Title of Course: ELED/BED/MSED 4311 CRN 14787  
Teaching Science  

Semester: Spring 2023  

Day/Time: This course is hybrid. We will meet in-person at the College of Education, Room 402 every other week on Thursdays @ 6:00-8:50 pm with the first in-person class scheduled for Thursday, 8/31/23. Please see calendar for more details. 

Credits: 3  

Instructor Information: 
Name: Erica Nash, M.ED  
Office: College of Education, Room 210M  
Office hours: Thursdays 11:30-2:30 pm (Room 210M or Zoom based in-person hybrid schedule) or by appointment. Please email me at enash3@utep.edu to set up a meeting. 

Course Description: In this course you will critically examine the theories, research, pedagogical approaches, and materials associated with effective learning and teaching in science classrooms, as well as your own assets and biases as they relate to your approach to science teaching. This course will focus on the knowledge and skills you need to design and implement a science learning environment that is equitable and culturally responsive; one in which all students have access to grade-level appropriate materials and experiences, are deeply engaged in relevant learning and held to high expectations for thinking and performance. (The Opportunity Myth, 2018; Learning First, 2018). You will learn to develop instructional strategies using the Texas Essential Knowledge and Skills (TEKS) for science utilizing instructional approaches such as the 5E Instructional Model. This course will also support your science content development with an emphasis on high-leverage science content to maximize learning for you and your students based on the identified needs of K-12 students. 

Course Format Information: This course will be conducted in a hybrid format. All coursework and resources will be in Blackboard and will run on a Monday to Sunday schedule. There will be 9 in-person classes that will meet almost every other week with the first class held in person on Thursday, 8/31/23. On alternating weeks that we will not meet in person or online, you will continue to work on and submit assignments according to the syllabus calendar on specific days/times. Our alternating schedule may vary to accommodate holidays and other calendar events. The standard recommendation across the board by American universities is to plan for approximately three hours of study time for every one credit hour taken. Therefore, for this course, you can expect each week to spend 3 hours of class time (on in-person days) + 9 hours of study and prep time, which equals approximately 12 hours per week devoted to this course. Please read the syllabus and information in the course site VERY carefully, understand what you need to do and when you need to do it, and then plan course work time in your week accordingly. If at any time you do not understand what to do or when to do it, you should contact Erica Nash (enash3@utep.edu).
For Technical Assistance: For technical problems with our online course site or related computer/Internet applications, please contact the UTEP Helpdesk: M - F: 7AM - 8PM, Sat: 9AM - 1PM, Sundays 11-4 PM. On campus phone: 915.747.5257. Off campus: 915.747.4357. If you are on campus, you may also visit the ATLAS lab located within the Undergraduate Learning Center (UGLC building) or the Technology Support Center in Room 300, Library. NOTE: Social distancing rules may apply. Please follow all recommended and required on-campus regulations.

Student Learning Outcomes:

TExES Standards

You will be practicing concepts from Standards I, II, and III on the Pedagogy and Professional Responsibilities Standards (PPR), the Science Comprehensive Standards III, IV, V and VII with particular emphasis on planning and designing instruction, instructional strategies, informal and formal assessment, and managing the classroom environment.

Pedagogy and Professional Responsibilities Standards (PPR)

Standard I: The teacher designs instruction appropriate for all students that reflects an understanding of relevant content and is based on continuous and appropriate assessment.

Standard II: The teacher creates a classroom environment of respect and rapport that fosters a positive climate for learning, equity, and excellence.

Standard III: The teacher promotes student learning by providing responsive instruction that makes use of effective communication techniques, instructional strategies that actively engage students in the learning process, and timely, high-quality feedback.

Standard IV: The teacher fulfills professional roles and responsibilities and adheres to legal and ethical requirements of the profession.

Science Comprehensive Standards

Standard I: The science teacher manages classroom, field, and laboratory activities to ensure the safety of all students and the ethical care and treatment of organisms and specimens.

Standard II: The science teacher understands the correct use of tools, materials, equipment, and technologies.

