

	Course	ED 4343 501 Science Methods Grades EC-6
	Professor	Micki Friedman, M.ED.
	Term	Spring 2018
	Meetings	TTh 7:00-8:15PM, CB 2 1.206

Professor's Contact Information

Office Phone	972-883-2730
Other Phone	contact via UTD email or through eLearning
Office Location	n/a
Email Address	Mxk116530@utdallas.edu
Office Hours	After class or by appointment

General Course Information

Pre-requisites, Co-requisites, & other restrictions	As prescribed by the Teacher Development Office
Course Description	Science content and science methodologies, including all levels of inquiry based instruction, appropriate for the EC-6 classroom, based on the Science TEKS and the National Science Standards. Hands-on activities are integrated into the coursework.
Learning Outcomes	<p>*Students will demonstrate the application of science process skills in both written and performance activities with 80% accuracy.</p> <p>*Students will be able to evaluate science content and apply it to the correct learning environment, developing and presenting an appropriate lesson without content errors.</p> <p>*Students will demonstrate pedagogical content knowledge evaluated through a grading rubric with 80% proficiency or better.</p> <p>*T-TESS objectives are embedded throughout the semester including the following Dimensions: <i>Planning</i> 1.1 Standards and Alignment, 1.4 Activities; <i>Instruction</i> 2.2 Content Knowledge and Expertise, 2.3 Communication, 2.4 Differentiation, 2.5 Monitor and Adjust; <i>Learning Environment</i> 3.1 Classroom Environment, Routine, and Procedures, 3.2 Managing Student Behavior, 3.3 Classroom Culture; <i>Professional Practices and Responsibilities</i> 4.1 Professional Demeanor and Ethics, 4.2 Goal Setting</p>
Required Materials	<p>-ScienceSaurus for Grades 4-5 (Houghton Mifflin Harcourt)</p> <p>-Composition journal</p>

001 Assignments & Academic Calendar -

[Topics, Assignments, Due Dates, Exam Dates]

Week 1 January 9	Introduction, What is Science? Nature of Science Assign: Science Autobiography, Due January 18	
January 11	Nature of Science (continued) Cooperation and Collaboration in Science (activity) Assign: Elementary Science Textbook Review, Due January 25th Due: Flipped Lesson 1: Setting Up Journal by midnight	Physical Properties/Chemical Properties of Matter
Week 2 January 16	Science Journaling –Importance Of Lab: Chemical Changes Assign: Science in the News, due on night of your presentation	Physical and Chemical Changes
January 18	TEKS STAAR Assign: Science Content Paper (TEKS assigned), due February 1st Due: Science Autobiography through eLearning Due: Flipped Lesson 2: Process Skills	Carbon dioxide-oxygen cycle
Week 3 January 23	Vertical Alignment in Science	Physical Properties: Mass
January 25	Science TEKS Tower Due: Flipped Lesson 3: Lab Safety Due: Elementary Science Textbook Review through eLearning, Turn in textbook to class	
Week 4 January 30	Science Process Skills/Science Investigation and Reasoning Stations Quiz 1	
February 1	Science Process Skills (continued) Model Stations- Limitations and Advantages Due: Flipped Lesson 4: 5E Instructional Format Due: Science Content Paper (through eLearning)	Metamorphosis/Incomplete Metamorphosis
Week 5 February 6	Creating a Science Lesson Plan – The 5 E's	Water Cycle
February 8	Due: Flipped Lesson 5: Science Tools	
Week 6 February 13	Tools/Masurement in the science classroom Due: Flipped Lesson 6: Formative Assessments	Stopwatch/timer Graduated cylinder Triple beam balance Metric ruler Spring scales
February 15	Formative Assessments Intro to Common Formative Assessments (CFAs) Assign: Requirements for lesson plans/rubrics, due March 22 Due: Flipped Lesson 7 : Vocabulary	Reflection and Refraction
Week 7 February 20	Science Centers (create center) Assign: Midterm review/Midterm Online	

