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| ***ELED 4312: Teaching Science & Health in Early and Elementary Education*** | ***Fall 2016*** |
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***Instructor Information:***

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| **Instructor Profile:** | | <https://www.uta.edu/mentis/profile/jiyoon-yoon> | | | | | | |
| **Course Web Site:** | | <http://elearn.uta.edu> | | | | | | |

***Course Information:***

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| **Course Title:** | **Teaching Science and Health in Early and Elementary Education** |
| **Course Number:** | **ELED 4312.001** |
| **Course Location and Time**: | **Thursday, 11:00-1:50pm, PKH321** |

***Catalog Description:***

Principles of integration of science and health concepts in relation to the cognitive, socio-emotional, and psychomotor development. Emphasis on developing dispositions promoting scientific investigation and appropriate objects, materials, activities and programs to assist in assimilation of science and health concepts. Course will also address the instructional needs and appropriate assessment of all students in inclusive, multicultural and multilingual classrooms for this content area. Field-based experiences required – One full day per week on elementary campus.

***Course Prerequisites:***

EDUC 4316; ELED 4313, ELED 4317, ELED 4321; EDTC 4301, and BEEP 4306. Taken concurrently with ELED 4311, ELED 4314 and BEEP 4384.

***Textbook(s) and Materials:***

***Required***

Settlage, J. & Southerland, S. A. (2012). *Teaching Science to Every Child: Using Culture as a Starting Point (2nd Ed.).* Routlegde. ISBN: 978-0-415-89258-2.

Tk20: The College of Education has adopted Tk20, a comprehensive data management system that will provide us with powerful tools to manage our growth and streamline our processes to enable us to meet your needs more efficiently and effectively. As with other course materials, you will need to subscribe to the program for a *one-time only, non-refundable* cost of $100. You may purchase your subscription online from a link provided on the system’s Web site or from the UT Arlington Bookstore as you would a textbook or other course materials.

(TEKS) Texas Essential Knowledge and Skills Subchapter 112A: Elementary School Science. Texas Education Agency, 2006. <http://www.tea.state.tx.us/rules/tac/chapter112/ch112a.html>

***Recommended***

Rosado, L. (2016). *TExES Core Subjects EC-6 (3rd Ed.).* Research & Education Association. ISBN: 978-0-7386-1198-3

Ansberry, K. & Morgan, E. (2010). *Picture-Perfect Science Lessons: Using Children’s Books to Guide Inquiry, 3-6 (2nd Ed.).* NSTA Press. ISBN: 978-1-935155-16-4

Yoon, J. (2016). Life is Full of Science: An Interdisciplinary and Cultural Teaching Approach (Revised Preliminary Edition). Cognella. ISBN: 978-1-63487-615-5

Fathman, A. K. & Crowther, D. T. (Eds.). (2006). *Science for English Language Learners: K-12 Classroom Strategies.* Arlington, VA: NSTA Press. ISBN: 978-0-87355-253-0

Fritzer, P. & Bristor, V. (2004). *Science Content for Elementary and Middle School Teachers*. Pearson Allyn and Bacon. ISBN 0-205-40798-6

Hammerman, E. & Musial, D. (2008). *Integrating Science with Mathematics and Literacy: New Visions for Learning and Assessment*. Second Edition. Thousand Oaks, CA: Corwin Press.

Marek, E.A. & Cavallo, A.M. (1997). *The learning cycle; Elementary school science and beyond*. Revised Edition. Portsmouth, NH: Heinemann.

Achieve, Inc. (2013). Next Generation Science Standards. Retrieved from <http://www.nextgenscience.org/next-generation-science-standards>

***State Domains and Competencies: TExES Core Subjects EC-6 (291)***

See <http://cms.texes-ets.org/files/4514/1881/7082/core_subjects_ec_6_291_TAAG.pdf> for the complete list of all standards.

**DOMAIN IV – SCIENCE**

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

*Competency 001 (Lab Processes, Equipment and Safety):* The teacher understands how to manage learning activities, tools, materials, equipment, and technologies to ensure the safety of all students.

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

*Competency 001 (Lab Processes, Equipment and Safety):* The teacher understands how to manage learning activities, tools, materials, equipment, and technologies to ensure the safety of all students.

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

*Competency 002 (History and Nature of Science):* The teacher understands the history and nature of science, the process and role of scientific inquiry and the role of inquiry in science instruction.

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

*Competency 005 (Students as Learners and Science Instruction):* The teacher has theoretical and practical knowledge about teaching science and about how students learn science.

**Standard V:** The science teacher knows the varied and appropriate assessments and assessment practices to monitor science learning.

