I. Course Description

This course is designed to help teachers become more competent in the development and use of hands-on, inquiry-based science activities. The course is based on the process skills, materials, and goals of the national science curriculum program.

Course Justification:
MLGE 4220 “Science in the Middle Grades” (2 credits; fully online) spans 15 weeks. This course requires engaging in weekly online modules and completing associated assignments such as discussions, quizzes, and writing essays and responses. Students should spend approximately two hours per week engaged in the modules. Additionally, students will create a model science journal and will add activities to the journal weekly. Students are also required to write an integrated science 5E Lesson Plan as part of this course. The National Science Teaching Association (NSTA) Learning Center is a required resource for this course. Through the NSTA Learning Center, students will complete diagnostic science content tests and then use the report to improve content knowledge in specific areas of science through an NSTA Interactive E-book. The completion of the Interactive E-book can take up to 10 hours. Students are expected to spend two to three hours per week on this course beyond the two hours required for weekly module activities.

PCOE Diversity Statement:
The James I. Perkins College of Education is committed to proactively recruiting and retaining a diverse faculty, staff, and student population. Through open dialogue, mutual respect and shared responsibility, faculty, staff and students will demonstrate an understanding and sensitivity to ethnicity, race, gender, exceptionalities, culture, language/dialect, age, social class, family structure, sexual orientation, religion and spiritual values in order to enhance the quality of life in a diverse, global community.

II. Intended Learning Outcomes/Goals/Objectives:

This course is aligned with the mission of the James I. Perkins College of Education (PCOE), which is to prepare competent, successful, caring, and enthusiastic professionals dedicated to responsible service, leadership, and continued professional and intellectual development. The PCOE theme is “preparing professional educators who positively impact learning for all students.” In the PCOE at Stephen F. Austin State University, we are committed to the following core values:

• Academic excellence through critical, reflective, and creative thinking
• Life-long learning
• Collaboration and shared decision-making
• Openness to new ideas, to culturally diverse people, and to innovation and change
• Integrity, responsibility, diligence, and ethical behavior, and
• Service that enriches the community.
The Program Learning Objectives and Student Learning Objectives in this course align with the mission of preparing competent professionals and values of academic excellence, life-long learning, collaboration, openness, integrity, and service as you learn to instruct middle level learners. The Program Learning Objectives are aligned to the Association for Middle Level Education (AMLE) and the TExES PPR and MLG 4-8 Content Standards. All content and assignments are aligned to these standards; this was assured as faculty aligned the curriculum during 2012-2014.

**MLGE 4220 Program Learning Outcomes and Student Learning Outcomes**

### PLOs and SLOs and corresponding Assessments

#### Middle Level Grades

**PLO 2** The teacher candidates will understand and use the central concepts, tools of inquiry, standards, research and structures of content to plan and implement curriculum that develops all young adolescents’ competence in subject matter (AMLE 2; InTASC 4,5,7,8).

**Element A: Subject Matter Content**

- **SLO 2.1** Candidates will apply knowledge of science content (Physical Science, Life Science, Earth and Space Science and Engineering/technology) through effectively planning implementing and assessing classroom, field and laboratory activities for diverse learners.
  - SLO 2.1.1 Assessment - Benchmark Assessment II Texas Content Certification Exam. [4/8 Texas Science ST IV, V, VIII, IX, X; PPR1.8k; 1.7s(TS1Ai), 8s(TS3Bii), 19s(TS1Bii); 3.6k,7k, 8k; 3.10]
  - SLO 2.1.2 Assessment - Benchmark Assessment II Candidate Work Sample- Submitted in QClassroom. [4/8 Texas Science ST IV, V, VIII, IX, X; PPR1.8k; 1.7s(TS1Ai), 8s(TS3Bii), 19s(TS1Bii); 3.6k,7k, 8k; 3.10]
  - SLO 2.1.3 Assessment- Completion of NSTA Interactive E-book +. (4/8 Texas Science VIII, IX, X)

- **SLO 2.2** Candidates understand the process of scientific inquiry and its role in science instruction, and incorporate inquiry in the planning and implementing of classroom, field and laboratory activities.
  - SLO 2.2.1 Assessment - Transformation of a “Cookie Cutter” lab into a quality inquiry activity [S 4/8 3.1k, 2k; 3.1s, 2s, 3s, 4s, 5s, 6s, 7s, 8s; 4.4k; PPR 1.16k]
  - SLO 2.2.2 Assessment- Write a reflective summary about the role of inquiry in the middle school science classroom [S 4/8 4.4k; 4.3s, 4s, 5s, 10s]
  - SLO 2.2.3 Assessment - Benchmark Assessment II Candidate Work Sample- Submitted in QClassroom [S 4/8 3.2s, 3s, 4s, 5s, 6s, 7s, 8s]