	Due March 1 Quiz 2	
February 22	Vocabulary Development in Science Due: Flipped Lesson 8: Differentiation	Elements and Compounds Periodic Table
Week 8 February 27	Rotations through Centers (rubric)	
March 1	Differentiation- English Learner Merideth Choate: FISS ESL/Bilingual Coordinator <i>Sign up for conferences (Signup Genius)</i> Due: Midterm by midnight	Volcanoes- Rapid Changes
Week 9 March 6	Differentiation- Gifted and Talented :Kim Smith	Rock Cycle
March 8	Conferences (start at 5:00)- bring science notebook for grade (50 pts) Due: Flipped Lesson 9: What are Misconceptions and How they affect your teaching	
Week 10 March 20	Methods of Heat Transfer	Convection Conduction Radiation
March 22	Science Content: Misconceptions- Due: Science Lesson Plans by midnight (through eLearning) Due: Flipped Lesson 10: Inquiry Quiz 3	Moon Phases Reasons for Seasons
Week 11 March 27	Structured Inquiry Lab: Poppers	Potential and Kinetic Energy Graphing Variables
March 29	Guided Inquiry Lab: Circuits	Circuits
Week 12 April 3	Confirmation Inquiry Lab: Faults	Fault Boundaries
April 5	Open Inquiry Lab: Black blocks	Thermal transfer Conduction Insulation
Week 13 April 10	Alternative Assessments/Creating Assessments- Cookie Activity	States of Matter
April 12	Create Rubric for Presentation Quiz 4/5	
Week 14 April 17	Science Presentations	
April 19	NO CLASS Extra Credit Opportunity- STEAM Night	
Week 15 April 24	Science Presentations Assign: Final Review	

April 26	Science Presentations Online Final/Essays due by midnight Thursday, May 3rd	
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Requirements

	<p>All of the following requirements must be completed in order to pass this class. Designated assignments will be turned in through eLearning.</p> <table data-bbox="344 913 1385 1312"> <tr> <td>Class Attendance</td> <td>Each Class Meeting*</td> </tr> <tr> <td>Quizzes (5 total)</td> <td>Weekly (in class)*</td> </tr> <tr> <td>Flipped Lessons (10 total)</td> <td>Weekly (through eLearning)*</td> </tr> <tr> <td>Science in the News Presentation</td> <td>Due: Assigned Date</td> </tr> <tr> <td>Science Autobiography</td> <td>Due: Assigned Date</td> </tr> <tr> <td>Elementary Science Textbook Review</td> <td>Due: Assigned Date</td> </tr> <tr> <td>Science Lab Notebook</td> <td>Due: At /near midterm and the final</td> </tr> <tr> <td>Science Lesson Content Paper</td> <td>Due: Assigned Date</td> </tr> <tr> <td>Mid-Term Exam</td> <td>Given: Assigned Date</td> </tr> <tr> <td>Conferences</td> <td>Individually Scheduled</td> </tr> <tr> <td>Lesson Development and Presentation</td> <td>Due: Assigned Date</td> </tr> <tr> <td>Final Exam</td> <td>Given: TBA</td> </tr> </table> <p>* Required as noted below</p>	Class Attendance	Each Class Meeting*	Quizzes (5 total)	Weekly (in class)*	Flipped Lessons (10 total)	Weekly (through eLearning)*	Science in the News Presentation	Due: Assigned Date	Science Autobiography	Due: Assigned Date	Elementary Science Textbook Review	Due: Assigned Date	Science Lab Notebook	Due: At /near midterm and the final	Science Lesson Content Paper	Due: Assigned Date	Mid-Term Exam	Given: Assigned Date	Conferences	Individually Scheduled	Lesson Development and Presentation	Due: Assigned Date	Final Exam	Given: TBA
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Course Policies

