teachers to ensure a successful practicum. Flexibility; imperative in teaching and learning. In order to be flexible and responsive to the needs and interests of preservice teachers and our public school partnerships, this course agenda is subject to change. Changes, if any, will be announced in Canvas Announcements.

Meeting times/location:

You will be placed with an inspiring middle school teacher at [Fairhaven Middle School](#) and I am working on a [Bellingham Family Partnership Program](#) (homeschooling!) practicum opportunity so you can compare a mainstream middle school science classroom to an alternative public school setting! More to come!

Schedule: Here's a snapshot of our draft [schedule](#).

Schedule subject to change based on your feedback for practicum setup.

- Please let me know if a due date conflicts with any religious event you recognize. Here is a [multifaithcalendar](#).

- The schedule can be adapted based on your culture and beliefs.
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Course Goals & Objectives:

In this course, prospective teachers (you!) will:

- Examine your beliefs in relation to a vision of effective science teaching and learning
 - Preservice teachers will analyze how their experiences in middle school as a teacher and learner have shaped their attitudes toward, and interest in teaching middle school science
 - Preservice teachers will critically examine their conception of 'effective' science teaching and learning, informed by their experiences as both a learner and teacher of science
- Deepen your subject matter knowledge for teaching science
 - Preservice teachers will be able to articulate what students should learn in middle school science, identify big ideas or concepts, and build coherent conceptual storylines
- Develop an understanding of learners, learning, and issues of diversity and equity in science
 - Preservice teachers will unpack the implicit messages experienced in the educational setting that convey *who* can be a scientist and *how* science is learned
 - Preservice teachers will utilize developmentally appropriate and productive approaches to meet the diverse needs, interests, and abilities of students and create inclusive and equitable science classrooms
 - Preservice teachers will understand the role of place and importance of cultural relevance in science education
- Develop a beginning repertoire of strategies for science instruction and assessment
 - Preservice teachers will analyze curriculum that aligns with the Next Generation Science Standards and reflects principles of effective science teaching and learning

- Preservice teachers demonstrate appropriate design of assessment for formative and summative purposes
- Develop the tools and dispositions to study and learn from teaching
 - Preservice teachers will utilize feedback and reflection (from peers/instructors /cooperating teachers) to improve their teaching
 - Preservice teachers will apply different lenses (e.g., instructional frameworks, research) to analyze and learn from their science teaching and learning experiences

These course goals align with and build toward our SMATE Program Outcomes:

Students who graduate from our program can:

1. Demonstrate understanding of science and engineering as defined by three dimensions of science and engineering in the Next Generation Science Standards: disciplinary core ideas, scientific and engineering practices, and crosscutting concepts.
2. Demonstrate functional understanding of science that enables them to design science learning experiences that accurately convey what science is and how science works.
3. Demonstrate knowledge of and ability to apply research-based elements of effective instruction, including applying the Next Generation Science Standards to teach three-dimensionally.
4. Demonstrate functional understanding of culturally appropriate teaching strategies that enable students to design learning experiences that recognize and leverage the assets of diverse learners.
5. Demonstrate functional understanding of how systemic oppression and one's own identity impacts teaching and learning, that enables students to design science learning experiences that respond to multiple identities and disrupt oppressive ideologies, policies, and behaviors in the classroom.
6. Demonstrate understanding that one's own teaching ability will develop over time through experimentation and purposeful reflection in order to design STEM learning environments that continuously improve from implementation of new or revised activities.

Assignments:

This is a learning partnership. This course and these assignments can be improved when you include your life experience and expertise. Please share that with all of us!

Assignments are intended to help you meet specific objectives that align with the course goals listed above. Each assignment will be explained in detail with a rationale and evaluation criteria. Note that in addition to **graded assignments**, you will complete a number of **ungraded assignments** that will act as baseline assessments or that as 'works in progress' will not be counted towards your final grade. Weighting of individual assignments towards the final course grade are indicated.

- Weekly Module (50%)
- Practicum (20%)
- Initial and Final Reflection (20%)
- Attendance/Participation & Professionalism (10%)

Diversity in Science and course materials:

Science is a human endeavor, once perceived as an entirely objective pursuit, yet now acknowledged as subjective and historically rooted in the limited perspectives of a privileged few. The field of science includes multiple ways of knowing from every culture on this planet.

In the context of this course, it is crucial that the readings reflect the varied perspectives and contributions of scientists, educators, and, most importantly, you—the students. As a learner and aspiring educator, I invite you to collaborate with me in expanding the diversity of course materials. If you come across compelling articles, podcasts, children's books, or any other resources created by individuals who share aspects of your identity or belong to minoritized groups, please share them with me. Together, we can enrich our understanding and appreciation of the multifaceted tapestry of scientific knowledge.

Respect for Linguistic Diversity:

Language and communication impact and influence every area of our lives. And within a higher educational institution, we not only study and research various aspects of language and usage of language, we embody and enact language in multiple and diverse ways.

