Temporary (2weeks prior to semester) EDUC 5389
Interdisciplinary Methods
Spring 2016

**Instructor Information**
John Lamb, Ph.D.
Office: BEP 247D
Office Hours:
M: 12:00pm-2:00pm
W: 11:00am-12:00pm

**Course Catalog Description:**
Science, Technology, Engineering, and Mathematics (STEM) Education is by definition interdisciplinary. This course will explore how K-12 teachers can best integrate multiple disciplinary concepts within their STEM and Non-STEM classrooms. Interdisciplinary methods related to STEM; STEM with Fine Arts; STEM with Language Arts; and STEM with Social Studies will be addressed in this course.

**Student Learning Outcomes & Assessments:**
1. The student will be able to discuss, critique, and reflect on the writings and experiences related to interdisciplinary methods in STEM education.
2. The student will be able to prepare, implement, and reflect on instructional lesson planning regarding interdisciplinary methods in STEM education.
3. The student will be able to synthesize personal perspectives and research literature as it relates to interdisciplinary methods in STEM education.

**Evaluation and Grading**

- **Video Reflections** 10%
  -- Students will be asked to provide video reflections throughout the semester related to interdisciplinary methods.

- **Talking Head Lectures** 10%
  -- Lectures focused on specific readings will be viewable and launched throughout the semester. The instructor will present content during these Talking Head Lectures and a quiz will be associated with each lecture. Each quiz will have multiple choice and True/False questions related to the selected readings and content discussed in the lectures.

- **Professional Article Summaries** 20%
  -- Various articles related to interdisciplinary instruction will be researched, selected, read, and summarized by students throughout the semester. An example of the guidelines and work sample are provided with the syllabus.

- **Fictional Novel Video Report** 15%
  -- Students will first read a Fictional Novel at a chosen grade level and provide a video book report of that novel and how it connects STEM with other disciplines.

- **Interdisciplinary PjBL Unit Project** 30%
  -- Students will be expected to generate an interdisciplinary STEM PjBL unit illustrating the integration of STEM with Fine Arts, Language Arts, and Social Studies.

- **Interdisciplinary Methods Paper** 15%
  -- Students will be grouped and work collaboratively on this paper. These students groups will be required to write a 500-850 word instructional paper that would help First-Year teachers plan, prepare, and “be comfortable with” teaching with interdisciplinary methods.

**TOTAL** 100%
A = 90-100%  B = 80-89%  C = 70-79%  D = 60-69%  F = 0-59%

**Required Text, Materials/Supplies, and Related Readings:**
There is no required textbook for this course. This course will utilize published articles for its literature.
**Required Course Materials**
The Professional Article Reading guidelines and example work product are provided at the end of the syllabus.

**Course Topical Outline:**

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Course Policies (attendance, make-up assignments, etc.)

All assignments are due on or before the dates provided in the Topical Outline. Each written assignment must be typewritten and submitted in Blackboard. No email attachments of assignments will be accepted. Submission deadlines are final and links will be removed after deadline has expired. NO LATE assignments will be accepted unless a valid pre-approved or medical reason has been discussed with the professor. If an assignment is not completed on time due to a documented illness, funeral, or other university related activity, then a make-up date can be scheduled with the professor. All late assignments or non-submitted assignments will receive a score of zero points.

Note that the Blackboard program SafeAssign will be used during the semester to make sure no assignment has been plagiarized. This program will check your assignment against their database of resources then produce a percentage match. This percentage will tell me how much of your assignment matches the resources available. If an assignment is plagiarized, then the student will receive a zero for the assignment. Academic dishonesty is not tolerated. The professor reserves the right to assign a failing grade for the course and report student behavior to university officials if offenses are egregious or occur more than once.

Sample Readings:

Definitions and Uses: Case Study of Teachers Implementing Project-based Learning.
Authors: Tamim, Suha R.1, srtamim@memphis.edu
Grant, Michael M.1, michael.m.grant@gmail.com
Source: Interdisciplinary Journal of Problem-based Learning; Fall2013, Vol. 7 Issue 2, p71-101, 31p
Abstract: The purpose of this descriptive study was to explore inservice teachers’ definitions of project-based learning (PjBL) and their accounts on the meaning of their PjBL implementations. A purposive sample of six teachers from grades four through twelve in public and private schools participated. Three themes evolved from inductive analysis: (1) teachers define PjBL through its perceived advantages on learning, (2) teachers vary in their use of PjBL over the continuum of the learning process, and (3) teachers adopt student-centered approaches in PjBL. Interpretations and implications of the findings are also presented. [ABSTRACT FROM AUTHOR]

Considerations for Teaching Integrated STEM Education.
Authors: Stohlmann, Micah1
Moore, Tamara J.1
Roehrig, Gillian H.1
Source: Journal of Pre-College Engineering Education; Apr2012, Vol. 2 Issue 1, p28-34, 7p
Abstract: Quality Science, Technology, Engineering, and Mathematics (STEM) education is vital for the future success of students. Integrated STEM education is one way to make learning more connected and relevant for students. There is a need for further research and discussion on the knowledge, experiences, and background that teachers need to effectively teach integrated STEM education. A support, teaching, efficacy, and materials (s.t.e.m.) model of considerations for teaching integrated STEM education was developed through a year-long partnership with a middle school. The middle school was implementing Project Lead the Way's Gateway to Technology curriculum. The s.t.e.m. model is a good starting point for teachers as they implement and improve integrated STEM education. [ABSTRACT FROM AUTHOR]

Children's nonfiction trade books: a complement to content area texts.
Authors: Moss, Barbara
Source: Reading Teacher; September 1991, Vol. 45, p26-32, 7p
Abstract:
Examines how teachers can use children's nonfiction books to enhance content area textbooks for instruction. Literature-based teaching; Limitations of textbooks; Criteria for selecting nonfiction books; Organizing content area.

Implementing a science-based interdisciplinary curriculum in the second grade: A community of practice in action.