*Competency 006 (Science Assessment):* The teacher knows the varied and appropriate assessments and assessment practices for monitoring science learning in laboratory, field and classroom settings.

**Standard VI:** The science teacher understands the history and nature of science.

*Competency 002 (History and Nature of Science):* The teacher understands the history and nature of science, the process and role of scientific inquiry and the role of inquiry in science instruction.

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

*Competency 003 (Impact on Science):* The teacher understands how science impacts the daily lives of students and interacts with and influences personal and societal decisions.

**Standard VIII:** The science teacher knows and understands the science content appropriate to teach the statewide curriculum in physical science.

*Competency 007 (Forces and Motion):* The teacher understands forces and motion and their relationships.

*Competency 008 (Physical and Chemical Properties):* The teacher understands the physical and chemical properties of and changes in matter.

*Competency 009 (Energy and Interactions):* The teacher understands energy and interactions between matter and energy.

*Competency 010 (Energy Transformations and Conservation):* The teacher understands energy transformations and the conservation of matter and energy.

**Standard IX:** The science teacher knows and understands the science content appropriate to teach the statewide curriculum in life science.

*Competency 011 (Structure and Function of Living Things):* The teacher understands the structure and function of living things.

*Competency 012 (Reproduction and the Mechanisms of Heredity):* The teacher understands reproduction and the mechanisms of heredity.

*Competency 013 (Adaptations and Evolution):* The teacher understands adaptations of organisms and the theory of evolution.

*Competency 014 (Organisms and the Environment):* The teacher understands the relationships between organisms and the environment.

**Standard X:** The science teacher knows and understands the science content appropriate to teach the statewide curriculum in Earth and space science.

*Competency 015 (Structure and Function of Earth Systems):* The teacher understands the structure and function of Earth systems.

*Competency 016 (Cycles in Earth Systems):* The teacher understands cycles in Earth systems.

*Competency 017 (Energy in Weather and Climate):* The teacher understands the role of energy in weather and climate.

*Competency 018 (Solar System and the Universe):* The teacher understands the characteristics of the solar system and the universe.

**Standard XI:** The science teacher knows unifying concepts and processes that are common to all sciences.

*Competency 004 (Concepts and Processes):* The teacher knows and understands the unifying concepts and processes that are common to all sciences.

***Texas Education Agency Teacher Educator Standards***

See <http://texreg.sos.state.tx.us> for more details

*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.

*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 for each student’s educational and developmental backgrounds and focusing on each student’s needs.

*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.

*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.

*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.

*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.

***National Science Teachers Association Teacher Preservice Science Standards***

See <http://www.nsta.org/preservice/docs/2012NSTAPreserviceScienceStandards.pdf> for more details

*Standard 1: Content Knowledge*

Effective Teachers of science understand and articulate the knowledge and practices of contemporary science. They interrelate and interpret important concepts, ideas, and applications in their fields of licensure.

*Standard 2: Content Pedagogy*

Effective teachers of science understand how students learn and develop scientific knowledge. Preservice teachers use scientific inquiry to develop this knowledge for all students.

*Standard 3: Learning Environments*

Effective teachers of science are able to plan for engaging all students in science learning by setting appropriate goals that are consistent with knowledge of how students learn science and are aligned with stated and national standards. The plans reflect the nature and social context of science, inquiry, and appropriate safety considerations. Candidates design and select learning activities, instructional settings, and resources—including science-specific technology, to achieve those goals; and they plan for fair and equitable assessment strategies to evaluate if the learning goals are met.

*Standard 4: Safety*

Effective teachers of science can, in a P-12 classroom setting, demonstrate and maintain chemical safety, safety procedures, and the ethical treatment of living organisms needed in the P-12 science classroom appropriate to their area of licensue.

*Standard 5: Impact on Student Learning*

Effective teachers of science provide evidence to show that P-12 students’ understanding of major science concepts, principles, theories, and laws have changed as a result of instruction by the candidate and that student knowledge is at a level of understanding beyond memorization. Candidates provide evidence for the diversity of students they teach.

*Standard 6: Professional Knowledge and Skills*

Effective teachers of science strive continuously to improve their knowledge and understanding of the ever changing knowledge base of both content, and science pedagogy, including approaches for addressing inequities and inclusion for all students in science. They identify with and conduct themselves as part of the science education community.

***Learning Outcomes:***

The general structure of this course engages students in active, inquiry-based science experiences that serve the purposes of a) learning to use best science/health teaching practices according to state and national standards, b) translating science/health concepts into meaningful learning experiences and readily usable curricula for all of the early childhood through elementary school students, and c) developing healthy and physically educated citizens to enjoy their lives. The specific goals of this course are as follows.