This class actively honors linguistic diversity, including accented language, which helps us become better listeners. How one speaks is a significant part of one's socio-cultural identity and psychological well-being. To that end, this class is a safe space for multiple

ways of speaking, including (but not limited to) multiple languages, any/all dialects of accented English (including African American Vernacular English, Spanglish, Pidgin, Creole, etc.), and deaf speech. Any expressed bias, prejudice, or discrimination toward others will not be tolerated in this space.

Grading Scheme:

Everyone can be successful in this course. While many of the assignments are graded complete/incomplete or not graded, you will get out of this class as much effort and reflection as you put into teaching preparation and assignments. Much of my feedback is formative in nature. You will receive much more oral feedback than written feedback.

Assignments will be graded, and course grades determined as follows:

Grade	A+	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F/Z
4-point	4.0	3.9	3.7	3.3	3	2.7	2.3	2	1.7	1.3	1	0.7	0
10-point	10	9.6	9.3	8.9	8.6	8.3	7.9	7.6	7.3	6.9	6.6	6.3	6.3>
100-point	100	96	93	89	86	83	79	76	73	69	66	63	63>

Note: A grade of C- or lower in this course will require you to re-take SCED 492. In addition, you will be asked to meet with your academic advisor for support and to develop an improvement plan.

Written assignments must model appropriate grammar, spelling, usage and punctuation. Proofread your papers as you would if you were developing a handout for students or parents.

If you struggle with written assignments, I can often accommodate with an oral/in person submission. Or, visit The Hacherl Writing Center on the second floor of Haggard Hall : <https://library.wvu.edu/rws>

Course Organization and Requirements:

- **Attendance/participation:** In order to maximize learning, we need you in class! Unless previously excused, your attendance is mandatory during our meetings and practicum. If you need to miss a meeting for any reason (personal, mental or physical health), please let me know ASAP via email.
 - **Late Work:** late work is accepted but will affect your Participation & Professionalism grade. Please try to stay on schedule with due dates. This will make my grading job more streamlined. For me to accept late submission or consider adjusting grades, you must:
 - ask for an accommodation before the due date
 - ask clarifying questions before the due date
 - provide evidence for why an error in grading has occurred by going through the revision history of the document to provide a screenshot at the time of submission, showing and justifying that you had all of the required components
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Texts and required materials:

- Readings and supplemental materials will be provided in this Canvas site or made available via the web or Western Libraries. No additional purchases needed.
 - [The LRC Stockroom](#) has much of your teaching and lesson planning needs! If you have a material that is needed for a lesson, it is very likely that we can provide it for you if given enough time to procure the materials.
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Physical and Mental Health (Student Services):

Your well-being is both important to me and essential for you to maintain in order to meet the demands of your future teaching career. Please communicate with me if there is

anything I can do to support your health this quarter. It's part of my core beliefs that students (of all ages) cannot access academics if their needs are not being met.

Western encourages students to seek assistance and support at the onset of an illness, difficulty, or crisis. As your instructor, I can be a first point of contact to help you find the campus-based resources you may need. Here are some of the resources WWU offers students:

- In the case of a **medical concern or question**, please contact the Health Center (360) 650-3400 or visit its website: <https://studenthealth.wvu.edu/>
- In the case of an **emotional or psychological concern or question**, please contact the Counseling Center: (360) 650-3400 or visit its website: <http://www.wvu.edu/counseling/>
- In the case of a **safety concern**, please contact the University Police: (360) 650-3555 or visit its website: <http://www.wvu.edu/ps/police/>
- In the case of a **family or personal crisis or emergency**, please contact the Office of Student Life (360) 650-3706 or its website: <https://wp.wvu.edu/officeofstudentlife/>
- In case of need for **academic support** of assignments/writing papers, please contact The Hacherl Writing Center on the second floor of Haggard Hall : <https://library.wvu.edu/rws> (Links to an external site.)
- In case of **illness including COVID**, please contact the Office of Student: <https://wp.wvu.edu/officeofstudentlife/>

Syllabus Policies:

This course will adhere to Western's [Syllabi Policies](#) for Academic Honesty, Accommodations, Ethical Conduct with WWU Network and Computing Resources, Equal Opportunity, Student Conduct Code, and Medical Excuse Policy.

Third-Party Software and FERPA: During this course you might have the opportunity to use public online services and/or software applications sometimes called third-party software such as a blog or wiki. While some of these are required assignments, you need not make any personally identifying information available on a public site. Do not post or provide any private information about yourself or your classmates. Where appropriate you may use a pseudonym or nickname (ensuring the facilitators know how to identify

you). Some written assignments posted publicly may require personal reflection/comments, but the assignments will not require you to disclose any personally identifiable/sensitive information. If you have any concerns about this, please contact your instructor. See [FERPA Toolkit](#).