

# UTTC Teacher Education

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## EDU 360 Integrated Science & Technology – Spring 2017

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### Course Information

Spring 2017

Class Location / Room: ED. B, Room B02

Days / Time: T/TH: 2:30 PM – 4:00 PM

### Instructor Information

Instructor: Leah Hamann, M.Ed.

Phone: 701.221.1380

Office Location: ED 112 Main Floor

Office Hours: By Arrangement

E-Mail: lhamann@uttc.edu

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### SPRING 2017

January 9	Spring 2017 UTTC Classes Begin
January 13	Last day to enroll/register for Spring 2017 Classes
January 16	<b>Martin Luther King Day</b> (No Classes)
January 27	<i>Last day to add courses or drop without a record (Census Date)</i>
February 20	<b>President's Day</b> (No Classes)
March 8-9	<u>Mid-term Exams</u>
March 13-17	<b>Spring Break</b>
March 19-21	AIHEC Conference
March 29	Career & College Fair
March 31	Registration Opens for Summer/Fall Semester
April 7	<i>Last day to withdraw from term with a 'W' grade</i>
April 14	<b>Good Friday</b> (No Classes)
April 17	<b>Holiday</b> (No Classes)
April 28	Spring Graduation Applications Due
May 3-5	<u>Final Exams</u>
May 12	UTTC Spring 2017 Commencement

### **Required Textbooks:**

Abruscato, J. & DeRosa, D. A. (2010) Teaching Children Science: A Discovery Approach (7<sup>th</sup> Ed.) Pearson Publishing. ISBN-13: 978-0-13-715677-1.

**Additional Resources and Materials:** Provided by the instructor

### **Course Description:**

This course prepares elementary education teacher candidates to teach by integrating science and technology. This course has four components: earth science, space science, physical science, and life science. The focus of this course is on increasing content knowledge and on planning and implementing developmentally appropriate, integrated science units. This course includes inquiry-based and computer laboratory experiences. Field experience is required.

**Student Learning Outcomes:**

Candidates will demonstrate the following knowledge and skills:	<i>Assessment</i>
1. Participate in and develop inquiry-based lessons that develop an understanding of broad topics in science (earth, space, life, and physical).	Integrated Science and Technology Unit and Kit
2. Develop science activities that are aligned to the ND Elementary Science standards, use an interdisciplinary approach, and use multiple methods of instruction.	Integrated Science and Technology Unit and Kit
3. Develop science activities that use inquiry in teaching science and that focus on science process skills, using commonly available science materials.	Integrated Science and Technology Unit and Kit Lesson Plan Student Investigations and Follow Up Student Interview
4. Develop relevant and authentic applications of science that interest a diverse population.	Video clip and Self - Analysis
5. Understand safety and liability issues related to science teaching in the elementary school.	Lesson Plan Reflection
6. Understand how technology can be used as a tool in the science classroom.	Integrated Science and Technology Unit and Kit & Choice Board
7. Demonstrate understanding of the connection of state and national science standards and inquiry processes to the entire elementary school curriculum.	Integrated science unit

**Relationship between ND ESPB Elementary Education Standards, Outcomes and Course Assessments  
Elementary Education Five-Year Course Assessment Schedule (Standards Assessed Spring 2017)**

State Standard & Program Outcome	Assessment/Assignment	Required Artifacts for Portfolio
50015.2 Curriculum 2c. Science	Teaching a science lesson in field placement setting	Video clip and self-analysis
Program Outcome 3	Integrated science unit	Integrated Science and Technology Unit and Rubric

*During the spring 2017 semester, UTTC will be assessing the first Institutional Learner Outcome, Written Communications, in some of the courses. One of the assignments for this course will be used to assess students' writing abilities. All students' names and identifying information will be removed from any work samples. A writing rubric will be used to score the writing assignments. It will be provided in class.*

## United Tribes Technical College Teacher Education Conceptual Framework



The Teacher Education unit seeks to improve the quality of education in America by producing teachers who have demonstrated competency in the skills necessary for effective teaching through a well-designed program of study. Using the INTASC (Interstate New Teacher Assessment and Support Consortium) standards, as well as the philosophy of the Division’s conceptual framework, Teacher Education has established the Teacher Candidate outcomes that are assessed throughout the Teacher Education program(s)

The outcomes listed below are aligned with the Teacher Education baccalaureate program Core Beliefs, the 4Rs - Relevance, Relatedness, Respect, and Responsibility – and the corresponding Interstate New Teachers Assessment and Support Consortium (INTASC) Standards.