1. To gain understanding of the history and *nature of science and scientific inquiry*, and the *nature of learners* so we may be prepared to teach, and to help students learn in a way that is consistent with the discipline of science and with how children learn science. (Aligns with Competency 002, 005)
2. To gain understanding of techniques used to safely implement science activities and the proper use of tools, materials, equipment, and technologies used in science activities. (Aligns with Competency 001)
3. To understand and construct a variety of assessments to accurately measure student understanding of science in a variety of settings, including the laboratory, field, and classroom. (Aligns with Competency 006)
4. To gain understanding of how science impacts students’ lives and the role science plays in making personal and societal decisions. (Aligns with Competency 003)
5. To gain theoretical and practice knowledge about how students are different in terms of intellectual, social and emotional development and how we teach them science. (Aligns with Competency 005)
6. To develop in-depth knowledge of the Next Generation Science Standards (NGSS) and Texas Essential Knowledge and Skills Science Standards (TEKS) and apply these standards in preparing high quality teaching and learning experiences for elementary school students in the areas of physical, life, and Earth/space science. (Aligns with Competencies 004, 007, 008, 009, 010, 011, 012, 013, 014, 015, 016, 017, and 018)
7. To gain understanding of the connection between health and behavior and how various factors may influence the health of students. (Aligns with the Health Standards)
8. To gain experience in critically analyzing science content, lessons and curricula, and science education literature (research articles, practitioner articles, Internet sites), for the selection and/or modification of appropriate and meaningful learning experiences for elementary school students. (Competency 001~006)
9. To construct, present, and revise original standards-based, inquiry (5E learning cycle) curricula for elementary school students based on science activities abstracted from various sources including texts, laboratory books, and the Internet; and in these lessons, effectively incorporate attention to diversity, authentic assessments, elementary school children’s intellectual, social and emotional development, integration with other school subjects, and technology. (Competency 001~ 006)
10. To increase awareness of resources available to teaching professionals by participating in professional organizations and/or informal science educational opportunities. (Competency 005)
11. To develop physically educated students who have the knowledge, skills, and confidence to enjoy a lifetime of healthful physical activities (Aligns with the Health Standards).
12. To acquire the health information and skills necessary to become healthy citizens (Aligns with the Health Standards).
13. To identify and describe low socio-economic status populations who are underserved and inhibit the socio-economic factors that have prevented services for low-income children who have had inadequate leaning opportunities (Competency 003 & 005).

**University of Texas at Arlington**

**College of Education**

**Conceptual Framework**

The conceptual framework of the UT Arlington College of Education was developed collaboratively and has evolved over time. Following the identification of a set of core values held by all involved in the preparation of candidates enrolled in the College, members of the University, PK-12 districts, higher education institutions, and area business and foundation communities worked together to develop a shared vision for education.

All activities in the College are guided by the premise that we are Partners for the Future, committed to fostering critical, creative thinkers prepared to engage meaningfully in a dynamic society. This premise is characterized and distinguished by three core values: Professionalism, Knowledge, and Leadership. Research, Diversity, and Technology are themes woven throughout each core value. The College mission, core values, and themes serve as the coherent thread running through all professional programs, guiding the systematic design and delivery of clinical/field experiences, course curricula, assessments, and evaluation. The Conceptual Framework consists of six interrelated and interacting components, which are viewed as essential contexts for the shaping of informed, skilled, and responsible partners:

* The first core value, **Professionalism**, represents the contention that candidates develop an expertise and specialized knowledge of their field. A high quality of work, standard of professional ethics and behaviors, as well as work morale and motivation are all necessary factors of a developed interest and desire to excel in job performance.
* The second core value, **Knowledge**, represents candidate theoretical or practical understanding of a subject. In today's world, candidate knowledge includes not only academic content mastery, but also skills such as critical thinking, communication, technology literacy, and collaboration, each required for success in college, life, and career.
* The third core value, **Leadership**, represents candidate ability to organize, assist, and support others in the achievement of a common task. Candidates develop and refine their leadership skills within the context of their interactions with PK-20 students, curricula, faculty, and other professionals. The additional three components of the model, Research, Diversity, and Technology, represent themes woven into the core values:
  + **Research** encompasses the investigation of ideas and theories with the purpose of discovering, interpreting, and developing new systems, methods, and support for knowledge, behaviors, and attitudes.
  + **Diversity** is an indispensable component of academic excellence. A commitment to diversity means a dedication to the inclusion, welcome, and support of individuals from all groups, encompassing the various characteristics of persons in our community such as race, ethnicity, national origin, gender, age, socioeconomic background, religion, sexual orientation, and disability.
  + **Technology** is emphasized throughout all programs and is used to support and improve content delivery and student learning.