- **SLO 2.3** The teacher candidates will manage activities to ensure the safety of all students and so that the ethical care and treatment of organisms is observed, and will understand the correct use of tools, materials, and equipment utilized in the 4-8 science classroom, field and laboratory activities.
  - SLO 2.3.1 Assessment - Create a presentation utilizing power point, Glogster, Prezi, or another method describing at least ten safety rules for middle level students using the Texas Safety Standards handbook located on the Texas Education Agency website. [S 4/8 1.1k, 2k, 3k, 4k, 5k, 6k, 7k, 8k, 9k; 1.1s, 2s, 3s, 4s, 5s, 6s,7s, 8s; 2.1k; 2.1s, 2s, 3s; PPR 2.10k, 19k, 21k; 2.18s(TS4Bii, TS4Bii), 19s]
  - SLO 2.3.2 Assessment - Assignment/quiz: Complete the Texas Safety Standards Scavenger Hunt Quiz (S 4/8 1.1k, 2k, 3k, 4k, 5k, 6k, 7k, 8k, 9k, 1.1s, 2s, 3s, 4s, 5s, 6s, 7s, 8s; 2.1k, 1s, 2s, 3s)
  - SLO 2.3.3 Assessment - Benchmark Assessment II: Candidate Work Sample- Submitted in QClassroom [S 4/8 1.1k, 2k, 3k, 4k, 5k, 6k, 7k, 8k, 9k; 1.1s, 2s, 3s, 4s, 5s, 6s,7s, 8s; 2.1k; 2.1s, 2s, 3s; PPR 2.10k, 19k, 21k; 2.18s(TS4Bii, TS4Bii), 19s]
• SLO 2.4: The teacher candidates understand the history and nature of science, and know unifying concepts and processes that are common to all sciences. (4/8 Texas Science VI, XI)
  o SLO 2.4.1 Assessment - Choose three high-quality STEM (science, technology, engineering, mathematics) lessons that are standards-based, and describe how each activity integrates all of the STEM subjects. [4/8 Texas Science IV, XI; PPR 1.10k, 21k, 22k, 23k(TS3Cii); 10s(TS1Ei)]
  o SLO 2.4.2 Assessment - Assignment: Reflective writing on why it is important to teach process skills in an integrated way. [4/8 Texas Science IV, XI; PPR 1.10k, 21k, 22k, 23k, 10s; TS3Cii]
  o SLO 2.4.3 Assessment - Benchmark Assessment II: TExES Content Certification Exam [4/8 Texas Science ST IV, V, VIII, IX, X; PPR1.8k; 1.7s(TS1Ai), 8s(TS3Bii), 19s(TS1Bii); 3.6k,7k, 8k; 3.10]

Element B: Interdisciplinary Nature and Knowledge of:
• SLO 2.5: The teacher candidates demonstrate an understanding that science can be integrated with other subjects such as math, social studies, and language arts, and that connecting these subjects makes learning more relevant to students.
  o SLO2.5.1 Assessment – Write a plan for an integrated unit based on the TEKS and NSES standards which includes ways to integrate science with all or some of the following content areas: math, literacy, technology, engineering, art, social studies. [4/8 Texas Science IV, XI; PPR 1.10k, 21k, 22k, 23k(TS3Cii), 10s(TS1Ei)]

• SLO 2.6: The teacher candidates understand how science affects the daily lives of students and how science interacts with and influences personal and societal decisions. (4/8 Texas Science VII)
  o SLO 2.6.1 Assessment - Participate in a field experience or virtual field trip and create a presentation in which the importance of field-based experiences for middle level science students is clearly demonstrated. This will include how the field experience: meets the needs of the middle level learner, connects with TEKS and NSES standards, includes inquiry, integrates science with other content areas, and effectively manages students in terms of grouping and on-task behaviors. (Piney woods Native Plant Center 5th grade "Earth Science Exploration") [S 4/8 1.1s,6s; 4.1s,3s, 5s; 3.2s, 3s, 4s, 5s, 6s, 7s, 8s; PPR 1.18k, 18s]

Element C: Middle Level Student Standards
• SLO 2.7: The teacher candidates demonstrate knowledge of the National Science Education standards (NSES) and the Texas Essential Knowledge and Skills (TEKS) for science grades 4-8, and know how to teach and assess the content of those standards
  o SLO 2.7. Assessment - Examine the National Science Education Standards and the TEKS for 4-8 science. Describe five ways that the TEKS are aligned to the NSES [S 4/8 4.1k, 2k, 3k, 4k, 5k, 6k, 7k, 8k, 9k; 7.5s) (PPR 1.7k(TS3Cii); 1.19k; 1.19s(TS1Bii);1.6s(TS3Bii)]

PLO 4 The teacher candidates will understand, use, and reflect on the major concepts, principles, theories and research related to data-informed instruction and assessment, and they will employ a variety
of strategies for a developmentally appropriate climate to meet the varying abilities and learning styles of all young adolescents (AMEL 4; InTASC 2,3,6,7,8)

Element B: Middle Level Instructional Strategies:

- **SLO 4.1** The teacher candidates will utilize a wide variety of quality strategies that reflect the needs of the young adolescent, and the diverse learners in the classroom, field, and laboratory activities. This includes quality literacy and ELL strategies such as RAFT writing, exit slips, concept maps, KWL charts, tossed terms, word sorts, word walls, read-write-pair-shares, and split-page note making.
  