Authors: Park Rogers, Meredith

Abstract: The purpose of this study was to explore the role that a collaborative teaching approach, referred to as a community of practice (CoP), had on a team of four second grade teachers' implementation of a science-based interdisciplinary curriculum. Data was collected in the form of extensive observation notes gathered over 10-weeks of twice weekly team meetings and two 45 minute interviews with each participant. From the field notes developed two vignettes for the purpose of illustrating the members CoP in action. Combining my analysis of the vignettes and the interviews resulted in three emergent themes: 1) benefits, 2) contributions, and 3) their commitment to professional development. From this study I learned that establishing a CoP was viewed as a necessary component of the team's implementation of their science-based interdisciplinary curriculum. Implications for encouraging preservice and inservice elementary teachers to develop CoPs to support science teaching, specifically interdisciplinary teaching, are discussed. [ABSTRACT FROM AUTHOR]


Authors: Lonning, Robert A., DeFranco, Thomas C.
Source: School Science & Mathematics; Oct98, Vol. 98 Issue 6, p312, 8p

Abstract: Presents information as it pertains to the development of interdisciplinary integrated curriculums, with emphasis on education. Information on efforts launched to redefine mathematics, science and social studies curriculums; Role of a teaching curriculum; Reference to the book `A Bibliography of Integrated Science and Mathematics Teaching and Learning Literature.'

Putting Professionalism Back into Teaching: Secondary Preservice and In-Service Teachers Engaging in Interdisciplinary Unit Planning

Author(s): Stolle, Elizabeth Petroelje; Frambaugh-Kritzer, Charlotte

Abstract: Recently, interdisciplinary instruction has come back to the educational scene, specifically supported through the Common Core State Standards. As teacher educators and former middle-level teachers, the authors see this as a positive move to enhance learning for adolescents. This qualitative study sought to answer: How do secondary preservice and in-service teachers respond to interdisciplinary instruction? Findings provide key insights into how interdisciplinary instruction, when implemented successfully within a content area literacy course, empowers preservice and in-service teachers, and brings about a more professional environment. That is, data shows designing interdisciplinary instruction provided the teachers space to take up an identity as teaching professional--acting as specialist, acting as agent, and acting as regulator. Based on the authors' analysis, the authors believe interdisciplinary instruction has the potential to elevate the professional status for teachers, and teacher educators can lead and guide secondary preservice and in-service teachers toward new understandings and paradigms surrounding interdisciplinary methods as we seek to evolve and improve secondary-level curriculum.

The Role of Integrated Curriculum in Music Teacher Education.

Authors: Barry, Nancy H.

Abstract:
The article focuses on the key issues encompassing the integrated curriculum and its implications for music teacher education in the U.S. It includes a one way of model in which music is used to reinforce content in other academic areas is what commonly passes for integration. Another one is a two-way integrated curriculum in which music and other subject areas are included and provides comprehensive learning that can cross cultural boundaries and individual student differences, resulting in a productive experience for learners and opportunities for teachers.

Revisiting Curriculum Integration: A Fresh Look at an Old Idea.
Elizabeth Hinde

Abstract:
This article examines the viability of integrating social studies and elementary core subjects such as reading and math. Elementary teachers in the U.S. report being overwhelmed by pressures to have their students achieve on standardized assessments and complain that there is not enough time in the day to teach reading and math, the areas for which they are held most accountable, and also teach social studies. Moreover, there is another issue constraining the teaching of social studies at the elementary level: Many teachers do not feel comfortable teaching the subject. They lack confidence in their knowledge of social studies content and feel unprepared to teach it. When that lack is added to the pressures being applied by state and federal mandates, it is no wonder that teachers teach social studies only when they have adequately addressed reading and math standards. Therein lie the problems with elementary social studies: There is no time to teach it and it is not seen as a priority. The problem of how to reconcile elementary teachers' discomfort with social studies and the pressure they feel to teach only those areas that are tested with the practical application of social studies education remains, however. The answer may lie with the effective integration of social studies into content areas like reading and math and meeting the state-mandated standards in each area.
UNIVERSITY POLICIES

UT Tyler Honor Code
Every member of the UT Tyler community joins together to embrace: Honor and integrity that will not allow me to lie, cheat, or steal, nor to accept the actions of those who do.

Students Rights and Responsibilities
To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link: http://www.uttyler.edu/wellness/rightsresponsibilities.php

Grade Replacement/Forgiveness and Census Date Policies
Students repeating a course for grade forgiveness (grade replacement) must file a Grade Replacement Contract with the Enrollment Services Center (ADM 230) on or before the Census Date of the semester in which the course will be repeated. (For Spring 2016, the Census Date is February 1st.) Grade Replacement Contracts are available in the Enrollment Services Center or at http://www.uttyler.edu/registrar. Each semester’s Census Date can be found on the Contract itself, on the Academic Calendar, or in the information pamphlets published each semester by the Office of the Registrar.

Failure to file a Grade Replacement Contract will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates are eligible to exercise grade replacement for only three course repeats during their career at UT Tyler; graduates are eligible for two grade replacements. Full policy details are printed on each Grade Replacement Contract.

The Census Date (February 1st) is the deadline for many forms and enrollment actions of which students need to be aware. These include:
- Submitting Grade Replacement Contracts, Transient Forms, requests to withhold directory information, approvals for taking courses as Audit, Pass/Fail or Credit/No Credit.
- Receiving 100% refunds for partial withdrawals. (There is no refund for these after the Census Date)
- Schedule adjustments (section changes, adding a new class, dropping without a “W” grade)
- Being reinstated or re-enrolled in classes after being dropped for non-payment
- Completing the process for tuition exemptions or waivers through Financial Aid

State-Mandated Course Drop Policy
Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the census date (See Academic Calendar for the specific date). Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Enrollment Services Center and must be accompanied by documentation of the extenuating circumstance. Please contact the Enrollment Services Center if you have any questions.

Disability Services
In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University offers accommodations to students with learning, physical and/or psychiatric disabilities. If you have a disability, including non-visible disabilities such as chronic diseases, learning disabilities, head injury, PTSD or ADHD, or you have a history of modifications or accommodations in a previous educational environment you are encouraged to contact the Student Accessibility and Resources office and schedule an interview with the Accessibility Case Manager/ADA Coordinator, Cynthia Lowery Staples. If you are unsure if the above criteria applies to you, but have questions or concerns please contact the SAR office. For more information or to set up an appointment please visit the SAR office located in the University Center, Room 3150 or call 903.566.7079. You may also send an email to cstawes@uttyler.edu

Student Absence due to Religious Observance
Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.
Student Absence for University-Sponsored Events and Activities
If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

Social Security and FERPA Statement:
It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

Emergency Exits and Evacuation:
Everyone is required to exit the building when a fire alarm goes off. Follow your instructor’s directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do not re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services.

Student Standards of Academic Conduct: Disciplinary proceedings may be initiated against any student who engages in scholastic dishonesty, including, but not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are 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.