Standard III: The science teacher understands the process of scientific inquiry and its role in science instruction.

Standard IV: The science teacher has theoretical and practical knowledge about teaching science and about how students learn science.

Standard V: The science teacher knows the varied and appropriate assessments and assessment practices to monitor science learning.
**Standard VI:** The science teacher understands the history and nature of science.

**Standard VII:** The science teacher understands how science affects the daily lives of students and how science interacts with and influences personal and societal decisions.

<table>
<thead>
<tr>
<th>Learning Outcomes</th>
<th>Practice and Assessment of Learning Outcomes</th>
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</table>
| **Standard I:** The teacher designs instruction appropriate for all students that reflects an understanding of relevant content and is based on continuous and appropriate assessment. | 5E Lesson Plan  
5E Lesson Plan with Lab  
Lesson Commentary |
| **Standard II:** The teacher creates a classroom environment of respect and rapport that fosters a positive climate for learning, equity, and excellence. | 5E Lesson Plan  
5E Lesson Plan with Lab  
Lesson Commentary |
| **Standard III:** The teacher promotes student learning by providing responsive instruction that makes use of effective communication techniques, instructional strategies that actively engage students in the learning process, and timely, high-quality feedback. | 5E Lesson Plan  
5E Lesson Plan with Lab  
Science Activity/Video Analysis  
Lesson Commentary |

**Science Comprehensive Standards**

<table>
<thead>
<tr>
<th>Learning Outcomes</th>
<th>Practice and Assessment of Learning Outcomes</th>
</tr>
</thead>
</table>
| **Standard III:** The science teacher understands the process of scientific inquiry and its role in science instruction. | Quizzes  
5E Lesson Plan  
5E Lesson Plan with Lab  
Lesson Commentary |
| **Standard IV:** The science teacher has theoretical and practical knowledge about teaching science and about how students learn science. | Quizzes  
Science Activity/Video Analysis  
5E Lesson Plan  
5E Lesson Plan with Lab  
Lesson Commentary |
| **Standard V:** The science teacher knows the varied and appropriate assessments and assessment practices to monitor science learning. | Quizzes  
Science Activity/Video Analysis  
5E Lesson Plan  
5E Lesson Plan with Lab  
Lesson Commentary |
| **Standard VII:** The science teacher understands how science affects the daily lives of students and how science interacts with and influences personal and societal decisions | Standard Breakdown  
5E Lesson Plan  
5E Lesson Plan with Lab  
Science Teaching Philosophy |

There may be weekly embedded activities and assignments in addition to the major signature assignments listed above to support the acquisition, application and assessment of essential content and skills throughout the course. This coursework may or may not be included in the general syllabus. It is imperative that you maintain an active presence in Blackboard each week and attend all in-person class sessions so that you are aware of and are able to complete all necessary course requirements.
**Required Text & Readings**


**Additional Required Readings/Resources**
Texas Essential Knowledge and Skills (TEKS) [https://tea.texas.gov/curriculum/teks/](https://tea.texas.gov/curriculum/teks/)
Lead4ward [http://www.Lead4ward.com/resources](http://www.Lead4ward.com/resources)

**UTEP Learning Resources:**
UTEP provides a variety of student services and support, including the resources below:

**UTEP Library:** You can access a wide range of resources including online, full-text access to thousands of journals and eBooks plus reference service and librarian assistance for enrolled students.

**The University Writing Center (UWC):** Virtually everyone needs help with writing academic English. The UWC (Library Building, Rm. 227; phone: 915.747.5112) provides online consultations to all UTEP students at no cost. They also have walk-in services, if you are local. It is a terrific resource! If I suggest you attend the Writing Center, it’s because I think you will benefit from it. It’s not a punishment – it’s intended to help you. Check the website for more information: [http://uwc.utep.edu](http://uwc.utep.edu)

**Standards of Academic Integrity:** Students are expected to uphold the highest standards of academic integrity. Any form of scholastic dishonesty is an affront to the pursuit of knowledge and jeopardizes the quality of the degree awarded to all graduates of UTEP. Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes, but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are not attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts. Proven violations of the detailed regulations, as printed in the Handbook of Operating Procedures (HOP) and available in the Office of the Dean of Students, may result in sanctions ranging from disciplinary probation, to failing grades on the work in question, to failing grades in the course, to suspension or dismissal among others.