  - **SLO 4.1.1 Assessment** - Discussion reflecting on how developmental characteristics of young adolescents influence science learning [S 4/8 4.1k, 2k, 7k, 4.4s, 5s, 6s, 11s, 13s, 14s, 15s; PPR 1.2k, 3k, 20k]
  
  - **SLO 4.1.2 Assessment** - Create a model science journal throughout the course which demonstrates a wide variety of student-centered strategies, including literacy strategies, such as many types of foldables, graphic organizers, free writing, student drawings, onepagers, Frayer models ([S 4/8 4.1k, 2k, 3k, 4k, 5k, 7k, 8k, 9k, 10k, 11k, 12k, 13k, 14k, 4.1s, 2s, 3s, 4s, 6s, 7s, 8s, 9s, 10s, 11s, 12s, 13s, 14s, 15s, 16s; PPR 1.2k(TS2Cii), 3k(TS2Ci), 20k, 11s(TS3Biii), 20s(TS1Biii), 21s(TS1Cii), 23s; 3.5k]
  
  - **SLO 4.1.3 Assessment** - Write a 500-word essay using at least six sources to explain the positive effects of using interactive science journals in the middle level classroom.

Element C: Middle Level Assessment and Data-informed Instruction

- **SLO 4.2** The teacher candidates demonstrate an understanding of data-informed instruction, and apply varied and appropriate assessment and assessment strategies to monitor science learning in the 4-8 science classroom
  
  - **SLO 4.2.1 Assessment** - Include quality formative assessment strategies such as card sorts, annotated student drawings, Frayer models, fishbowl thinkalouds, no-hands questioning, and interactive word wall activities in lesson plans to effectively link assessment, instruction, and learning and connect content to students' prior knowledge and experience. [S 4/8 5.3k, 4k, 5k, 6k, 7k, 10k, 1s, 2s, 3s, 5s, 8s; PPR 1.24k, 25k; 3.10s]
  
  - **SLO 4.2.2 Assessment** - Benchmark Assessment II Candidate Work Sample-Submitted in QClassroom [S 4/8 5.1k, 2k, 3k, 4k, 5k, 6k, 7k, 8k, 9k, 10k, 11k, 1s, 2s, 3s, 4s, 6s, 7s, 8s, 9s, 10s]

Special Education

**PLO 5:** Candidates use knowledge of individuals' development, learning needs, and assessment data to inform decisions about effective instruction. Candidates use explicit instructional strategies and employ strategies to promote active engagement and increased motivation to individualize instruction to support each individual. Candidates use whole group instruction, flexible grouping, small group instruction, and individual instruction. Candidates teach individuals to use meta-/cognitive strategies to support and self-regulate learning.

**Element 2** Candidates use effective strategies to promote active student engagement, increase student motivation, increase opportunities to respond, and enhance self-regulation of student learning.

**Element 3** Candidates use explicit, systematic instruction to teach content, strategies, and skills to make clear what a learner needs to do or think about while learning.
• SLO 4.1: The teacher candidates will utilize a wide variety of quality strategies that reflect the needs of the young adolescent, and the diverse learners in the classroom, field, and laboratory activities. This includes quality literacy and ELL strategies such as RAFT writing, exit slips, concept maps, KWL charts, tossed terms, word sorts, word walls, read-write-pair-shares, and split-page note making.
  o SLO 4.1.1 Assessment - Discussion reflecting on how developmental characteristics of young adolescents influence science learning [S 4/8 4.1k, 2k, 7k, 4.4s, 5s, 6s, 11s, 13s, 14s, 15s; PPR 1.2k, 3k, 20k]
  o SLO 4.1.2 Assessment - Create a model science journal throughout the course which demonstrates a wide variety of student-centered strategies, including literacy strategies, such as many types of foldables, graphic organizers, free writing, student drawings, one-pagers, Frayer models [(S 4/8 4.1k, 2k, 3k, 4k, 5k, 7k, 8k, 9k, 10k, 11k, 12k, 13k, 14k, 4.1s, 2s, 3s, 4s, 6s, 7s, 8s, 9s, 10s, 11s, 12s, 13s, 14s, 15s, 16s; PPR 1.2k(TS2Cii), 3k(TS2Ci), 20k, 11s(TS3Biii), 20s(TS1Biii), 21s(TS1Cii), 23s; 3.5k]
  o SLO 4.1.3 Assessment - Write a 500-word essay using at least six sources to explain the positive effects of using interactive science journals in the middle level classroom.

• SLO 4.2 The teacher candidates demonstrate an understanding of data-informed instruction, and apply varied and appropriate assessment and assessment strategies to monitor science learning in the 4-8 science classroom
  o SLO 4.2.1 Assessment - Include quality formative assessment strategies such as card sorts, annotated student drawings, Frayer models [S 4/8 5.3k, 4k, 5k, 6k, 7k, 10k, 1s, 2s, 3s, 5s, 8s; PPR 1.24k, 25k; 3.10s]
  o SLO 4.2.2 Assessment - Benchmark Assessment II Candidate Work Sample-Submitted in Live Text [S 4/8 5.1k, 2k, 3k, 4k, 5k, 6k, 7k, 8k, 9k, 10k, 11k, 1s, 2s, 3s, 4s, 5s, 6s, 7s, 8s, 9s, 10s]
You will write a 5E science lesson plan which demonstrates the integration of other content areas such as; math, technology, engineering, language arts, art, and social studies.

8. Completion of NSTA Learning Center diagnostic content tests and Interactive E-Book + (100 points). You will take diagnostic content tests (25 points) and then use the report to improve content knowledge in specific areas of science through an NSTA Interactive E-Book + (75 points). The Interactive E-Book + you choose to complete should be connected with your Virtual Science Lesson.