(i) “Cheating” includes, but is not limited to:
- copying from another student’s test paper;
- using, during a test, materials not authorized by the person giving the test;
- failure to comply with instructions given by the person administering the test;
- possession during a test of materials which are not authorized by the person giving the test, such as class notes or specifically designed “crib notes”. The presence of textbooks constitutes a violation if they have been specifically prohibited by the person administering the test;
- using, buying, stealing, transporting, or soliciting in whole or part the contents of an unadministered test, test key, homework solution, or computer program;
- collaborating with or seeking aid from another student during a test or other assignment without authority;
- discussing the contents of an examination with another student who will take the examination;
- divulging the contents of an examination, for the purpose of preserving questions for use by another, when the instructors has designated that the examination is not to be removed from the examination room or not to be returned or to be kept by the student;
- substituting for another person, or permitting another person to substitute for oneself to take a course, a test, or any course-related assignment;
- paying or offering money or other valuable thing to, or coercing another person to obtain an unadministered test, test key, homework solution, or computer program or information about an unadministered test, test key, home solution or computer program;
- falsifying research data, laboratory reports, and/or other academic work offered for credit;
- taking, keeping, misplacing, or damaging the property of The University of Texas at Tyler, or of another, if the student knows or reasonably should know that an unfair academic advantage would be gained by such conduct; and
- misrepresenting facts, including providing false grades or resumes, for the purpose of obtaining an academic or financial benefit or injuring another student academically or financially.

(ii) “Plagiarism” includes, but is not limited to, the appropriation, buying, receiving as a gift, or obtaining by any means another’s work and the submission of it as one’s own academic work offered for credit.

(iii) “Collusion” includes, but is not limited to, the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any section of the rules on scholastic dishonesty.

(iv) All written work that is submitted will be subject to review by SafeAssign™, available on Blackboard.

COLLEGE OF EDUCATION AND PSYCHOLOGY (CEP) VISION AND MISSION
Vision: The College of Education and Psychology is nationally recognized and respected for its academic programs and opportunities. It is a center of academic excellence, scholarly inquiry, and public service. The College prepares
leaders to meet the critical challenges of the 21st Century through productive contributions to local and global communities and toward individual and cultural equity.

**Mission:** The mission of the College of Education and Psychology is to provide a positive environment that fosters the acquisition of knowledge and skills. The mission is individually and collectively realized through a community of scholars that contributes to knowledge through scholarly inquiry; organizes knowledge for application, understanding and communication; and provides leadership and service. We affirm and promote global perspectives that value individual and cultural diversity to enhance learning, service, and scholarship.

**Code of Ethics and Standard Practices for Texas Educators**

**Texas Administrative Code**

**TITLE 19**

**EDUCATION**

**PART 7**

**STATE BOARD FOR EDUCATOR CERTIFICATION**

**CHAPTER 247**

**EDUCATORS’ CODE OF ETHICS**

**RULE §247.2**  
**Purpose and Scope; Definitions**

(b) **Enforceable Standards.**

(1) **Professional Ethical Conduct, Practices and Performance.**

(A) **Standard 1.1.** The educator shall not intentionally, knowingly, or recklessly engage in deceptive practices regarding official policies of the school district, educational institution, educator preparation program, the Texas Education Agency, or the State Board for Educator Certification (SBEC) and its certification process.

(B) **Standard 1.2.** The educator shall not knowingly misappropriate, divert, or use monies, personnel, property, or equipment committed to his or her charge for personal gain or advantage.

(C) **Standard 1.3.** The educator shall not submit fraudulent requests for reimbursement, expenses, or pay.

(D) **Standard 1.4.** The educator shall not use institutional or professional privileges for personal or partisan advantage.

(E) **Standard 1.5.** The educator shall neither accept nor offer gratuities, gifts, or favors that impair professional judgment or to obtain special advantage. This standard shall not restrict the acceptance of gifts or tokens offered and accepted openly from students, parents of students, or other persons or organizations in recognition or appreciation of service.

(F) **Standard 1.6.** The educator shall not falsify records, or direct or coerce others to do so.

(G) **Standard 1.7.** The educator shall comply with state regulations, written local school board policies, and other state and federal laws.

(H) **Standard 1.8.** The educator shall apply for, accept, offer, or assign a position or a responsibility on the basis of professional qualifications.

(I) **Standard 1.9.** The educator shall not make threats of violence against school district employees, school board members, students, or parents of students.

(J) **Standard 1.10** The educator shall be of good moral character and be worthy to instruct or supervise the youth of this state.

(K) **Standard 1.11.** The educator shall not intentionally or knowingly misrepresent his or her employment history, criminal history, and/or disciplinary record when applying for subsequent employment.

(L) **Standard 1.12.** The educator shall refrain from the illegal use or distribution of controlled substances and/or abuse of prescription drugs and toxic inhalants.

(M) **Standard 1.13.** The educator shall not consume alcoholic beverages on school property or during school activities when students are present.

(2) **Ethical Conduct Toward Professional Colleagues.**

(A) **Standard 2.1.** The educator shall not reveal confidential health or personnel information concerning colleagues unless disclosure serves lawful professional purposes or is required by law.

(B) **Standard 2.2.** The educator shall not harm others by knowingly making false statements about a colleague or the school system.

(C) **Standard 2.3.** The educator shall adhere to written local school board policies and state and federal laws regarding the hiring, evaluation, and dismissal of personnel.

(D) **Standard 2.4.** The educator shall not interfere with a colleague’s exercise of political, professional, or citizenship rights and responsibilities.

(E) **Standard 2.5.** The educator shall not discriminate against or coerce a colleague on the basis of race, color, religion, national origin, age, gender, disability, family status, or sexual orientation.
(F) **Standard 2.6.** The educator shall not use coercive means or promise of special treatment in order to influence professional decisions or colleagues.

(G) **Standard 2.7.** The educator shall not retaliate against any individual who has filed a complaint with the SBEC or who provides information for a disciplinary investigation or proceeding under this chapter.

(3) **Ethical Conduct Toward Students.**

(A) **Standard 3.1.** The educator shall not reveal confidential information concerning students unless disclosure serves lawful professional purposes or is required by law.

(B) **Standard 3.2.** The educator shall not intentionally, knowingly, or recklessly treat a student or minor in a manner that adversely affects or endangers the learning, physical health, mental health, or safety of the student or minor.

(C) **Standard 3.3.** The educator shall not intentionally, knowingly, or recklessly misrepresent facts regarding a student.

(D) **Standard 3.4.** The educator shall not exclude a student from participation in a program, deny benefits to a student, or grant an advantage to a student on the basis of race, color, gender, disability, national origin, religion, family status, or sexual orientation.