**Students with Disabilities Statement:** If you have or believe you have a disability, you may wish to self-identify. You can do so by providing documentation to the Center for Accommodations and Support Services (CASS) located in Union E Room 106. Students who have been designated as having a disability must reactivate their standing with CASS on a yearly basis. Failure to report to this office will place a student on the inactive list and nullify benefits received. If you have a condition which may affect your ability to exit safely from the premises in an emergency or which may cause an emergency during class, you are encouraged to discuss this in confidence with the instructor and/or the
director of CASS. You may call 915-747-5148 for general information about the Americans with Disabilities Act (ADA).

**COVID-19 Precautions:** Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms. If you are feeling unwell, please let me know as soon as possible, so that we can work on appropriate accommodations. If you have tested positive for COVID-19, you are encouraged to report your results to covidaction@utep.edu, so that the Dean of Students Office can provide you with support and help with communication with your professors. The Student Health Center is equipped to provide COVID-19 testing.

The Center for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of people. The best way that Miners can take care of Miners is to get the vaccine. If you still need the vaccine, it is widely available in the El Paso area, and will be available at no charge on campus during the first week of classes. For more information about the current rates, testing, and vaccinations, please visit epstrong.org.

**Guide to Online Etiquette:** As a member of the learning community of this class, the following is a list of specific expectations (Note that this list is not exhaustive and that it may be added to as needed throughout the semester):

- **You are expected to actively engage in the learning community of this class.**
  This includes: completing the coursework tasks as outlined in each week’s session, actively contributing to discussions, seeking guidance if you have questions (note that if you have a question, it is likely that everyone will benefit if you ask your question) and exhibiting professional courtesy during interactions with classmates/your instructor. Class participation includes, but is not limited to: engaging in in-class activities and writing, volunteering input in class discussions, answering questions, defending personal viewpoints, and presenting completed assignments to your classmates.

- **You are expected to exhibit appropriate behavior for a higher learning environment.**
  On the weeks when we will not meet face-to-face, logging on to our online course site is the equivalent of walking on to the UTEP campus. Therefore, the rules of conduct that apply on campus also apply in our course site. Our course site is a place to engage in social learning; it is meant to be a safe space for all. Our ideas and beliefs shape who we are, and will differ from our peers; sharing these within class allows us to learn different perspectives and points of view, but this can only happen successfully if everyone in our learning community is respectful of individual ideas. You are encouraged to participate in all activities to the fullest extent possible, with an open mind to new experiences. In particular, the following are general guidelines for online interactions:
  - All the information discussed between peers and/or with your instructor should be kept confidential, thus providing a safe atmosphere for creative expression, free of judgment.
  - You are encouraged to participate to the depth that you feel comfortable sharing with the class (Note: An electronic record will remain, so be thoughtful in how much personal information you share. The general rule is: share only that which you would be comfortable seeing printed in a newspaper/public Internet page.).
  - Do not use inappropriate language, all capital letters, or language shortcuts (i.e. texting shorthand). Online entries should reflect academic writing standards, with edited spelling, grammar, and punctuation.
• When reacting to someone else's message, whether in agreement or disagreement, please address the ideas, not the person. (Note: Harassing, flaming and/or inappropriate postings will not be tolerated.)

• Be sure to read everyone's responses before posting. Avoid repetition of what someone else has already said. Add something new to the discussion!

• Please refrain from posting yes/no or I agree/disagree answers (this will NOT earn you participation points). The point of our online interactions is to create a rich and meaningful sharing of ideas; therefore, posts should: justify positions, provide specific examples, and demonstrate that you have read the required readings and your classmates' comments carefully and thoughtfully.