9. Attend the NSTA Orientation Webinar. 10 points All who attend the live Zoom orientation will receive a certificate of participation. You must also complete the end-of-program survey to receive the certificate of participation. You must submit to me the certificate of participation (with your name on it) in the D2L dropbox to earn the 10 points in the course. You will choose from ONE of these dates: Wednesday, August 30th from 6:00-7:15pm OR Monday, September 11th from 6:00-7:15 pm Links will be available in the News in D2L.

10. Final Exam will be the creation of a virtual science lesson presentation OR participation in Wild About Science Event: 100 points. All face-to-face (and those living in or near Nacogdoches) students are required to participate in the Wild About Science outdoor education event held on the SFA campus. This event will take place on TBD. Online completer students have the option to participate in the Wild About Science event, OR prepare and teach a videoed virtual science lesson. A grading rubric will be used to grade this assignment.

11. Virtual science activities. 60 points You will complete 3 different virtual science activities. Specific details about each virtual activity will be provided on D2L.

12. NSTA Webinars. 20 points for each webinar, 40 points total. You will attend at total of two NSTA Webinars. One must be a safety webinar, and an additional webinar of your choice.

13. Mandatory Class Zoom Meeting: Tuesday, August 29, 2022 from 4:00-5:00 PM. We will go over the organization and requirements of this course. Points will be deducted from your professionalism grade if you do not attend this meeting.

IV. Evaluation and Assessments (Grading)

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syllabus Quiz</td>
<td>10 pts</td>
</tr>
<tr>
<td>Getting to know you Discussion</td>
<td>10 pts</td>
</tr>
<tr>
<td>Attendance NSTA Learning Center Orientation Zoom meeting</td>
<td>10 pts</td>
</tr>
<tr>
<td>Attendance NSTA Safety webinar and one additional webinar of your choice</td>
<td>40 pts</td>
</tr>
<tr>
<td>Weekly module activities &amp; quizzes @ 3 to 20 points each</td>
<td>300 pts</td>
</tr>
<tr>
<td>Science Journal Assignment paper</td>
<td>50 pts</td>
</tr>
<tr>
<td>5E Integrated Lesson Plan</td>
<td>50 pts</td>
</tr>
<tr>
<td>Participation/attendance/professionalism</td>
<td>30 pts</td>
</tr>
<tr>
<td>Completion of one NSTA Interactive E-Book + &amp; 3 diagnostic tests</td>
<td>100 pts</td>
</tr>
<tr>
<td>Final Exam: virtual science lesson presentation or participation in outdoor ed. event</td>
<td>100 pts</td>
</tr>
<tr>
<td>Wakelet Science Journal</td>
<td>100 pts</td>
</tr>
</tbody>
</table>

Grading Scale:

- A (100-90%)
- B (89-80%)
- C (79-70%)
- F (69% or below)

V. **Tentative** Course Outline/Calendar

All new modules open at 12:01 AM on Friday night prior to that week.

In order to receive an ‘A’ in the course, ALL assignments must be completed. Failure to complete any assignment will result in an automatic reduction of the course grade earned by one letter grade, regardless of the total number of points earned.
<table>
<thead>
<tr>
<th>Week 1</th>
<th>August 28</th>
</tr>
</thead>
</table>
| **Module Assignments/Readings** | Module 1: Getting Started and Syllabus Quiz Assignments:  
1. Getting to Know You Discussion (10 points)  
2. Syllabus Quiz (10 points)  
3. Begin working on the 3 NSTA diagnostic content tests (25 points)  
4. Required Class Zoom Meeting: there are 2 options available – you only need to attend ONE Monday, August 28th from 4:00-5:00 CST. Or Thursday, August 31st from 4:00-5:00 CST  
We will go over the organization and requirements of this course. Zoom link will be available in D2L News.  
5. Attend the NSTA Orientation Webinar Wednesday, August 30th from 6:00-7:15 CST. See D2L News for more information and zoom link. (10 points) |
| **Due Date** | September 3 11:59 PM |

<table>
<thead>
<tr>
<th>Week 2</th>
<th>September 4</th>
</tr>
</thead>
</table>
| **Module Assignments/Readings** | Module 2: *(Note: this is a 2-week module)* The Science Journal/Begin your journal Assignments:  
1. Science Journal Assignment (500-word paper worth 50 points) |
| **Due Date** | September 10 11:59 PM |

<table>
<thead>
<tr>
<th>Week 3</th>
<th>September 11</th>
</tr>
</thead>
</table>
| **Module Assignments/Readings** | Continue with Module 2: The Science Journal/Begin your journal  
1. Establish your Wakelet account and explore Wakelet. Set up your science journal in Wakelet.  
2. Science Journal Quiz (20 points)  
3. Complete 1st virtual science activity and submit pictures or video and reflection to Wakelet science journal.  
4. Attend the NSTA Orientation Webinar Monday, September 11th 6:00-7:15 pm CST (10 points). *(ONLY if you did not attend the first orientation.)* |
| **Due Date** | September 17 11:59 PM |