(E) **Standard 3.5.** The educator shall not intentionally, knowingly, or recklessly engage in physical mistreatment, neglect, or abuse of a student or minor.

(F) **Standard 3.6.** The educator shall not solicit or engage in sexual conduct or a romantic relationship with a student or minor.

(G) **Standard 3.7.** The educator shall not furnish alcohol or illegal/unauthorized drugs to any person under 21 years of age unless the educator is a parent or guardian of that child or knowingly allow any person under 21 years of age unless the educator is a parent or guardian of that child to consume alcohol or illegal/unauthorized drugs in the presence of the educator.

(H) **Standard 3.8.** The educator shall maintain appropriate professional educator-student relationships and boundaries based on a reasonably prudent educator standard.

(I) **Standard 3.9.** The educator shall refrain from inappropriate communication with a student or minor, including, but not limited to, electronic communication such as cell phone, text messaging, email, instant messaging, blogging, or other social network communication. Factors that may be considered in assessing whether the communication is inappropriate include, but are not limited to:

   (i) the nature, purpose, timing, and amount of the communication;
   (ii) the subject matter of the communication;
   (iii) whether the communication was made openly or the educator attempted to conceal the communication;
   (iv) whether the communication could be reasonably interpreted as soliciting sexual contact or a romantic relationship;
   (v) whether the communication was sexually explicit; and
   (vi) whether the communication involved discussion(s) of the physical or sexual attractiveness or the sexual history, activities, preferences, or fantasies of either the educator or the student.

**Source Note:** The provisions of this §247.2 adopted to be effective March 1, 1998, 23 TexReg 1022; amended to be effective August 22, 2002, 27 TexReg 7530; amended to be effective December 26, 2010, 35 TexReg 11242

**SCHOOL OF EDUCATION PROGRAM STANDARDS**

The School of Education has adopted program standards that guide the development of teacher candidates in their understanding of the complexity of teaching. These standards are based on those developed by the Interstate New Teacher Assessment and Support Consortium (InTASC) and shared by other accredited universities in Texas and across the United States. The Standards are broad understandings and practices gained throughout the program using a constructivist model in which new learnings are assimilated and attached to prior understandings, thus, over time, building a mental structure (schema) of educational concepts.

**Standard #1: Learner Development (students in general)**

The teacher understands how learners grow and develop, recognizing that patterns of learning and development vary individually within and across the cognitive, linguistic, social, emotional, and physical areas, and designs and implements developmentally appropriate and challenging learning experiences.

_Texas Teacher Practice Standards: 1.2, 2.1, 2.2, 2.3, 4.1_
Standard #2: Learning Differences (individual students)
The teacher uses understanding of individual differences and diverse cultures and communities to ensure inclusive learning environments that enable each learner to meet high standards.
*Texas Teacher Practice Standards: 1.3, 2.1, 2.2, 2.3, 4.1*

Standard #3: Learning Environments
The teacher works with others to create environments that support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self motivation.
*Texas Teacher Practice Standards: 1.3, 1.4, 1.6, 2.3, 4.1, 4.2, 4.3, 4.4*

Standard #4: Content Knowledge
The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and creates learning experiences that make these aspects of the discipline accessible and meaningful for learners to assure mastery of the content.
*Texas Teacher Practice Standards: 1.2, 1.5, 1.6, 3.1, 3.2, 3.3, 5.2*

Standard #5: Application of Content
The teacher understands how to connect concepts and use differing perspectives to engage learners in critical thinking, creativity, and collaborative problem solving related to authentic local and global issues.
*Texas Teacher Practice Standards: 1.5, 3.2, 3.3*

Standard #6: Assessment
The teacher understands and uses multiple methods of assessment to engage learners in their own growth, to monitor learner progress, and to guide the teacher’s and learner’s decision making.
*Texas Teacher Practice Standards: 1.6, 5.1, 5.2, 5.3, 5.4, 6.2*

Standard #7: Planning for Instruction
The teacher plans instruction that supports every student in meeting rigorous learning goals by drawing upon knowledge of content areas, curriculum, cross-disciplinary skills, and pedagogy, as well as knowledge of learners and the community context.
*Texas Teacher Practice Standards: 1.1, 1.2, 1.3, 5.1, 5.3, 5.4*

Standard #8: Instructional Strategies
The teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways.
*Texas Teacher Practice Standards: 1.4, 1.5, 1.6, 5.4*

Standard #9: Professional Learning and Ethical Practice
The teacher engages in ongoing professional learning and uses evidence to continually evaluate his/her practice, particularly the effects of his/her choices and actions on others (learners, families, other professionals, and the community), and adapts practice to meet the needs of each learner.
*Texas Teacher Practice Standards: 3.2, 3.3, 6.1, 6.2, 6.4*

Standard #10: Leadership and Collaboration
The teacher seeks appropriate leadership roles and opportunities to take responsibility for student learning, to collaborate with learners, families, colleagues, other school professionals, and community members to ensure learner growth, and to advance the profession.
*Texas Teacher Practice Standards: 6.3, 6.4*

Standard #11: Technology
The teacher is able to create, implement, and evaluate technology to enhance teaching, student learning, and other obligations (e.g. reports, grades, tests, etc.) required of teachers.
*Texas Teacher Practice Standards: 1.5*

Texas Educator Standards
Title 19: Chapter 149, Subchapter AA
Rule: 149.1001

(a) Purpose. The standards identified in this section are performance standards to be used to inform the training, appraisal, and professional development of teachers.
(b) Standards.

(1) Standard 1: Instructional Planning and Delivery. Teachers demonstrate their understanding of instructional planning and delivery by providing standards-based, data-driven, differentiated instruction that engages students, makes appropriate use of technology, and makes learning relevant for today's learners.

(A) Teachers design clear, well organized, sequential lessons that build on students' prior knowledge.

(i) Teachers develop lessons that build coherently toward objectives based on course content, curriculum scope and sequence, and expected student outcomes.
(ii) Teachers effectively communicate goals, expectations, and objectives to help all students reach high levels of achievement.

(iii) Teachers connect students' prior understanding and real-world experiences to new content and contexts, maximizing learning opportunities.

(B) Teachers design developmentally appropriate, standards-driven lessons that reflect evidence-based best practices.

(i) Teachers plan instruction that is developmentally appropriate, is standards driven, and motivates students to learn.

(ii) Teachers use a range of instructional strategies, appropriate to the content area, to make subject matter accessible to all students.

(iii) Teachers use and adapt resources, technologies, and standards-aligned instructional materials to promote student success in meeting learning goals.

(C) Teachers design lessons to meet the needs of diverse learners, adapting methods when appropriate.