All components lead to the achievement of one goal–the development of informed and responsible Partners for the Future–who are committed to fostering analytical, innovative thinkers prepared to engage meaningfully in a dynamic society.

***University Policies:***

**Expectations for Out-of-Class Study:**

Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend at least an additional 6 hours per week of their own time in course-related activities, including reading required materials, completing assignments, preparing for exams, etc.

**Grade Grievances:**

Any appeal of a grade in this course must follow the procedures and deadlines for grade-related grievances as published in the current undergraduate / graduate catalog. <http://catalog.uta.edu/academicregulations/grades/#undergraduatetext>

**Drop Policy:**

Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance**. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://wweb.uta.edu/ses/fao>).

**Disability Accommodations:**

UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the *Americans with Disabilities Act (ADA), The Americans with Disabilities Amendments Act (ADAAA),* and *Section 504 of the Rehabilitation Act*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Students are responsible for providing the instructor with official notification in the form of a **letter certified** by the **Office for Students with Disabilities (OSD).** Only those students who have officially documented a need for an accommodation will have their request honored. Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:

**The Office for Students with Disabilities, (OSD)** [www.uta.edu/disability or calling 817-272-3364](http://www.uta.edu/disability%20or%20calling%20817-272-3364). Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at [www.uta.edu/disability](http://www.uta.edu/disability).

**Counseling and Psychological Services, (CAPS)** www.uta.edu/caps/ or calling 817-272-3671 is also available to all students to help increase their understanding of personal issues, address mental and behavioral health problems and make positive changes in their lives.

**Non-Discrimination Policy:**

*The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit*[*uta.edu/eos*](http://www.uta.edu/hr/eos/index.php)*.*

**Title IX Policy:**

The University of Texas at Arlington (“University”) is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated. *For information regarding Title IX, visit* [www.uta.edu/titleIX](http://www.uta.edu/titleIX) or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or [jmhood@uta.edu](file:///C:\Users\ingrams\Downloads\jmhood@uta.edu).

**Academic Integrity:**

Students enrolled in UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

*I pledge, on my honor, to uphold UT Arlington’s tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.*

*I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents’ Rule* 50101, §2.2, suspected violations of university’s standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student’s suspension or expulsion from the University.

**Electronic Communication:**

UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>

**Campus Carry:**

Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit <http://www.uta.edu/news/info/campus-carry/>

**Student Feedback Survey:**

At the end of each term, students enrolled in face-to-face and online classes categorized as “lecture,” “seminar,” or “laboratory” are directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student’s feedback via the SFS database is aggregated with that of other students enrolled in the course. Students’ anonymity will be protected to the extent that the law allows. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law and aggregate results are posted online. Data from SFS is also used for faculty and program evaluations. For more information, visit <http://www.uta.edu/sfs>.

**Final Review Week:**

For semester-long courses**,** a period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

**Emergency Exit Procedures:**

Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist handicapped individuals. <https://www.uta.edu/policy/procedure/7-6>

**Student Support Services:**

UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to [resources@uta.edu](mailto:resources@uta.edu), or view the information at http://www.uta.edu/universitycollege/resources/index.php

**The IDEAS Center (**2nd Floor of Central Library) offers **free** tutoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. To schedule an appointment with a peer tutor or mentor email [IDEAS@uta.edu](mailto:IDEAS@uta.edu) or call (817) 272-6593.

**The English Writing Center (411LIBR)**:

The Writing Center Offers free tutoring in 20-, 40-, or 60-minute face-to-face and online sessions to all UTA students on any phase of their UTA coursework. Our hours are 9 am to 8 pm Mon.-Thurs., 9 am-3 pm Fri. and Noon-6 pm Sat. and Sun. Register and make appointments online at http://uta.mywconline.com. Classroom Visits, workshops, and specialized services for graduate students are also available. Please see [www.uta.edu/owl](http://www.uta.edu/owl) for detailed information on all our programs and services.

The Library’s 2nd floor Academic Plaza offers students a central hub of support services, including IDEAS Center, University Advising Services, Transfer UTA and various college/school advising hours. Services are available during the library’s hours of operation. <http://library.uta.edu/academic-plaza>

***General Policies:***

* The professor is available for telephone, e-mail or face-to-face conferences as the need arise. **It is your responsibility to solicit help from the instructor.** This s to be done *before* problems affect your grade – not after.
* The professor reserves the right to make changes in the syllabus as deemed necessary. Students will be notified of any changes.
* All borrowed material must be returned before a final grade will be reported to the university.
* Conduct yourself professionally and ethically as described by the Texas Administrative Code – Educator’s Code of Ethics
* **Do not underestimate the importance of the above requirements.** Earning a grade of “A” for this course requires more than earning “A’s” on all assignments; it additionally requires a demonstration of professional behaviors.