<table>
<thead>
<tr>
<th>Week 4</th>
<th>September 18</th>
</tr>
</thead>
</table>
| **Module Assignments/Readings** | Module 3: The Middle School Student *(Who Do We Teach?)* Assignments:  
1. Chapter 1 quiz (20 points)  
3. Seven sentence summary of chapter one (10 points)  
4. How Do Middle Schoolers Develop Scientific Understanding Discussion (20 points)  
5. Journal activities |
| **Due Date** | September 24 11:59 PM |

<table>
<thead>
<tr>
<th>Week 5</th>
<th>September 25</th>
</tr>
</thead>
</table>
| **Module Assignments/Readings** | Module 4: Safety in the Middle Level Science Classroom Assignments:  
1. Safety Standards Scavenger Hunt Quiz (20 points)  
2. **Attend the NSTA Safety Considerations Webinar for Pre-Service teachers. This can be either the elementary (Monday, October 16th at 6:00 PM) or secondary (Monday, October 23rd at 6:00PM) safety webinar. See D2L News for information.**  
3. Journal activities |
<p>| <strong>Due Date</strong> | October 1 11:59 PM |</p>
<table>
<thead>
<tr>
<th>Week</th>
<th>Module Assignments/Readings</th>
<th>Due Date</th>
</tr>
</thead>
</table>
| **Week 6   | **October 2**  
PLO 2 SLO 2.7  
SLO 2.7 assess [S 4/8 4.1, 2k, 3k, 4k, 5k, 6k, 7k, 8k, 9k, 7.5e] (PPR 1.7k(TS3Ci): 1.19k; 1.19s(TS1Bi); 1.6s(TS3Bi))                                                                 | **October 8**  
**11:59 PM**  |
| **Module 5:** The Standards (What Do We Teach?)  
**Assignments:**  
1. National Science Education Standards and the TEKS (20 points)  
2. Journal activities Task 3                                                                                                                      |                |
| **Week 7   | **October 9**  
PLO 2 SLO 2.2  
SLO 2.2.1 assess [4/8 Texas Science ST IV, V, VIII, IX, X] (PPR1.8k; 1.7s(TS1Ai), 8s(TS3Bi), 19s(TS1Bi); 3.6k, 7k, 8k; 3.10)  
SLO 2.2.2 assess (S 4/8 4.4k; 4.3s, 4s, 5s, 10s)                                                                                                                          | **October 15**  
**11:59 PM**  |
| **Module 6:** Inquiry (How Do We Teach?)  
**Assignments:**  
1. Summary chap. 2 (10 points)  
2. Rube Goldberg video discussion (10 points)  
4. Journal activity Task 4  
5. Complete 2nd virtual activity and submit video and reflection to Wakelet science journal. |                |
| **Week 8   | **October 16**  
PLO 2 SLO 2.4, 2.5  
SLO 2.4.2 assess (4/8 Texas Science IV, XI) (PPR 1.10k, 21k, 22k, 23k, 10s; TS3Ci)  
SLO 2.5.1 assess (4/8 Texas Science IV, XI) (PPR 1.10k, 21k, 22k, 23k(TS3Ci), 10s(TS1Ei))                                                                                   | **October 22**  
**11:59 PM**  |
| **Module 7:** Integration is KEY (How Do We Teach?)  
**Assignments:**  
1. Chapter 4 quiz (10 points)  
2. Literacy Partners video discussion (5 points)  
3. Integrated lesson plan (50 points)                                                                                           |                |
| **Week 9   | **October 23**  
PLO 4  
SLO 4.1  
**Module 8:** Managing the Middle Level Science Classroom  
**Assignments:**  
1. Chapter 5 Quiz (10 points)  
2. NSTA Activity (Management) (10 points)  
3. Procedures video discussion (5 points)  
***Wild About Science Event Training TBD***                                                                 | **October 29**  
**11:59 PM**  |
| **Week 10  | **October 30**  
PLO 4  
SLO 4.1  
**Module 9:** Questioning and Differentiating  
**Assignments:**  
1. Cooperative Learning in Inclusive Classroom (20 points)  
2. NSTA Questioning Strategy (10 points)  
3. Journal activities  
***Wild About Science Event TBD***                                                                                           | **November 5**  
**11:59 PM**  |
| **Week 11  | **November 6**  
PLO 4 SLO 4.2  
SLO 4.2.1 assess [S 4/8 5.9k, 4k, 5k, 6k, 7k, 10k, 1s, 2s, 3s, 5s, 8s;] (PPR 1.24k, 25k, 3.10s)                                                                                   | **November 12**  
**11:59 PM**  |
| **Module 10:** Assessment in Middle Level Science  
**Assignments:**  
1. Science Formative Assessment (20 points)                                                                                                                                          |                |
| **Week 12  | **November 13**  
PLO 2 SLO 2.4  
SLO 2.4.1 assess (4/8 Texas Science IV, XI) (PPR 1.10k, 21k, 22k, 23k(TS3Ci); 10s(TS1Ei);)                                                                                   | **November 19**  
**11:59 PM**  |
| **Module 11:** STEM (Science, Technology, Engineering, Mathematics)  
**Assignments:**  
1. Heat Loss video discussion (5 points)  
2. STEM lesson plan analysis (20 points)  
3. Wakelet Journal activity  
VI. Readings
Texts and materials needed for this course:

1. **Required textbook:**

   ![Required Textbook: Doing Good Science in Middle School: A Practical STEM Guide](image)

   Required Textbook: Doing Good Science in Middle School: A Practical STEM Guide  
   By Olaf Jorgenson, Jackie Cleveland, Vicki Massey and Rick Vanosdall  

2. **Required online E-Textbook:** You will be using the NSTA class bundle as an online “e-textbook.” If you require financial aid to purchase your textbooks, you will go through the SFASU Barnes and Noble bookstore. You will receive an access code from the SFASU bookstore. **If you do not require financial aid, you may purchase directly from NSTA.**

   Below are instructions for you to purchase the NSTA Class Bundle which includes access to NSTA fee-based digital resources **AND** NSTA student membership.