(i) Teachers differentiate instruction, aligning methods and techniques to diverse student needs, including acceleration, remediation, and implementation of individual education plans.

(ii) Teachers plan student groupings, including pairings and individualized and small-group instruction, to facilitate student learning.

(iii) Teachers integrate the use of oral, written, graphic, kinesthetic, and/or tactile methods to teach key concepts.

(D) Teachers communicate clearly and accurately and engage students in a manner that encourages students' persistence and best efforts.

(i) Teachers ensure that the learning environment features a high degree of student engagement by facilitating discussion and student-centered activities as well as leading direct instruction.

(ii) Teachers validate each student's comments and questions, utilizing them to advance learning for all students.

(iii) Teachers encourage all students to overcome obstacles and remain persistent in the face of challenges, providing them with support in achieving their goals.

(E) Teachers promote complex, higher-order thinking, leading class discussions and activities that provide opportunities for deeper learning.

(i) Teachers set high expectations and create challenging learning experiences for students, encouraging them to apply disciplinary and cross-disciplinary knowledge to real-world problems.

(ii) Teachers provide opportunities for students to engage in individual and collaborative critical thinking and problem solving.

(iii) Teachers incorporate technology that allows students to interact with the curriculum in more significant and effective ways, helping them reach mastery.

(F) Teachers consistently check for understanding, give immediate feedback, and make lesson adjustments as necessary.

(i) Teachers monitor and assess student progress to ensure that their lessons meet students' needs.

(ii) Teachers provide immediate feedback to students in order to reinforce their learning and ensure that they understand key concepts.

(iii) Teachers adjust content delivery in response to student progress through the use of developmentally appropriate strategies that maximize student engagement.

(2) Standard 2: Knowledge of Students and Student Learning. Teachers work to ensure high levels of learning, social-emotional development, and achievement outcomes for all students, taking into consideration each student's educational and developmental backgrounds and focusing on each student's needs.

(A) Teachers demonstrate the belief that all students have the potential to achieve at high levels and support all students in their pursuit of social-emotional learning and academic success.

(i) Teachers purposefully utilize learners' individual strengths as a basis for academic and social-emotional growth.

(ii) Teachers create a community of learners in an inclusive environment that views differences in learning and background as educational assets.

(iii) Teachers accept responsibility for the growth of all of their students, persisting in their efforts to ensure high levels of growth on the part of each learner.

(B) Teachers acquire, analyze, and use background information (familial, cultural, educational, linguistic, and developmental characteristics) to engage students in learning.

(i) Teachers connect learning, content, and expectations to students' prior knowledge, life experiences, and interests in meaningful contexts.

(ii) Teachers understand the unique qualities of students with exceptional needs, including disabilities and giftedness, and know how to effectively address these needs through instructional strategies and resources.
(iii) Teachers understand the role of language and culture in learning and know how to modify their practices to support language acquisition so that language is comprehensible and instruction is fully accessible.

(C) Teachers facilitate each student's learning by employing evidence-based practices and concepts related to learning and social-emotional development.
   (i) Teachers understand how learning occurs and how learners develop, construct meaning, and acquire knowledge and skills.
   (ii) Teachers identify readiness for learning and understand how development in one area may affect students' performance in other areas.
   (iii) Teachers apply evidence-based strategies to address individual student learning needs and differences, adjust their instruction, and support the learning needs of each student.

(3) Standard 3--Content Knowledge and Expertise. Teachers exhibit a comprehensive understanding of their content, discipline, and related pedagogy as demonstrated through the quality of the design and execution of lessons and their ability to match objectives and activities to relevant state standards.

(A) Teachers understand the major concepts, key themes, multiple perspectives, assumptions, processes of inquiry, structure, and real-world applications of their grade-level and subject-area content.
   (i) Teachers have expertise in how their content vertically and horizontally aligns with the grade-level/subject-area continuum, leading to an integrated curriculum across grade levels and content areas.
   (ii) Teachers identify gaps in students' knowledge of subject matter and communicate with their leaders and colleagues to ensure that these gaps are adequately addressed across grade levels and subject areas.
   (iii) Teachers keep current with developments, new content, new approaches, and changing methods of instructional delivery within their discipline.

(B) Teachers design and execute quality lessons that are consistent with the concepts of their specific discipline, are aligned to state standards, and demonstrate their content expertise.
   (i) Teachers organize curriculum to facilitate student understanding of the subject matter.
   (ii) Teachers understand, actively anticipate, and adapt instruction to address common misunderstandings and preconceptions.
   (iii) Teachers promote literacy and the academic language within the discipline and make discipline-specific language accessible to all learners.

(C) Teachers demonstrate content-specific pedagogy that meets the needs of diverse learners, utilizing engaging instructional materials to connect prior content knowledge to new learning.
   (i) Teachers teach both the key content knowledge and the key skills of the discipline.
   (ii) Teachers make appropriate and authentic connections across disciplines, subjects, and students' real-world experiences.

(4) Standard 4--Learning Environment. Teachers interact with students in respectful ways at all times, maintaining a physically and emotionally safe, supportive learning environment that is characterized by efficient and effective routines, clear expectations for student behavior, and organization that maximizes student learning.

(A) Teachers create a mutually respectful, collaborative, and safe community of learners by using knowledge of students' development and backgrounds.
   (i) Teachers embrace students' backgrounds and experiences as an asset in their learning environment.
   (ii) Teachers maintain and facilitate respectful, supportive, positive, and productive interactions with and among students.
   (iii) Teachers establish and sustain learning environments that are developmentally appropriate and respond to students' needs, strengths, and personal experiences.

(B) Teachers organize their classrooms in a safe and accessible manner that maximizes learning.
   (i) Teachers arrange the physical environment to maximize student learning and to ensure that all students have access to resources.
   (ii) Teachers create a physical classroom set-up that is flexible and accommodates the different learning needs of students.

(C) Teachers establish, implement, and communicate consistent routines for effective classroom management, including clear expectations for student behavior.
   (i) Teachers implement behavior management systems to maintain an environment where all students can learn effectively.
   (ii) Teachers maintain a strong culture of individual and group accountability for class expectations.
   (iii) Teachers cultivate student ownership in developing classroom culture and norms.

(D) Teachers lead and maintain classrooms where students are actively engaged in learning as indicated by their level of motivation and on-task behavior.
(i) Teachers maintain a culture that is based on high expectations for student performance and encourages students to be self-motivated, taking responsibility for their own learning.
(ii) Teachers manage and facilitate groupings in order to maximize student collaboration, participation, and achievement.
(iv) Teachers communicate regularly, clearly, and appropriately with parents and families about student progress, providing detailed and constructive feedback and partnering with families in furthering their students’ achievement goals.