### Program Outcomes:

1. To provide the content knowledge necessary for effective teaching and learning (Core Beliefs 3 and 5; Relevance, Responsibility; INTASC Standards 1 and 7);
2. To develop the skills in teaching methodology that allow for the establishment and maintenance of an environment conducive to the learning of all students (Core Beliefs 2 and 3; Relatedness, Respect; INTASC Standards 1, 2, 4, 5, 6 and 8);
3. To use technology as a means of transforming teaching and learning, infusing it across the curricula (Core Belief 5; Relevance, Responsibility; INTASC Standards 2, 3 and 6);
4. To promote a deep respect for diversity demonstrated in candidates’ belief that all students can learn (Core Belief 4; Relatedness, Respect; INTASC Standards 3, 4 and 7);
5. To encourage reflective practice as a means by which professional educators continually improve the teaching and learning process (Core Beliefs 1 and 2; Relevance, Responsibility; INTASC Standards 8 and 9); and
6. To develop effective communication skills so that viable partnerships between colleagues, students, and families can be nurtured (Core Beliefs 1 and 4; Relatedness, Respect, Responsibility; INTASC Standards 7, 9 and 10).

### Evaluation of Student Performance (Including Grading Policy)

#### Grades

A	90-100%	C	70-79%
B	80-89%	D	60-69%
		Below	60%

## CANDIDATE ACCOUNTABILITY AND ASSESSMENT OF LEARNING

### ☉ **Mid-Term: Science and Technology Choice Board (e-Portfolio Artifact)**

Candidates will consult with their co-operating teacher to select a science topic to generate a choice board. The choice board will consist of five interactive activities that students, within the candidate's field placement, will complete.

### ☉ **Final Artifact: Five Day Integrated Science and Technology Unit and Kit (e-Portfolio Artifact)**

Teacher candidates will choose a science topic for the grade level in which they have been placed for field experience and create a 5-day unit for that topic.

The kit will include all additional materials used for the five lessons that include but are not limited to, handouts, books, and materials (consumable supplies will not be included).

#### **Peer Teaching**

Three lessons will be taught to peers in the course and invited UTTC pre-service teacher candidates. All three lessons will be from your Five Day Integrated Science and Technology Unit which will also be taught in your designated field placement.

#### **Lesson Plan Student Investigations and Follow Up Student Interview (e-Portfolio Artifact)**

EDU 360 is designed to inform you of the most current thinking concerning research-based recommendations for effective science instruction for grades 1 to 8, components including: planning, delivery, and assessment. Two research-based recommendations made are for teachers to know both the science content of their lesson and their students' understanding and interest regarding the selected science topic *before* instruction. To show evidence that you have been guided by this research-based recommendation, for this section you are to prepare a 3 to 4 page document that:

- Summarizes the scientific understanding of your topic (provide at least two references) in both a narrative form (a one to two page summary) and as a concept map that you draw based on your narrative.
- Describes the background of three students that you select to interview about the science topic before you have planned your instruction (identify what you believe distinguishes them as individuals, such as their academic level, gender, and ethnic/cultural background).
- Includes the list of interview questions (the protocol) you used to interview the three students (individually).
- Presents, in a separate concept map for *each* student (you draw the concept map), what you believe each student knows about the topic based on his or her interview responses.
- Summarizes your interpretation of each of the student's initial thinking based on the evidence obtained from the concept maps that you drew.

#### **Video Recording and Self-Analysis (e-Portfolio Artifact)**

One lesson within the Five Day Integrated Science and Technology Unit will be video-taped when taught at the candidate's field placement site. The candidate will make arrangements with their co-operating teacher in advance to communicate which lesson will be taped, date and time. The candidate will then watch the video and conduct a self-analysis of their lesson delivery.

#### **Grant Writing (e-Portfolio Artifact)**

Teacher candidates will partake in a two-day training on grant writing. The exercise will permit candidates to write an imaginary grant for science or technology supplies in an elementary classroom.