**Communications**:

* UTA email is the official mode of communication for UTA.
* For questions related to the course requirements, assignments, or exams post your questions on the course Q & A Discussion Board on Blackboard.
* For questions related to grades or other questions that are personal in nature, please use the email function within Blackboard. This will come directly to my UTA email account.
* During the week you will receive a response within 24 hours from your instructor. On the weekends, expect to wait 48 hours for a response.
* All official course information and announcements will be posted on the announcement page in Blackboard.
* For questions related to using Blackboard, review the tutorial, look on the Student Resources Page or email the Help Desk at helpdesk@uta.edu.

**Electronic Devices:**

* As a courtesy to your instructor and your classmates, please silence electronic devices such as cell phones, computers and pagers.
* Texting will not be tolerated.
* Cell phones should be on ‘silent’ and vibrating feature should be turned off. A vibrating phone on a desk makes noise.
* Non-course related Internet surfing will not be tolerated.
* Internet use is strictly limited to class discussions.

**Preparation:**

* In order for you to maximize the learning opportunities available on and off-campus, it is necessary that you come prepared, including having read and reflected on the required readings for each and every class. Reading assignments are important and enable students to examine beliefs, explore theories, and debate ideas with fellow students and instructor.

**Participation:**

Class participation includes but is not limited to:

* Being prepared for class by reading all assignments and having assignments ready to turn in at the beginning of class. Lack of participation gives the appearance of lack of interest and/or preparation.
* Participating in discussions both whole class and small group
* Being mentally engaged in the class lectures as well as discussions. With this requirement, students who choose to use laptop computers in class are to use them for taking notes of lecture and discussion(s).
* Answering e-mail, “surfing the web”, working on assignments for other classes on laptops during class does not demonstrate appropriate participation effort and participation grade may be affected.
* “Texting” is not appropriate during class. Your participation grade will be affected if you choose to “text” during class.
* One way we show respect is to not talk while others (the professor or fellow students) are talking. If you have difficulty demonstrating respect to the class members, your participation grade will be affected. This includes talking during demonstrations, presentations, or videos. You are expected to add depth to discussions at each meeting at the appropriate time.
* You have chosen a profession that requires a commitment to timeliness, responsibility, cooperation, teamwork, prior planning, above average writing and speaking skills, and an attitude of respect for learners with different needs, colleagues and mentors.
* Due to liability issues, consideration for other students, and developmental appropriateness, visitors and children are not permitted in class. (Guest speakers are an exception.)

**Professional Dispositions:**

Each student/candidate in the College of Education of UT Arlington will be evaluated on Professional Dispositions by faculty and staff. These dispositions have been identified as essential for a highly-qualified professional. Instructors and program directors will work with students/candidates rated as “unacceptable” in one or more stated criteria. The student/candidate will have an opportunity to develop a plan to remediate any digressions. College of Education, approved 2/2013; Adopted by UTeach Program 3/2013.

The full document regarding dispositions is posted in Blackboard.

**Video Recording:**

* Students may record the lecture in auditory form and make notes from the recordings for their personal use only. Many cell phones have video capability but video recording is not permitted as the professor and students have not given express written consent to be videoed. (Anyone appearing in such a video would have to give written consent to having her/his image displayed in any manner.) Students may not transmit, copy, or reproduce recordings in any format or share recordings or transcriptions with others.

***Attendance:***

At The University of Texas at Arlington, taking attendance is not required but attendance is a critical indicator in student success. Each faculty member is free to develop his or her own methods of evaluating students’ academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, I will take attendance at each class meeting via sign-in sheets. ***Class attendance and timely arrival to class is expected and required****.* When circumstances do occur, students must communicate with the professor **PRIOR** to any anticipated absence or late arrival to class. Consistent late arrivals/departures and absences (more than 3) will result in an automatic letter grade deduction from the final grade, at the discretion of the instructor. Two late arrivals or early departures, with no notification, equal one absence. If a student is absent, points for that class may be made up in the following ways: A) Emailing the instructor PRIOR to the absence and/or B) Writing a 3-5 sentence paragraph summarizing what was covered in that class (this information can be gathered from powerpoints posted on Blackboard and reviewing a classmate’s notes).