5) Standard 5—Data-Driven Practice. Teachers use formal and informal methods to assess student growth aligned to instructional goals and course objectives and regularly review and analyze multiple sources of data to measure student progress and adjust instructional strategies and content delivery as needed.

(A) Teachers implement both formal and informal methods of measuring student progress.

(i) Teachers gauge student progress and ensure student mastery of content knowledge and skills by providing assessments aligned to instructional objectives and outcomes that are accurate measures of student learning.

(ii) Teachers vary methods of assessing learning to accommodate students’ learning needs, linguistic differences, and/or varying levels of background knowledge.

(B) Teachers set individual and group learning goals for students by using preliminary data and communicate these goals with students and families to ensure mutual understanding of expectations.

(i) Teachers develop learning plans and set academic as well as social-emotional learning goals for each student in response to previous outcomes from formal and informal assessments.

(ii) Teachers involve all students in self-assessment, goal setting, and monitoring progress.

(iii) Teachers communicate with students and families regularly about the importance of collecting data and monitoring progress of student outcomes, sharing timely and comprehensible feedback so they understand students’ goals and progress.

(C) Teachers regularly collect, review, and analyze data to monitor student progress.

(i) Teachers analyze and review data in a timely, thorough, accurate, and appropriate manner, both individually and with colleagues, to monitor student learning.

(ii) Teachers combine results from different measures to develop a holistic picture of students’ strengths and learning needs.

(D) Teachers utilize the data they collect and analyze to inform their instructional strategies and adjust short- and long-term plans accordingly.

(i) Teachers design instruction, change strategies, and differentiate their teaching practices to improve student learning based on assessment outcomes.

(ii) Teachers regularly compare their curriculum scope and sequence with student data to ensure they are on track and make adjustments as needed.

6) Standard 6—Professional Practices and Responsibilities. Teachers consistently hold themselves to a high standard for individual development, pursue leadership opportunities, collaborate with other educational professionals, communicate regularly with stakeholders, maintain professional relationships, comply with all campus and school district policies, and conduct themselves ethically and with integrity.

(A) Teachers reflect on their teaching practice to improve their instructional effectiveness and engage in continuous professional learning to gain knowledge and skills and refine professional judgment.

(i) Teachers reflect on their own strengths and professional learning needs, using this information to develop action plans for improvement.

(ii) Teachers establish and strive to achieve professional goals to strengthen their instructional effectiveness and better meet students’ needs.

(iii) Teachers engage in relevant, targeted professional learning opportunities that align with their professional growth goals and their students’ academic and social-emotional needs.

(B) Teachers collaborate with their colleagues, are self-aware in their interpersonal interactions, and are open to constructive feedback from peers and administrators.

(i) Teachers seek out feedback from supervisors, coaches, and peers and take advantage of opportunities for job-embedded professional development.

(ii) Teachers actively participate in professional learning communities organized to improve instructional practices and student learning.

(C) Teachers seek out opportunities to lead students, other educators, and community members within and beyond their classrooms.

(i) Teachers clearly communicate the mission, vision, and goals of the school to students, colleagues, parents and families, and other community members.
(ii) Teachers seek to lead other adults on campus through professional learning communities, grade- or subject-level team leadership, committee membership, or other opportunities.

(D) Teachers model ethical and respectful behavior and demonstrate integrity in all situations.

(i) Teachers adhere to the educators' code of ethics in §247.2 of this title (relating to Code of Ethics and Standard Practices for Texas Educators), including following policies and procedures at their specific school placement(s).

(ii) Teachers communicate consistently, clearly, and respectfully with all members of the campus community, including students, parents and families, colleagues, administrators, and staff.

(iii) Teachers serve as advocates for their students, focusing attention on students' needs and concerns and maintaining thorough and accurate student rec
Summary Checklist (Cover Page for Packet)

Name: ________________________________

1. Bibliography, APA style, on both outline and summary pages. (Maximum 10 points)

2. Outline, typed, similar structure to outline page model handout. Outline includes the phrases—First of all, Secondly, finally, and In conclusion at the beginning of each unit beginning with Roman Numeral II. Underline these terms in your summary paragraphs. Four or more subdivisions (The hyphens in the example (-)) in the outline of the body of the summary. (Maximum 15 points)

3. Thesis statement included on both outline and critique pages. Thesis statement includes the tag “for several reasons” or some indication of at least three ideas included in the outline. These three or more main ideas must reflect the topics of the body paragraphs. The Theses Statement exceptionally addresses the main ideas of the summarized article. (Maximum 25 points)

4. The introductory paragraph of the summary includes the introductory material submitted as a model of the instructor—author, title, background, TS (Thesis Statement), ABC (from outline), and maybe transition sentence. The body paragraphs are connected to the introduction and especially the TS. The conclusion summarizes the main ideas of the article. The overall essay provides an exceptional summary of the articles primary objectives. (Maximum 25 points)

5. Edited for sentence construction, spelling, punctuation, and form. All paragraphs single-spaced, Evidence of transition words to tie sentences together for coherence, Underline those identifying phrases in which you refer to the author. For example, phrases such as these—according to the author, the author said that, Jones pointed out, etc. If you read the article carefully, look to see how the professional writer referred to other sources. Font size 12, Times New Roman style. Article included with critique. Staple it to the written portion of the summary. (Maximum 15 points)

6. Summary submitted to SafeAssign in Blackboard. Plagiarism is not evidenced by the SafeAssign Report. (Maximum 10 points) Note: excessive plagiarism will result in a zero on this assignment and any subsequent acts of academic dishonesty will earn a zero in the course and possible removal from the Teacher Preparation Program.
America’s children: providing early exposure to STEM (science, technology, engineering and math) initiatives


Thesis Statement: The author posits the idea that a proactive approach can ensure that students are on coursework for adequate preparation to enter STEM degree programs at institutions of higher learning through early exposure of STEM curriculum, impacting elementary teacher education in STEM disciplines, and goals for future elementary STEM education.

I. Thesis Statement: The author posits the idea that a proactive approach can ensure that students are on coursework for adequate preparation to enter STEM degree programs at institutions of higher learning through early exposure of STEM curriculum, impacting elementary teacher education in STEM disciplines, and goals for future elementary STEM education.
   A. Early exposure to STEM curriculum for students in K-12 education is an increasing concept for all educators.
   B. Preservice and veteran teachers alike lack the knowledge in scientific inquiry and technological design.
   C. President Obama’s “Educate to Innovate” campaign is pushing the STEM initiatives into the American education system at rapid paces, but obstacles are still in the way.