   **IMPORTANT NOTE for STUDENTS:**

   *Do not purchase an Individual NSTA Membership. Individual NSTA membership is sold online for $45, $70, or $90 but this product is different from the NSTA Class Bundle for your course.*

---

M. Hulings/August 2023
You must purchase the **NSTA class bundle** which includes access to NSTA fee-based digital resources **AND** NSTA student membership available **ONLY** at the web address provided in the student instruction sheet.

**Dear Students: Follow the instructions below to create your NSTA account and purchase the Class Bundle:**

1. Go to the NSTA website to create your account: [https://my.nsta.org/preservice](https://my.nsta.org/preservice)

   **Note:** If you already have an account at NSTA you do not need to create a second account. Use your NSTA e-mail address & password or your last name (instead of e-mail) & ID number (instead of password) to login to the website. If you are unsure, please send a message to: learningcenterhelp@nsta.org for assistance.

2. After creating your account press “Continue” and on the next screen select your state, institution, professor, and course. At this time enter your “Expected Graduation Date.”

3. Click “Continue” and on the next screen use your credit card for payment. Your professor selected the price point ($75) for everyone in the class.

**Next steps?**

Become familiar with the NSTA website. Below is a list of things to try:

1. Visit your class landing page by clicking “Menu” and selecting “Cohorts.”
2. Edit your profile – you will find it by clicking “Menu” and selecting “My Account.”
3. Explore the “Discussion Forums” – they can be found by clicking “Menu” – make a post!

   **Note:** A limit for the number of fee-based e-book chapters that each student may add to their library for free has been set at 15.

Send your questions to: learningcenterhelp@nsta.org

Flavio Mendez,
NSTA.

**3. Supplementary Materials (available online)**

1. TEKS (Texas Essential Skills and Knowledge) – Current science standards for the state of Texas. You can acquire these on the web via the Texas Education Agency (TEA) website.

2. Texas Education Agency Texas Safety Standards: Kindergarten through Grade 12. A guide to laws, rules, regulations, and safety procedures for classroom, laboratory, and field investigations (Charles A. Dana Center funded by the Texas Education Agency). The standards can be downloaded from the TEA website. To access: 1)Go to TEA website 2)click on A-Z Index 3)scroll down and click Science Safety Standards 4) Scroll down to Documents and click on Texas Education Agency Texas Safety Standards.

3. *National Science Education Standards*, National Academy Press (1996). This report can be downloaded free of charge from the National Academies Press. Link is in D2L course.


**Resources:**

**JOURNALS**


*Texas Science Teacher*, Science Teachers Association of Texas.

**OTHER RESOURCES**


**ONLINE RESOURCES**

American Association for the Advancement of Science — [www.aaas.org](http://www.aaas.org)

American Association of Physics Teachers — [www.aapt.org](http://www.aapt.org)

American Astronomical Society — [www.aas.org](http://www.aas.org)

American Chemical Society — [www.acs.org](http://www.acs.org)

American Institute of Biological Sciences — [www.aibs.org](http://www.aibs.org)

American Physical Society — [www.aps.org](http://www.aps.org)

National Association of Biology Teachers — [www.nabt.org](http://www.nabt.org)

National Association of Geoscience Teachers — [www.nagt.org](http://www.nagt.org)

National Science Teaching Association — [www.nsta.org](http://www.nsta.org)

The Geological Society of America — [www.geosociety.org](http://www.geosociety.org)

**VII. Course Evaluations:**

Near the conclusion of each semester, students in the Perkins College of Education (PCOE) electronically evaluate courses (the teaching itself and the content/assignments) taken within the PCOE. Evaluation data is used for a variety of important purposes including:
1. Course and program improvement, planning and accreditation
2. Instruction evaluation purposes
3. Making decisions on faculty (full-time and part-time) annual evaluation processes, tenure, promotion, pay, and retention

As you evaluate this course, please be thoughtful, thorough, and accurate in completing the evaluation. Please know that the PCOE faculty is committed to excellence in teaching and continued improvement. Therefore, your response is critical!

In the Perkins College of Education, the course evaluation process has been simplified and is completed electronically through MySFA. Although the instructor will be able to view the names of students who complete the survey, all ratings and comments are confidential and anonymous, and summarized data will not be available to the instructor until after final grades are posted.

VIII. Student Ethics and Other Policy Information

Important course related policies:

Course Grades (Including WH), Policy 5.5

Withheld Grades:
At the discretion of the instructor of record and with the approval of the academic unit head, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work by the deadline set by the instructor of record, not to exceed one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F, except as allowed through policy [i.e., Military Service Activation (6.14)]. If students register for the same course in future semesters, the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.