However, while UT Arlington does not require instructors to take attendance in their courses, the U.S. Department of Education requires that the University have a mechanism in place to mark when Federal Student Aid recipients “begin attendance in a course.” UT Arlington instructors will report when students begin attendance in a course as part of the final grading process. Specifically, when assigning a student a grade of F, faculty report the last date a student attended their class based on evidence such as a test, participation in a class project or presentation, or an engagement online via Blackboard. This date is reported to the Department of Education for federal financial aid recipients.

***Policies Regarding Assignments:***

All work for this course is to be edited and executed with care and professionalism. **Handwritten documents will not be accepted except for those you will be producing in class.** Always make sure you keep a copy of documents submitted to your professor. **All assignments are due by 11:59pm on the date listed in the schedule, unless otherwise indicated by the instructor.**

* Complete all assignments by the due date listed on the syllabus or announced in class. Late work will not be accepted.
* Please type all assignments, unless otherwise specified.
* All assignments should be submitted electronically through Blackboard, unless otherwise noted. All assignments should be submitted with the student’s name and the name of the assignment as the document name (e.g., Yoon\_J\_LessonPlan.doc).
* All assignments should be submitted using APA formatting guidelines and a cover sheet including the following:

Student’s Name

University of Texas at Arlington

Dr. Jiyoon Yoon

Date

Academic Honesty Statement (below)

* Teachers must speak and write effectively; therefore, all written assignments must be in good form. Check your spelling and proofread. Points will be deducted for inappropriate content and form. As teachers, we encourage students to edit the work of classmates prior to submitting for a grade.
* It is important to protect the confidentiality of the students you will supervise, assist, tutor, and/or teach in the field. For this reason, it is important to change the name of a student during discussion and/or a written assignment.
* NO extra credit work will be given.

**Late Work:**

Complete all assignments by the due dates. The final due date for each session can be found in the schedule and the assignment table on Blackboard. After the due date, assignments are considered late but may be turned-in for partial credit at the discretion of the instructional team. To be clear, **late work** is discouraged and subject to a penalty of a 25% deduction of your total earned points for the assignment, at the discretion of the instructor. **Late work is not accepted for the last assignment.** Please do not wait until the last minute to submit your work and then realize that because of a technical (or other type) problem you are unable to submit your work on time. If you have problems uploading assignments, you should contact helpdesk@uta.edu. Again, emailed work will NOT be accepted. All work for this course must be submitted on Blackboard and TK 20.

**Assignment Re-Submissions:**

Assignments may be re-submitted after grading and feedback on the original submission have been completed. **Re-submissions are not allowed for the last assignment.** To re-submit an assignment, students must FIRST contact the instructor to request a re-submission. Re-submissions will be graded and the final grade for the assignment will be an average of the first and second submissions.

**Academic Honesty Statement:**

|  |
| --- |
| The following statement is to be included on the cover page of each written assignment submitted  for credit in all ELED course. For assignments submitted electronically, the candidate’s name may be word-processed on the signature line. The posting of the statement with the candidate’s name through the candidate’s email, Blackboard, or TK-20 account t is recognized as the candidate’s signature.  **\*\*\*\*\*\*\*\*\*\***  **On my honor, I have neither given nor received aid on this assignment. I acknowledge that misrepresenting another’s work as my own is a violation of the UTA Academic Integrity Policy.**  **I have not submitted the attached work as an assignment for any other course or field activity.**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **Signature Date** |

***Description of Assignments:***

Listed below are the major assignments for this course. Full descriptions and rubrics for each assignment are available on Blackboard.

**Preparation and Participation (10 Points per class meeting x 15 weeks = 150 Points):** Your attendance and active participation in this class is expected. Your lack of preparation for class will significantly affect your classroom participation and your overall grade. Participation will include in-class activities and discussions, as well as online discussions and some assignments to be completed outside of class time. Some examples of the participation activities are:

**Chapter Reading Discussions:**  Discussions over readings will be administered online and/or in class with each reading posted in the schedule. Discussions will be in the form of prompts, multiple choice, fill in the blank, or short answer and completed via Blackboard and/or in class.

**Learning Logs:**

Throughout the semester, you will document and reflect on your learning. The emphasis is on reflection and the self-evaluation of learning. The goal of the Learning Logs is to help sharpen your ability to observe and document your learning, and to use the documentation for self-assessment and planning. Topics and templates will be provided. Grading will be based on thoughtful and detailed responses.

**Science Musical**: This activity enables you to a) practice the guided inquiry-based teaching method; b) understand the scientific principles of how things work integrating with other subjects; c) think creatively about the world around them; and d) develop practical solutions to everyday problems. Further details and examples of the moon journal will be posted to Blackboard.