You are expected to exhibit high-level time management skills and turn your work in ON TIME. Although there is no mandatory time that you must be online, the research shows that those with the best success in hybrid/online courses create a set schedule for coursework and stick to it (whether you do your work at 3am or 10am on whatever day does not matter, what matters is just that you allow a sufficient, set time each week of the semester to focus on coursework). Timely completion of all coursework is essential for this class to run smoothly (i.e. your classmates rely on you to do your readings early in the week and contribute to the discussion on time in order for them to be able to post feedback later in the week). Therefore, late work will NOT be accepted. All online assignments are due by the due date and time listed in the task directions (see each weekly session in our course site for specific details). Please ensure that you carefully read all instructions for each assignment, particularly the due dates and times, and then schedule the time you devote to this class accordingly.

Missing two weeks of in-person learning, online discussions and/or failure to turn in three consecutive assignments will result in your being dropped from the course. I will email you prior to dropping you from the course. If I do not receive a response within 2 days I will assume you are not interested in continuing in the course and will submit a course drop at that time.

Note: Exceptions may be made in the case of extreme emergency with supporting documentation. I will not accept ANY late coursework after one week from the originally scheduled due date during the semester or after the last scheduled coursework due date at the end of the semester. If you anticipate your assignment will be late due to unusual circumstances, please contact me and explain your situation prior to the due date of the assignment.

If BlackBoard is down and you cannot get into our course site to post work by the required due date: ALL coursework should be posted on our online course site. If you find that you are unable to log into Blackboard to access our course site at the time that you are trying to post your work by the due date, you must email me (through regular email enash3@utep.edu) IMMEDIATELY WITH AN ATTACHMENT OF YOUR WORK. Include your name and course name and number. (Ex: BED 4311, Jorge Perez) When you do this, I will know that you have completed the work in a timely manner and it will be accepted, even though it was not posted in our course site as is generally required. I will then check with the Technology staff at UTEP to determine when Blackboard was out. If you email me indicating that you did not post your coursework because Blackboard is down, but you do not send me your work as an attachment in the message, you will not receive credit for your work.

Your work is expected to be your own. Everything you turn in for this course must be your own work. Any student caught engaging in instances of cheating, plagiarism or any other form of academic
misconduct will be referred to the Dean of Students Office for disciplinary action. Students may be suspended or expelled from UTEP for such actions. It’s serious! Don’t do it.

You are expected to contact me for help if needed throughout the semester. I am available to meet during office hours on Thursdays 11:30 am - 2:30 pm (Room 210M or Zoom based in-person hybrid schedule) or by appointment. Please email me at enash3@utep.edu to set up a meeting. You can email me for a quick response or to set up a phone or Zoom meeting during this time. My email is enash3@utep.edu. Please include your first and last name and the title of the course you are taking with me in the subject of your message. (Ex: BED 4311, Jorge Perez) You can expect a response from me within 24-48 hours (usually sooner) for any email communication you send.

If at any time, you have difficulty understanding my expectations, the course material or completing course work for any reason—BE PROACTIVE!!! I am here for you (email, phone, office hours, Zoom). I strongly encourage you to reach out to me as soon as possible (do not wait until the day before something is due or the end of the semester) and we will work together to make this class a success for you!

### Evaluation & Coursework Requirements of Students

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Grading:

Individual grading rubrics are found in the assignments on Blackboard, which are located in our online course site. Rubrics are in themselves a way I provide feedback to students along with additional comments on major assignments. PLEASE read and respond to the feedback I provide when appropriate! If you are asked to make revisions…do it. If you have questions or need clarification about the feedback…ask!

Because your grades should reflect where you are in your understanding and skill related to learning, **grades given on drafts of any assignment submitted will be dropped at the end of the semester** and will not be reflected in your final grade for the course. Grades given on drafts (and all assignments) should serve as a **communication** between you and I about where you are in your learning based on the expectations as dictated by the rubric (which should come from the learning standards for your course). Final grades should only reflect your final understanding and skills, not the practicing
and learning that happened along the way. I hope this is something you consider when determining your own grading policies.