II. First of all, the author believes that exposing students early in their K-12 education to STEM initiatives will increase their STEM career field choices in their future education.
   A. There needs to be emphasize in the science and mathematics instruction in the early grades.
      -- Elementary teachers need support in teaching math and science curricula in abstract ways.
      -- Suggestion that outreach programs are need with community and educators.
   B. In order to prepare students for science, schools should focus more on STEM processes rather than content.
      -- Suggestion that science classes promote more problem solving, critical thinking, and open-ended inquiry.
      -- Suggestion that scientific problem-based activities promote critical scientific thinking as well as engaging the students in science.

III. Secondly, the author argues about the impact on new and old classroom teachers’ lack of pedagogical expertise in the STEM disciplines.
   A. The lack of pedagogical expertise given by teacher education programs hinders the STEM initiatives.
      -- Preservice teachers don’t receive enough training in teaching science inquiry.
      -- Veteran teachers lack self-efficacy.
   B. There is an increasing pressure on teachers in America.
      -- Standardized testing.
      -- Reduce the delivery of structured science programs.
IV. Finally, the author demonstrates how important it is to implement STEM initiatives into the American education system.
   A. Postsecondary institutions need to join forces with K-12 schools to help incorporate STEM initiatives.
      -- Continue with Partnership for 21st Century Skills and President Obama’s Educate to Innovate campaign.
      -- Prepare teachers with the education they need to be effective.
   B. Help motivate students at an early age to pursue STEM careers.
      -- Educate the educators.
      -- Excite the learners.

V. In conclusion, the author posits the idea that a proactive approach can ensure that students are on coursework for adequate preparation to enter STEM degree programs at institutions of higher learning through early exposure of STEM curriculum, impacting elementary teacher education in STEM disciplines, and goals for future elementary STEM education.
   A. Early exposure to STEM curriculum for students in K-12 education is an increasing concept for all educators.
   B. Preservice and veteran teachers alike lack the knowledge in scientific inquiry and technological design.
   C. President Obama’s “Educate to Innovate” campaign is pushing the STEM initiatives into the American education system at rapid paces, but obstacles are still in the way.
America’s children: providing early exposure to STEM (science, technology, engineering and math) initiatives


Thesis Statement: The author posits the idea that a proactive approach can ensure that students are on coursework for adequate preparation to enter STEM degree programs at institutions of higher learning through early exposure of STEM curriculum, impacting elementary teacher education in STEM disciplines, and goals for future elementary STEM education.

Nancy K. DeJarnette, of Rowan University, is the author of “America’s children: providing early exposure to STEM (science, technology, engineering and math) initiatives.” In her article, DeJarnette gives her explanation of why the United States needs to provide students and educators adequate preparation of STEM related initiatives. The author proposes that early exposure to STEM curriculum for student during their primary school years is becoming increasingly important to motivate students to pursue STEM related jobs. DeJarnette also provides an insight of how the teacher education program is lacking pedagogical expertise in STEM disciplines. The author describes some STEM initiatives that are presently occurring, but many obstacles still lie in the way of a true STEM curriculum focus.

First of all, DeJarnette suggest that exposing students early in their K-12 education to STEM curriculum, “based on interactive problem-solving activities,” will increase their STEM career field choices in their future education. In order to accomplish this, the author quotes Swift and Watkins, stating that “effective science and mathematics instruction must begin in the early grades.” DeJarnette believes that, “Elementary teachers need support to find ways to incorporate more hands-on, inquiry-based activities into the math and science curricula to assist in teaching the more abstract concepts.” Swift and Watkins stress outreach programs that can have community members with STEM backgrounds support educators by providing different activities. The author talks about a study by Roth & Eijck that stated, “the focus in schools should be more on STEM processes rather than specific content...” In keeping with this idea, the author believes science classes should focus on more problem solving, critical thinking, and open-ended inquiries to help develop students’ process skills and engage the students in science, rather than just learning the content knowledge from the book.

Secondly, the author suggests that preservice and veteran teachers lack the pedagogical expertise in STEM disciplines to effectively teach science inquiry. Teachers with less formal science education, typically elementary teachers, have a low self-efficacy and tend to not incorporate scientific inquiry into their lessons which leads to lower student achievement. The author as stated that, “The emphasis on standardized testing in America has hampered the growth of scientific pedagogy in the elementary schools to include inquiry-based projects.” Students don’t get to experience scientific investigations at a personal level. In fact they typically learn through the theory and knowledge of others, i.e. their teachers and books. Schools need to motivate students by allowing them “to construct their own knowledge and expertise through procedural and pedagogical methods that encourage and support inquiry.”
Finally, the author describes what has been done and what needs to be done in order to implement STEM initiatives into the education system. The author states that “Institutions of higher learning need to take the front lines to join forces with the current initiatives of the Partnership for 21st Century Skills and President Obama’s Educate to Innovate campaign.” It is up to the teacher education programs to provide preservice teachers the skills and knowledge they need in STEM concepts to allow them to effectively integrate the STEM concepts. As for veteran teachers, DeJarnette says it should be the focus of university teacher educators “to reach out to their community schools’ and provide development.” Although these concepts are good, students need to be motivated early in their school careers if we want to increase the students’ choices in future STEM disciplines. The author suggests we do this by, “Interactive problem-based learning activities in STEM disciplines” which “are innovative and exciting for young learners.”