If a student has been found guilty of academic dishonesty, a grade of “WP” or “WH” may be changed to “WF” at the discretion of the faculty member. In the case of a grade change to “WF”, the course will not count towards the six course drop limit since the student is incurring an academic penalty.

See link for additional information concerning course grades.

Final Course Grade Appeals by Students, Policy 6.3

A student may appeal a final course grade if it can be demonstrated that the instructor did not adhere to stated procedures or grading standards, or if other compelling reasons exist to change the grade. A student may not appeal due to general dissatisfaction with a final grade or disagreement with the instructor’s professional judgment regarding the quality of the student’s work.

See link for additional information concerning the process of appealing course grades.

Academic Accommodation for Students with Disabilities, Policy 6.1

It is the policy of Stephen F. Austin State University to comply with the fundamental principles of nondiscrimination and accommodation in academic programs set forth in the implementing regulations for Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 (ADA), as amended by the Americans with Disabilities Act Amendments Act of 2008 (ADAAA).

See link for full information concerning accommodation for students with disabilities.

Appeal Procedure Relating to the Provision of accommodations for students with Disabilities, Policy 6.6
Students, faculty or staff at Stephen F. Austin State University, who disagree with the provision of accommodations for students with disabilities, may submit an appeal to the director of disability services/ADA coordinator. Appeals related to decisions made by the director of disability services regarding the denial of accommodations should be submitted to the chief diversity officer, or their designee. Grievances or complaints of discrimination based on disability relating to other circumstances not described above should be addressed through the university's policy 2.11, Nondiscrimination. See link for additional information concerning appeal procedure.

**Class Attendance, Policy 6.7**

Students are expected to attend all classes, laboratories, and other class-related activities on a regular and punctual basis. Attendance policies will be stated in the course syllabus. For those classes where attendance is a factor in the course grade, an accurate record of attendance will be maintained. See link for additional information concerning class attendance.

**Code of Student Conduct and Academic Integrity, Policy 10.4**

Enrolling at Stephen F. Austin (SFA) State University community obligates one to adhere to a code of behavior that embraces academic and personal integrity; respect for the dignity, right, and property of others; and an intolerance of discrimination and harassment. In keeping with this obligation, Students and Student Organizations are expected to comply with the standards outlined in this Code of Student Conduct and Academic Integrity. All Students are expected and required to obey federal, state, and local laws, to comply with the Regents' Rules and Regulations, with The University of Texas System and institutional rules and regulations. This Code contains rules for adjudicating alleged violations of University policy, in a manner consistent with the requirements of procedural due process and in accordance with The University of Texas System Rules and Board of Regents' Rule: 50101. See link for full information regarding student conduct and academic integrity.

***Other SFA Policy Information***

**Student Academic Dishonesty: Policy 4.1**

Abiding by university policy on academic integrity is a responsibility of all university faculty and students. Faculty members must promote the components of academic integrity in their instruction, and course syllabi are required to provide information about penalties for cheating and plagiarism, as well as the appeal process.

**Definition of Academic Dishonesty**

Academic dishonesty includes both cheating and plagiarism. Cheating includes, but is not limited to:
- using or attempting to use unauthorized materials on any class assignment or exam;
- falsifying or inventing of any information, including citations, on an assignment; and/or;
- helping or attempting to help another in an act of cheating or plagiarism.

Plagiarism is presenting the words or ideas of another person as if they were one's own. Examples of plagiarism include, but are not limited to:
- submitting an assignment as one's own work when it is at least partly the work of another person;
- submitting a work that has been purchased or otherwise obtained from the Internet or another source; and/or,
- incorporating the words or ideas of an author into one's paper or presentation without giving the author credit.

**Penalties for Academic Dishonesty**
Penalties may include, but are not limited to reprimand, no credit for the assignment or exam, re-submission of the work, make-up exam, failure of the course, or expulsion from the university.

**Student Appeals**
A student who wishes to appeal decisions related to academic dishonesty should follow procedures outlined in Academic Appeals by Students (6.3).

**Student Code of Conduct: Policy 10.4**
Disorderly conduct including but not limited to: (a) disruption or Interference of Students, faculty, administration, staff, the educational mission, or routine operations of the University. (b) Commercial solicitation on campus or with University resources without prior approval from University officials. (c) Failure to comply with a reasonable and lawful request or directive of University Officials. (d) Facilitation of Student misconduct including but not limited to assisting, conspiring, soliciting, or encouraging others to engage in conduct which violates the Student Code of Conduct. More information on Student Code of Conduct can be found at [https://www.sfasu.edu/docs/board-regents/student-code-of-conduct-10.4.pdf](https://www.sfasu.edu/docs/board-regents/student-code-of-conduct-10.4.pdf)

The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program at SFA.

**Mental Health**
SFASU values students’ mental health and the role it plays in academic and overall student success. SFA provides a variety of resources to support student’s mental health and wellness. Many of these resources are free, and all of them are confidential.