#### **Science and Technology Mini-Workshops and Training**

Throughout the semester, additional professional development opportunities may be available for candidates to participate. The attempt to partake in these activities will be at the discretion of the Department Chair and instructor.

## POLICIES

### Attendance

*Attendance and punctuality are requested and expected – this means attendance is mandatory; it is part of professionalism.*

Much of the content of this course occurs in class. All absences will have a negative impact on your final grade as you miss a lecture, group discussion, and work completed during your absence.

- The instructor of this course will count the Candidate fully absent from class if they arrive **fifteen (15) minutes after** the posted start time.
- All absences regardless of the situation are noted as unexcused in the Jenzabar system.

It is understood that things occur that are out of your control and one cannot be prepared for the unexpected. Therefore, if you are aware of an upcoming absence or if an unexpected event occurs and you are unable to contact your instructor a “note of absence” will be provided within the course sign in sheet that states your reason for an absence. Notable absences are the following reasons:

- personal illness,
- the illness of a dependent,
- the death or funeral of an immediate family member,
- or required attendance at an official college activity

### Addressing Candidate Tardiness

Candidates must be seated and ready to begin class at the scheduled time. Promptness and even early arrival is recommended. Tardiness is unprofessional and will be recorded and closely monitored by the instructor of the course. **Both tardiness and early departure from class are forms of absenteeism.**

Candidates are required to sign in at each class meeting. The sign in sheet will indicate the time in which a Candidate arrives and includes the time of any Candidate’s early departure. Participation points are awarded based on the amount of time the student has been present for the scheduled class time.

Three (3) documented late arrivals (tardiness) will trigger an early alert in the Jenzabar system. A staffing will be held with the instructor of the course in which an attendance contract will be developed. The student’s academic advisor will be informed and given a copy of the attendance contract for the Candidate’s file. If tardiness continues to persist the Candidate may be required to drop the course.

Expect class to last the entire scheduled time. Candidates may not leave class early without having made arrangements with the instructor. The act of leaving prior to the end of class is unacceptable and will be treated in the same manner as a tardy.

*Things to keep in mind:*

- Note that tardiness is disrespectful to the other Candidates, instructor, and yourself.
- If you have children that attend school (elementary, day care), please allow a half hour to drop them off before your class.
- Make appointments outside of your class schedule and make note of the necessary travel time to and from appointments.
- Valuable information is presented in the first 10 minutes of class.
- If you must leave the class for any reason, please do so as quietly as possible.

### Appropriate Dress:

You may dress casually when we have regular class; however, when we have guest speakers or if you are presenting and are in your field placements, professional dress will be expected.

### **Policy for Late Submission:**

Each candidate is responsible for obtaining the necessary information required in the event of absence. It is the Candidate's responsibility to contact one of your peers to obtain information concerning assignments, handouts, and any changes or announcements.

The assignments and course requirements must be completed by the due date. **Late work will not receive full credit.** All late work (which has been arranged with the instructor) must be personally handed to the instructor. The amount of points deducted for late work is at the discretion of the instructor.

*Midterm and Final Projects/Assignments* – Ample amount of time will be given to Candidates to complete midterm and final artifacts; therefore midterm/final projects, assignments, and/or tests must be completed and submitted by the designated due date and time. Only hardship cases will be considered.

### **Withdrawal from Class:**

Withdrawal from class after April 7, 2017, results in an automatic “F” grade for the course.

### **Plagiarism and Academic Integrity:**

Plagiarism is the term for taking credit for work that is not your own. This means you cannot take material from articles, books or websites you find in the library and present it as your own work, you cannot let your friends prepare your assignments, and you cannot copy an assignment from a student who took the same course another semester. Plagiarism is taken seriously because this is a place for learning and new ideas; your assignments are the evidence you provide of your learning, your original ideas.

Providing work that is not your own or that is not unique to the assignment is inappropriate because it is a form of dishonesty. The consequences of plagiarism are severe: you will be given an F on the specific assignment, or the entire course, at the instructor's discretion. If you need advice on how to appropriately cite the work of others, please ask. Briefly, as long as you acknowledge that an idea is not your own, but give the original source, and so long as the assignment contains sufficient original work in addition to whatever is quoted from others, you are generally not going to get into trouble.