**Moon Journal:** As part of this course, you will be keeping a moon journal for approximately 1 month. Each person will be assigned a different night to make observations about the moon’s appearance, location, and any other characteristics. Each person will share their observations with the class via the Class Moon Journal. Further details and examples of the moon journal will be posted to Blackboard.

**Assignment for Impact on Daily Life/Environment & Theory/Practice of Science Teaching (25 Points): Each of your course sections will choose from the following options to complete:**

**Reviewing Science Education Articles:** Review at least 3 different articles relating to science education and describe how you will use the information provided in your future classroom. Provide electronic copies of the articles and their source(s).

**Community Science:** After visiting a science museum, nature park/preserve, and/or zoo, complete a KWL chart and provide 5-7 photos documenting your experience. You will also provide a reflection on how this experience will affect your future classroom.

**Piaget’s Tasks with Children:** Jean Piaget developed several tasks which are used to determine the presence of conservation reasoning ability in young children. Conservation reasoning can be defined as the ability of a child to:

* Hold a concept regarding an object (event or situation) in his/her cognitive structure while a second object like the first is distorted, and
* Explain that the distorted object is still like the non-distorted object in many specific ways.

The conservation tasks require the child to reverse his/her thinking, “decenter,” see states in a transformation, and utilize all the traits that are characteristic of a concrete operational thinker. The conservation tasks can give an indication of how far a child has moved into the stage of concrete operational thought.

Using the provided tests/questionnaires, you will administer tests and interview two students (preschool through age 11). Your work on this assignment is to complete Data Report Forms for each student. On this form, you will provide analysis of each student’s responses to the tests/questionnaires.

**A Family Science Activity:** You are to create a take-home activity (can be the Elaborate section from your lesson plan) for a student to complete at home with a parent. This take-home activity should include an instruction sheet, all (or most of) the materials, data collection sheets or other handouts, and feedback forms for both the student and the parent/guardian.

**Group Presentation of a Modified Science Activity (50pts):**

This presentation is for improving your classroom experiences as a science and health teacher and understanding science concepts and methodology through the activity. Working in a group, you will be modifying a “cookbook” science lesson into a 5E learning cycle. For the presentation you will be discussing the changes made to the original lesson and presenting the activity, which should relate to real life. The 5E lesson format will be presented in class and posted to Blackboard. Each group is expected to have the following roles:

* 1. Director: reads directions for the group and keeps group on task following directions.
  2. Material Manager: manages to set up materials (and assign materials to members) before beginning the activity and make sure all materials are cleaned up.
  3. Recorder: measures accurately and makes sure of recording data, diagrams, and observations.
  4. Helper: helps clean-up and fills in any job that is vacancy due to absence.
  5. Speaker: presents for the group and is the only one who can ask questions to the class and the teacher and answer questions from the class.

**Science Lesson Plan (50 Points):** With the effective science activity presentation and class discussion with groups, you will have the skills and knowledge of how to combine and adapt a variety of resources/learning and how to use them for your own classroom. You have the option of completing this assignment with a partner, but choose WISELY! You are to choose a topic of your choice from the approved EC-6 science curriculum, and develop it into a single lesson plan. You are recommended to discuss this topic with your cooperating teachers at your field placements. You will need to create the lesson plan by following the lesson plan format provided in the intern handbook. The final draft of the lesson will be posted to both Blackboard and Tk20.

**Final Course Reflection (25 Points):** Teaching is a reflective process, as such, for the final “exam”, you will be completing a reflection over your experiences in class and in the field during this semester. Specific details and prompts will be posted to Blackboard.

***Grade Calculation:***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Point Maximum** | **Assessment** | **ACEI/NCATE Standards** | **TEA Teacher Standards** | **Generalist EC-6 Standards** | **Competency** | **Due** |
| 150 | Attendance/Group Participation | 3a, 3b, 3c, 5a, 5b, & 5d | 1, 2, 3, 4 | I, II, III, IV, V, VI | 1~18 |  |
| 25 | Impact on Daily Life & Theory/Practice of Teaching | 3a, 3b, 3c, 5a, 5b, & 5d | 2, 3, 4 | VI, VII, VIII, IX, X, XI | 2, 3, & 5 | 10/6 |
| 50 | Group Presentation of a Modified Science Activity | 3a, 3b, 3c, 5a, 5b, & 5d | 1, 3 | I, II, III, IV, V, VIII, IX, X, XI | 1, 5~ 18 | Each class |
| 50 | Individual Lesson with reflection | 3a, 3b, 3c, 5a, 5b, & 5d | 1, 2, 3 | I, II, III, IV, V, VIII, IX, X, XI | 1, 5~ 18 | 12/8 |
| 25 | Final Course Reflection | 3a, 3b, 3c, 5a, 5b, & 5d | 2, 3 | III, IV, VIII, IX, X, XI | 1~18 | 12/8 |
| **Total 300 Points** |  |  |  |  |  |  |