In conclusion, the author posits the idea that early exposure of STEM initiatives for students is important to foster students that might continue in a STEM related field once at an institution of higher learning. In order for this to happen, teachers must be trained in STEM initiatives throughout their teaching education program and veteran teachers must be given professional development in STEM related concepts. There are many STEM initiatives available today, with many more on their way thanks to President Obama’s “Educate to Innovate” campaign and requirements of highly qualified teachers in core areas.
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<tr>
<td><strong>Outline</strong></td>
<td>The student wrote a <em>poor</em> outline that <em>meagerly</em> synthesized the article’s content into categories that were used to structure the 5-paragraph written summary.</td>
<td>The student wrote an <em>adequate</em> outline that <em>nearly</em> synthesized the entire article’s content into <em>seemingly</em> manageable categories that were used to structure the 5-paragraph written summary.</td>
<td>The student wrote an <em>exceptional</em> outline that <em>succinctly</em> synthesized the article’s content into manageable categories that were used to structure the 5-paragraph written summary.</td>
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<td><strong>Summary</strong></td>
<td>The student wrote a <em>poor</em> 5-paragraph summary that <em>meagerly</em> synthesized the article’s content into an essay that <em>was not graduate level</em>.</td>
<td>The student wrote an <em>adequate</em> 5-paragraph summary that <em>nearly</em> synthesized the article’s content into a readable essay that <em>could have been written better</em>.</td>
<td></td>
<td>The student wrote an <em>exceptional</em> 5-paragraph summary that <em>succinctly</em> synthesized the article’s content into a readable essay.</td>
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<tr>
<td><strong>Formatting and Grammar</strong></td>
<td>The student <em>poorly</em> implemented the formatting elements of the checklist and had major grammatical errors within both the outline and written summary.</td>
<td>The student <em>adequately</em> implemented the formatting elements of the checklist and had minor grammatical errors within both the outline and written summary.</td>
<td></td>
<td>The student <em>exceptionally</em> implemented the formatting elements of the checklist with no grammatical errors within both the outline and written summary.</td>
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Rubric for Video Report:

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<tr>
<td><strong>Selection</strong></td>
<td>The student chose a <strong>poor</strong> Fictional Novel that was not appropriate to their instructional grade level.</td>
<td>The student chose an <strong>adequate</strong> Fictional Novel that was barely at their instructional grade level.</td>
<td></td>
<td>The student chose an <strong>exceptional</strong> Fictional Novel that was appropriate to their instructional grade level.</td>
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<tr>
<td><strong>Summary</strong></td>
<td>The student provided a <strong>poor</strong> oral summary of their Fictional Novel that did not synthesized the novel’s ability to connect to the instructional grade level.</td>
<td>The student provided an <strong>adequate</strong> oral summary of their Fictional Novel that adequately synthesized the novel’s ability to connect to the instructional grade level.</td>
<td></td>
<td>The student provided an <strong>exceptional</strong> oral summary of their Fictional Novel that succinctly synthesized the novel’s ability to connect to the instructional grade level.</td>
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<tr>
<td><strong>Video Quality</strong></td>
<td>The student provided a <strong>poor</strong> video where the student was poorly heard and seen giving their oral book report.</td>
<td>The student provided an <strong>adequate</strong> video where the student was adequately heard and seen giving their oral book report.</td>
<td></td>
<td>The student provided an <strong>exceptional</strong> video where the student was heard and seen giving their oral book report.</td>
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### Rubric for Interdisciplinary Unit:

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<tr>
<td><strong>Standards and Objectives</strong></td>
<td>The student provided a <strong>poor</strong> list of standards and objectives for <strong>not all</strong> the instructional dates and <strong>not all</strong> of the content areas in the interdisciplinary unit.</td>
<td>The student provided an <strong>adequate</strong> list of standards and objectives for <strong>nearly all</strong> of the instructional dates and <strong>nearly all</strong> of the content areas in the interdisciplinary unit.</td>
<td>The student provided an <strong>exhaustive</strong> list of standards and objectives for <strong>all</strong> of the instructional dates and <strong>all</strong> of the content areas in the interdisciplinary unit.</td>
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<tr>
<td><strong>Unit 5E Structure</strong></td>
<td>The unit <strong>poorly</strong> aligns with the 5E structure <strong>having or not consisting of</strong> at least five instructional days within the unit.</td>
<td>The unit <strong>adequately</strong> aligns with the 5E structure having at least five instructional days within the unit.</td>
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<td>The unit <strong>exceptionally</strong> aligns with the 5E structure having at least five instructional days within the unit.</td>
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<tr>
<td><strong>Daily Instructional Procedures</strong></td>
<td>The student provided <strong>poor</strong> procedures for <strong>not all</strong> of the instructional days in the lesson that <strong>poorly</strong> illustrated what both the teacher and students would be doing during the lessons.</td>
<td>The student provided <strong>adequate</strong> procedures for <strong>all or all but one</strong> of the instructional days in the lesson that <strong>adequately</strong> illustrated what both the teacher and students would be doing during the lessons.</td>
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<td>The student provided <strong>exceptional</strong> procedures for <strong>all</strong> of the instructional days in the lesson that <strong>exceptionally</strong> illustrated what both the teacher and students would be doing during the lessons.</td>
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<tr>
<td><strong>Materials</strong></td>
<td>The student provided <strong>poor</strong> materials <strong>not</strong> aligned with <strong>all</strong> of the instructional days’ procedures.</td>
<td>The student provided <strong>adequate</strong> materials aligned with <strong>all or all but one</strong> of the instructional days’ procedures.</td>
<td></td>
<td>The student provided <strong>exceptional</strong> materials aligned with <strong>all</strong> of the instructional days’ procedures.</td>
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<tr>
<td><strong>Overall Quality</strong></td>
<td>The student provided a unit and instructional lessons that showed <strong>non-graduate</strong> level work.</td>
<td>The student provided a unit and instructional lessons that showed <strong>mostly graduate</strong> level work.</td>
<td></td>
<td>The student provided a unit and instructional lessons that showed <strong>graduate</strong> level work.</td>
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Rubric for Interdisciplinary Research Paper:

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<tr>
<td><strong>Introduction</strong></td>
<td>The student provided a limited introduction <em>barely</em> relevant to the paper topic.</td>
<td>The student provided an <em>adequate</em> introduction relevant to the paper topic.</td>
<td>The student provided an <em>exceptional</em> introduction relevant to the paper topic.</td>
<td>The student provided an <em>exceptional</em> introduction relevant to the paper topic.</td>
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<tr>
<td><strong>Literature Synthesis</strong></td>
<td>The student groups provided a written paper that <em>poorly</em> synthesizes the literature pertaining to the topic without using a minimum of 8 sources or <em>poorly</em> synthesizing the 8 sources.</td>
<td>The student groups provided a written paper that <em>adequately</em> synthesizes the literature pertaining to the topic using a minimum of 8 sources.</td>
<td>The student groups provided a written paper that <em>exceptionally</em> synthesizes the literature pertaining to the topic using a minimum of 8 sources.</td>
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<td><strong>Results/Take-aways</strong></td>
<td>The student groups provided a written paper that <em>poorly</em> synthesizes the results and provided <em>poor</em> take-aways for novice teachers.</td>
<td>The student groups provided a written paper that <em>adequately</em> synthesizes the results and provided <em>adequate</em> take-aways for novice teachers.</td>
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<td><strong>Conclusion</strong></td>
<td>The student groups provided a written paper that <em>poorly</em> draws conclusions and makes inferences based on results.</td>
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