Other violations of academic integrity are also inappropriate though they do not generally have the same severe consequences as plagiarism. One example would be lying about the reason for an absence or signing someone else's name to a sign-in sheet when they were not present. Please keep in mind that students generally ask their instructors for recommendations, whether for jobs or scholarships.

### **Incompletes**

A grade of I (Incomplete) will be recorded when a student is making progress in classes but is unable to complete course requirements for reasons beyond his/her control and after negotiation between the instructor and the students about how the course can be completed. Except for emergencies, such as exceptional personal illness, a death in the family, or other unforeseeable circumstances, a student must contact their instructor within two weeks prior to an event or events that they feel would interfere with their ability to attend class and finish the semester successfully. A current minimum of a ‘C’ grade is required for the student to receive an Incomplete in that course.

Copies of the negotiated agreement will be filed with the Registrar, the advisor, and the student. Students have two weeks into the succeeding semester to complete the necessary work. A “last-minute effort” to complete a course by the student with a history of poor attendance or poor performance is not a viable reason to report an incomplete grade.

It is the student's responsibility to request an incomplete grade. It is also the advisor's responsibility to make sure the student understands this option. Students must contact their instructors within two weeks of other circumstances they feel would interfere with their ability to attend class and finish the course successfully. The incomplete grade must change to a grade by the date announced by the Registrar, or else it converts to an “F”.

### **Cell Phones and Other Technology:**

Out of respect and courtesy to your fellow students, your instructor, and yourself, please leave your cell phone off during class. If you absolutely must leave it on, please turn off the sound and use the silent ring mode. **Texting and checking your cell phone is a distraction and a sign of disrespect. Please do not text in class.** If a Candidate continues to misuse their cell phone, a staffing will be held. This also applies to laptops, iPads, etc.

### **Extra-curricular Activities:**

Academic achievement is a top priority. If you are involved in extracurricular activities, you must be keeping up with your studies or instructors will not approve travel. Our job is to ensure that you have every opportunity for academic success by attending classes and completing assignments.

### **Students with Disabilities:**

United Tribes Technical College recognizes its responsibility for making reasonable accommodations to ensure there is no discrimination on the basis of a disability. The Office of Disabilities Services coordinates reasonable support services, accommodations, and appropriate referrals aimed at removing barriers and providing an equitable learning environment. If you have a disability, please contact the Disabilities Services office located in the Education Building Room 123B (first floor). The DSS department can also be reached at 701.255.3285 ext. 1516.

### **Special Assistance:**

I am available by appointment. If you have any questions or concerns, arrange an appointment with me as soon as possible. Don't wait until the semester is almost over!

There is tutoring available for all Candidates if needed. If you feel you would benefit from working with a tutor, please let me know, and I will assist you in making arrangements. I encourage you to take advantage of this assistance if you feel you would benefit from it.

### **Programmatic Procedures:**

In an effort to monitor the quality of the courses and programs at United Tribes Technical College, work produced by Candidates in this class may be randomly sampled for external review. This means that the instructor of this course may be asked to provide samples of student and/or candidate work for programmatic assessment purposes. All names and identifying information will be removed from any work samples provided for external review. In addition, the process of external review will in no way affect a grade or performance in this course.

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### **Class Cancellation Policy**

In every situation, the decision to cancel classes is taken very seriously. The reputation of the College and the integrity of the academic program rely on every class being conducted according to the schedule. On the course schedule for this syllabus, the dates you will not have class are identified. These are circumstances that your instructor is aware of at the beginning of the semester when the campus is closed or the instructor and/or students have other commitments.

On rare occasions, there are unexpected emergencies that require class to be cancelled. If you want your instructor to contact you prior to class to let you know of a cancellation, be sure the instructor has your current phone number. Otherwise, if your instructor is not able to come to class, one of the other Teacher Education instructors will cover to make sure you get the educational experience you deserve.

## SYLLABUS ACKNOWLEDGEMENT

**Please sign this form, detach from syllabus, and return to the instructor.**

**Course Title:** Integrated Science & Technology

**Course Number:** EDU 360

**Semester:** Spring 2017

**Credit Hours:** Three (3)

**Instructor:** Leah Hamann

My signature below indicates that the content of this syllabus has been explained to me, that I understand what is expected of me, and that I have been given a copy to keep for future reference.

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Print Name

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Signature

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Date