This course runs on a weekly schedule, Monday through Sunday beginning the week of 8/28/23. Detailed instructions for all of the coursework tasks to be completed each week of the semester are arranged by Weekly Session (i.e. each class session covers one week of the semester). The class sessions for each week are labeled by week number and start date in the main left-hand navigation on our course site. In each of the weekly class sessions, you will find: the topic(s) and objectives for the week, the required reading (from the textbook and via embedded links to download/access articles/videos), a summary of what tasks are due (and when) that week and detailed directions and related links for completing and posting your coursework that is due for that class session (i.e. during that week).

All weekly tasks MUST be submitted by the given deadline; course work is ALWAYS due by 11:59pm on the day indicated in the task directions unless otherwise stated.

Collaboration:

You may be expected to collaborate on a number of tasks and signature assignments as part of this course. You will be expected to teach your own students the critical skill of effective collaboration and so use this as an opportunity to begin developing your own ideas about how to teach and engage in effective collaboration! It is critical that you exchange contact information, best times to be reached, make a plan for meeting regularly and stay in communication with your group members throughout the assigned task. Your group members do not have time to wait until the last minute for you to contribute your portion of the work. If you are having difficulties working with anyone in your group please email me as soon as possible so that I might mediate the situation. If you are found to be a negligent group member your grade for the final work submitted will be negatively impacted according to the severity of the negligence or unwillingness to collaborate effectively. I strongly suggest you keep accurate records of any communications or work sessions and your group members have over the course of the semester in the case that collaboration and individual contributions need to be verified for any reason. I want to stress again…you will need to learn to manage collaboration in your own classrooms so start now, if you have not already, understand how to best collaborate yourself and reflect on what works and does not work when working in groups. Whether it is your preferred method of working, your students are depending on you to teach them how to collaborate effectively to prepare them for the real-world.

Signature Assignments for ELED 4311

Science Teaching Philosophy & Lesson Reflection (10%) (Spanish or English)
You will develop and refine your “why” as a science educator throughout this course. In your statement of purpose you will explain why you want to be a science teacher or in the case of elementary teachers, what your beliefs and goals are when teaching science in your classrooms. Your teaching philosophy should be written as if you are responding to a potential employer or submitting a statement of purpose for an application. You will also be asked to complete a reflection at the end of the course in which you compare your science teaching philosophy to a lesson plan you have created for this course and the Core Practices. Questions and ideas you may address:
- What were your educational or life experiences that influenced your decision to become an educator, particularly in science and/or bilingual education?
- What do you value most about science education?
- Why is it important for students to know how to do science? What impact will it have on their lives?
- What will it look, sound and feel like to be in your future science classroom?
- What does it mean to be “successful” in your class? How will you make sure students are successful?

**Science Standards Breakdown (15%) (Spanish or English)**

Students will **breakdown** a content and a science process skill standard. The standards breakdown **template** (*sample*) will focus on the noun(s) and verb(s) and ask students to explain the alignment, evidence of learning, relevance to students and enduring understanding(s) of the standards. Students will also be asked to develop a list of 5 or more questions that may be asked as part of class discussions, assignments, and informal and formal assessments to support students in the acquisition and application of the knowledge and skills of those standards. This skill of breaking down a standard will be an essential component of all signature assignments throughout the course.

**5E Lesson Plan (20%) (English or Spanish)**

Individual students will create and submit a 5E lesson plan based on a standard from a list of given high-leverage content and skill standards from the Texas Essential Knowledge and Skills (TEKS). A lesson planning **template** will be required and will ask students to address the learning objectives, differentiation strategies to meet diverse learner needs, the 5E components (Engagement, Exploration, Explanation, Elaboration, Evaluation), as well reflect on how the lesson exemplifies culturally relevant teaching practices. This lesson should include at least two planned opportunities for productive discourse, as well as evidence of student thinking in the form of a model. You will also be asked to teach a portion or all of the lesson plan during our in-person class. Please refer to the syllabus for dates.