**Grading Scale:**

A = 93-100% (278-300 points)

B = 84-92% (251-277 points)

C = 75-83% (224-250 points)

D = 70-74% (209-223 points)

F = below 70% (0-208 points)

***Tentative lecture/topic schedule:***

Below is a list of tentative topics and activities that will be covered during the semester. It is at the instructor’s discretion as to which activities will be selected for each class meeting.

|  |  |
| --- | --- |
| **Date** | **Topics Covered/Possible Activities** |
| Week 1 – August 25th | Who are we? What is science? (Competency 002)   * Pre-assessments * Attitude Test * Course Introduction and Syllabus Review/Scavenger Hunt * Expectations – Drawing/writing a letter * Introduction to Moon Journals * Mystery Boxes – Nature of Science * Characteristics of Science |
| Week 2 – September 1st | What science content do elementary students need to know? What science content do I need to know? (Competency 007-018)   * Review content exam pre-assessment * Compare TEKS and NGSS |
| Week 3 – September 8th | How do students learn science? (Competency 005)   * Piaget * Introduction to the 5E Model (Earthlets – Physical Science) * Measurement Systems * Non-experimental/experimental design * Physical Science (Force & motion) |
| Week 4 – September 15th | How can you become an inquiry-based science teacher? (Competency 002)   * Modifying a “Cookbook” science activity * Creative Problem Solving * Being a scientist * Physical Science (Matter) |
| Week 5 – September 22th | How can you safely implement a science lesson and manage your classroom? (Competency 001)   * Classroom management techniques * Maslaw’s Hierarchy of Needs * Materials Management * TEA Safety Standards & Laws/Rules * Chemical Change Café – Physical Science * Earth/Space Science (Weather/Climate) |
| Week 6 – September 29th | How do you measure student learning in science? What role does questioning play in the science classroom? (Competency 006)   * Assessment and Questioning * Authentic and Alternative Assessments * Formative and Summative Assessments * Concept Map * STAAR * Earth/Space Science: Earth Systems |
| Week 7 – October 6th | Group Presentations of the Modified Science Activity |
| Week 8 – October 13th | How does student prior knowledge affect your science classroom? – Part 1 (Competency 005)   * Student Misconceptions * Private Universe * The Changing Moon – Earth Science |
| Week 9 – October 20th | How does student prior knowledge affect your science classroom? – Part 2 (Competency 005)   * Finish The Changing Moon activity * The Incredible Journey (Project WET) |
| Week 10 – October 27th | How can I connect science to student lives and experiences? (Competency 003) |
| Week 11 – November 3rd | How can you integrate other subjects with science? – Part 1 (Competency 003, 004,005)   * Interdisciplinary Approach * STS * Integration of other subjects (health education, social studies, math, language art, music, and so on) * Paper Window (Art & Music) * Musical Concert (Song, tech for stage) * Science Song Contest * Sheep in a Jeep – Physical Science |
| Week 12 – November 10th | How can you integrate other subjects with science? – Part 2 (Competency 004 & 005)   * Science education software * NETS for Teachers * Evaluating Effective Educational Technology * Motion detector and TI-84 graphing * SmartBoard/iPad * Social Network * Cyberbulling (low SES students) Life Science (Adaptation or reproduction)Connections between Math/ELAR/Social Studies/Technology/ScienceHealth and science |
| Week 13 – November 17th | How can you address special populations of students and diverse learners? – Part 1 (Competency 005)   * Understanding Intellectual Development and Qualities of Elementary Children * Multiple intelligence * Multiculturalism * Gender awareness * Diverse/Multicultural Lesson * Physical Health Education Lesson * Life Science (Organism & Environment) * Soils – Earth Science (ELL Lesson) |
| November 24th | Thanksgiving |
| Week 14 – December 1st | How can you address special populations of students and diverse learners? – Part 2 (Competency 005)   * Low SES status students * Parent involvement * AAC Device * Science for younger students * Mirror, Mirror – Physical Science * Course wrap-up |
| Week 15 – December 8th | Finals Week |

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The following URL houses a page where we have gathered many commonly used resources needed by students in online courses: [http://www.uta.edu/library/services/distance.php](http://www.uta.edu/library/services/distance.php" \t "_blank)

If you have any questions, please feel free to contact the Education librarian, Andy Herzog [amherzog@uta.edu](mailto:amherzog@uta.edu) or at 817.272.7517.