**On-campus Resources:**
- SFASU Counseling Services • [www.sfasu.edu/counselingservices](http://www.sfasu.edu/counselingservices)
- Health and Wellness Hub (corner of E. College and Raguet) • 936-468-2401

- SFASU Human Services Counseling Clinic • [www.sfasu.edu/humanservices/139.asp](http://www.sfasu.edu/humanservices/139.asp)
- Human Services Room 202 • 936-468-1041

- Crisis Resources:
  - Burke 24-hour crisis line 1(800) 392-8343
  - Suicide Prevention Lifeline 1(800) 273-TALK (8255)
  - Crisis Text Line: Text HELLO to 741-741

**Additional Information:**

**Code of Ethics for the Texas Educator:**
The Texas educator shall comply with standard practices and ethical conduct toward students, professional colleagues, school officials, parents, and members of the community and shall safeguard academic freedom. The Texas educator, in maintaining the dignity of the profession, shall respect and obey the law, demonstrate personal integrity, and exemplify honesty and good moral character. The
Texas educator, in exemplifying ethical relations with colleagues, shall extend just and equitable treatment to all members of the profession. The Texas educator, in accepting a position of public trust, shall measure success by the progress of each student toward realization of his or her potential as an effective citizen. The Texas educator, in fulfilling responsibilities in the community, shall cooperate with parents and others to improve the public schools of the community. This chapter shall apply to educators and candidates for certification.

Please go to TAC 247.2 – Code of Ethics and Standard Practices for Texas Educators.

To complete Certification/Licensing Requirements in Texas related to public education and other professional settings, you will be required to:

1. Candidates must undergo a criminal history background check prior to clinical teaching and prior to employment as an educator. The public school campuses are responsible for completing the criminal background check. A person who is enrolled or planning to enroll in a State Board for Educator Certification-approved educator preparation program or planning to take a certification examination may request a preliminary criminal history evaluation letter regarding the person's potential ineligibility for certification due to a conviction or deferred adjudication for a felony or misdemeanor offense.

   A Preliminary Criminal History Evaluation is a non-mandatory, non-binding evaluation of an individual's self-reported criminal history. In addition, the agency obtains your name-based Texas criminal history information. The service is provided to the requestor for a non-refundable fee. The requestor will receive an evaluation letter by email from agency staff advising of potential ineligibility for educator certification. You are eligible to request a Preliminary Criminal History Evaluation if:

   - You enrolled or planning to enroll in an educator preparation program or
   - You are planning to take a certification exam for initial educator certification, and
   - You have reason to believe that you may be ineligible for educator certification due to a conviction or deferred adjudication for a felony or misdemeanor offense.

   You are not eligible for a preliminary evaluation of your criminal history if you do not have a conviction or deferred adjudication for a felony or misdemeanor offense.

   In addition, you must complete the fingerprinting process when you apply for certification. Participation in the evaluation does not preclude you from submitting to a national criminal history review at the time you apply for your educator certification. Your criminal history will be reviewed and you may be subject to an investigation based on that criminal history, including any information you failed to submit for evaluation. Additional information can be found at https://tea.texas.gov/Texas_Educators/Investigations/Preliminary_Criminal_History_Evaluation-FAQs/.

2. Provide one of the following primary ID documents: passport, driver's license, state or providence ID cards, a national ID card, or military ID card to take the TExES exams (additional information available at http://www.tx.nesinc.com/PageView.aspx?f=GEN_Tests.html. YOU must provide legal documentation to be allowed to take these mandated examinations that are related to certification/licensing requirements in Texas. If you do not have legal documentation, you may want to reconsider your major while at SFASU.

3. Successfully complete state mandated a fingerprint background check. If you have a history of criminal activity, you may want to reconsider your major while at SFASU.
VIII. Other Relevant Course Information:

Expectations:

1. Future teachers are held accountable for correct spelling and grammar usage. Spelling and correct grammar are expected at all times, on all assignments. Points will be deducted for incorrect spelling and poor grammar. If you are experiencing difficulty with standard English and the conventions of speaking and writing, you should seek assistance at the campus Academic Resource Center ARC. [https://www.sfasu.edu/aarc](https://www.sfasu.edu/aarc)

2. In order to pass this course, ALL WORK must be completed and submitted to the instructor on time. Late work will have points deducted at instructor’s discretion. Work may also be sent back for a redo.

3. In order to receive an ‘A’ in the course, ALL assignments must be completed. Failure to complete any assignment will result in an automatic reduction of the course grade earned by one letter grade, regardless of the total number of points earned.

4. Students are expected to participate in all D2L discussions. Participation will be noted according to the depths and comprehension of your responses during class discussions. Participation will contribute to your final grade.

Attendance:

- Time spent within the D2L modules will be monitored.
- Log in daily to the course is expected.
- Read all communications from professor.
- Be on time to Zoom meetings (A five-minute allowance will be granted).
- Face-to-face students are expected to attend weekly Zoom meetings if required.

Professionalism:

Enthusiastic completion of the course activities is of utmost importance in demonstrating commitment to becoming a responsible teacher. Mastery and professional products reflect quality work and reflect on the work you will produce as a teacher. Attitude and confidentiality are essential in determining the teacher’s potential as a successful educator. Gossiping is a reflection of negativism, lack of maturity, and integrity. If problems occur, go to your university professor; you will find that others’ attitudes are easily influenced through negativity.

Response Time: Emails from students will receive a response within 24-48 hours between Monday – Friday.