**5E Lesson Plan with Lab (20%) (English or Spanish)**

Groups of students will create and submit a 5E lesson plan based on a standard from a list of given high-leverage content and skill standards from the Texas Essential Knowledge and Skills (TEKS) which includes a lab, with evidence of student sense making as the Exploration component of the lesson. A lesson planning **template** will be required and will ask students to address the learning objectives, differentiation strategies to meet diverse learner needs, the 5E components (Engagement, Exploration, Explanation, Elaboration, Evaluation), as well reflect on how the lesson exemplifies culturally relevant teaching practices. This lesson should also include evidence of a Claim-Evidence-Response assignment for students and evidence of planning for collective thinking as part of the Explain component. You will also be asked to teach a portion or all of the lesson plan during our in-person class. Please refer to the syllabus for dates.

**Other Assignments**

**Quizzes (15%) (Spanish or English)**

Quizzes will be administered weekly or bi-weekly in Blackboard over the course of the semester. They will be available to take when the weekly modules open on Sundays by 11:59 pm and will close at 11:59 pm on the day that they are due. Quizzes will be based on readings from the course textbooks and in most cases will ask you to reflect on or create materials related to the lessons that you are planning. The quizzes are one way in which to encourage students to read the course materials in a timely manner so that the learning can be applied to course assignments. The 2 lowest quiz grades for the semester will be dropped and no late or revised quizzes will be accepted.

**Science Activity/Video Analysis (10%) (Spanish or English)**

These assignments throughout the course will ask students to analyze and evaluate science activities, student work products or teaching videos for various aspects related to science teaching and learning to include, but are
not limited to: alignment to the TEKs, culturally relevant teaching practices, evidence and level of student thinking, authenticity and relevance, as well as student discourse.

**Lesson Commentary (10%) (English or Spanish)**
These assignments will ask you to analyze and make modifications to the Science STEMScopes curriculum for intellectual demand, student engagement and cultural relevance, as well as selected Ambitious Science Teaching Core Practices. You will complete this work across multiple guided class sessions. You will also be asked to provide commentary on your own lesson by the end of the semester.

**Calendar**
The calendar is a guide and may be changed as needed to meet the needs of students. Changes to the calendar will be shared as Announcements in Blackboard and during class. Please attend all in-person class sessions and stay on top of your email, as well as check Blackboard regularly so that you do not miss important updates! Details about assignments and readings are in the weekly coursework module task descriptions.

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<th>Topics</th>
<th>Assignments and Due Dates</th>
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<tr>
<td>1 8/28-9/3</td>
<td>Thursday, 8/31 6:00-8:50 pm Room 402</td>
<td>Syllabus Introductions Ambitious Science Teaching Groups</td>
<td>Read: AST- Preface and Chapter 1 (pgs. v-19) Read: TSDC-Introduction and Chapter 1 (pgs. ix-15) Quiz #1 Due: *9/7 @ 11:59 pm Survey and Introductory Post Due: *9/7 @ 11:59 pm Science Teaching Philosophy</td>
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<tr>
<td>2 9/4-9/10</td>
<td>Standards Breakdown Engagement and Big Ideas Essential Questions</td>
<td>Read: AST-Chapter 2 (pgs. 19-38) Read: TSDC-Chapter 5 (pgs. 35-39) Quiz #2 Standards Breakdown Draft #1 Due: 9/10 @ 11:59 pm</td>
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<td>3 9/11-9/17</td>
<td>Thursday, 9/14 6:00-8:50 pm Room 402</td>
<td>Productive Discourse (Part 1) *Begin Planning with Group</td>
<td>Read: AST-Chapter 3 (pgs. 39-64) Read: TSDC-Chapter 4 (pgs. 24-31) Quiz #3 Standards Breakdown Draft #2 Due: 9/17 @ 11:59 pm</td>
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<tr>
<td>4 9/18-9/24</td>
<td>Productive Discourse (Part 2)</td>
<td>Read: AST- Chapter 4 (pgs. 65-84) Quiz #4 Science Activity/Video Analysis Due: 9/24 @ 11:59 pm Due: 9/24 @ 11:59 pm</td>
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<td>5 9/25-10/1</td>
<td>Thursday, 9/28 6:00-8:50 pm Room 402</td>
<td>Productive Discourse Eliciting Student Ideas 5E Lesson Plan</td>
<td>Read: AST-Chapter 5 (pgs. 85-110) Read: TSDC-Chapter 2-3 (pgs. 16-23) Quiz #5 Final Standards Breakdown Due: 10/1 @ 11:59 pm Due: 10/1 @ 11:59 pm</td>
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<td>6 10/2-10/8</td>
<td>Making Student Thinking Visible-Models (Part 1)</td>
<td>Read: AST-Chapter 6 (pgs. 111-130) Read: TSDC-Chapter 7 (pgs. 49-53) Quiz #6 5E STEM Lesson Plan (1) Draft #1 Due: 10/8 @ 11:59 pm Due: 10/8 @ 11:59 pm</td>
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<td>7 10/9-10/15</td>
<td>Thursday, 10/12 6:00-8:50 pm Room 402</td>
<td>5E: Engage (Lesson Opening) Making Student Thinking Visible-Models (Part 2)</td>
<td>Read: AST-Chapter 7 (pgs.131-150) Quiz #7 Science Activity/Video Analysis 5E Lesson Plan (1) Peer Review Post Due: 10/15 @ 11:59 pm Due: 10/15@ 11:59 pm Due: 10/15 @ 11:59 pm</td>
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| 10/16-10/22 | Continue working on 5E Lesson Plan  
Prepare for Teaching                        | 5E Lesson Plan (1) Final  
Due: 10/22 @ 11:59 pm |
| 10/23-10/29 | **Teach (group)**  
Introducing New Ideas  
5E Lesson (with Lab)  
STEMScopes            | Read: AST-Chapter 8 (pgs. 151-168)  
Read: TSDC- Chapter 6 (pgs. 40-48)  
Quiz #8  
Teaching Self-Reflection  
Due: 10/29 @ 11:59 pm  
Due: 10/29 @ 11:59 pm |
| 10/30-11/5 | **Activity and Sense Making Collective Thinking** | Read: AST- Chapters 9-10 (pgs.169-198)  
Read: TSDC-Chapter 8 (pgs. 55-59)  
Quiz #9  
5E Lesson Plan Draft #1 (with Lab)  
Due: 11/5 @ 11:59 pm  
Due: 11/5 @ 11:59 pm |
| 11/6-11/12 | **Peer Feedback**  
5E: Explore and Explain Evidence-Based Claims    | Read: AST – Chapter 11 (pgs. 199-214)  
Quiz #10  
5E Lesson Plan Peer Review Post  
Due: 11/12 @ 11:59 pm  
Due: 11/12 @ 11:59 pm |
| 11/13-11/19 | Continue working on 5E Lesson Plan (with Lab)  
Evidence-Based Claims  
Prepare for Teaching | 5E Lesson Plan Draft #2 (with Lab)  
Science Activity/Video Analysis  
Due: 11/19 @ 11:59 pm  
Due: 11/19 @ 11:59 pm |
| 11/20-11/26 | No Class. Happy Thanksgiving!                                              |                                                                  |
| 11/27-12/3 | **Teach (Grades K-3)**  
Peer Feedback                               | Teaching Self-Reflection  *(Grades K-3)*  
Due: 12/3 @ 11:59 pm  
Due: @ end of class |
| 12/4-12/10 | **Teach (Grades 4-8)**  
Peer Feedback                               | Teaching Self-Reflection *(Grades 4-8)*  
Due: 12/10 @ 11:59 pm  
Due: @ end of class |
| 12/11-12/17 | **Lesson Commentary Reflective Practitioner**  
Science Teaching Philosophy Reflection | Lesson Commentary  
Due: *12/15 @ 11:59 pm  
Due: *12/15 @ 11:59 pm |