Grading (credit) Criteria	<p>Daily Quiz – 5% 50 points Dates for (5) quizzes will be announce in class or in eLearning. It will consist of 5 questions in the TExES format. The quiz will be given at the ending of the class time and will cover material from the previous classes. Make-up quizzes for tardiness or absence will not be given.</p>
	<p>Science Autobiography – 5% 50 points In an essay format, describe your experiences with science. What were your experiences in school, with family, or on your own? Positive and negative experiences need to be discussed. Spelling and grammar will be graded.</p>
	<p>Science in the News – 5% 50 points There are important science events in the news everyday. Learning and understanding these events helps us to become a more scientifically literate society. This assignment will be a "group" effort. You will select a presentation date and a partner on the first day of class. Two presentations will be given at the beginning of each designated class period. Guidelines and grading rubric will be provided. Articles can be obtained through the newspaper, science magazines and internet sites. One article must be from a printed source. The other should be electronic (from the internet). See guidelines for further information. Spelling and grammar will be graded.</p>
	<p>Science Lesson Content Paper - 5% 50 points In order to teach science accurately, one must have a working knowledge of the content. This exercise will help you understand the content behind the lesson you will develop for this class. Guidelines will be given. Papers will be submitted to turnitin.com to be screened for academic integrity. Spelling and grammar will be graded.</p>
	<p>Flipped Lessons – 20% 200 points Reflective questioning is an important component of the science education process. You will be given a question each week through eLearning (10 questions total for semester). Responses must be submitted no later than class the following week.</p>
	<p>Review of Elementary Science Text – 10% 100 points You will be provided with the Elementary Science Textbook that is currently being used in elementary classrooms. A form will be provided with a checklist. You will also write an essay about your opinion of the text. It should be typed, double spaced, and a minimum of one page in length. Be sure to justify reasons for your opinions. Both the checklist and essay will be turned in. Spelling and grammar will be graded.</p>
	<p>Science Notebook - 5% 50 points You will record all lab work throughout the semester in a science notebook. Your science notebook should be well organized and should include recordings from the hands-on lessons done in class. Your notebook will be checked at midterm (50 points).</p>
	<p>Lesson Development and Presentation - 15% 150 points <i>Lesson Plan (75 points)</i> <i>Presentation (75 points)</i> You will be assigned one of the three basic science areas from which to develop a lesson. One third of the class will present lessons in physical science, one third in life science, and one third in earth science. Your lesson content will be assigned according to the TEKS. All copies of your lessons will be submitted electronically through the eLearning. Lessons will be done in Word format following the outline and sample lessons provided. All lessons, upon completion, will be posted on eLearning. You will be responsible for the content presented by your peers. You will be videotaped during your presentation and required to complete a self-evaluation, due a week after your presentation. Your grade will be based on the following: written lesson (50%), instructor assessment of presentation (25%), self-assessment of presentation (15%), and peer assessment of presentation (10%). Lessons will be submitted to turnitin.com to be screened for academic integrity.</p>
	<p>Mid-Term Exam - 15% 150 points The mid-term will cover everything during the semester up to this point. The exam will consist</p>

	<p>of three sections: a hands-on portion, an objective portion, and an essay portion. The essay portion will consist of application-type questions and will be a "take-home."</p> <p>Final Exam - 15% 150 points Content from the entire semester will be covered in the same format as the mid-term exam. The essay portion will be handed out as a "take-home" during the class prior to the final exam.</p> <p style="text-align: center;">Total 1000 points</p> <p>You will accrue a maximum of 1000 points for the semester. Grades will be assigned as follows:</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding-right: 40px;">970-1000: A+</td> <td style="padding-right: 40px;">870-899: B+</td> <td>770-799: C+</td> </tr> <tr> <td>930-969: A</td> <td>830-869: B</td> <td>730-769: C</td> </tr> <tr> <td>900-929: A-</td> <td>800-829: B-</td> <td>700-729: C-</td> </tr> </table> <p>Grammar and spelling will be considered in the grading of all written work. One point will be deducted for each spelling/grammar error. Be aware that Spell Check does not catch everything. It is advisable to have someone proofread any papers before they are handed in.</p>	970-1000: A+	870-899: B+	770-799: C+	930-969: A	830-869: B	730-769: C	900-929: A-	800-829: B-	700-729: C-
970-1000: A+	870-899: B+	770-799: C+								
930-969: A	830-869: B	730-769: C								
900-929: A-	800-829: B-	700-729: C-								
Make-up Exams	Make-up exams will only be allowed under extreme circumstances. Students must contact the instructor prior to the exam to qualify.									
Extra Credit	Opportunities for extra credit <u>may</u> become available throughout the semester. These opportunities usually involve attending workshops or working in a science classroom. Students may complete one extra credit opportunity during the semester for a maximum of 10 points. A one-page write-up of the experience is required and must be turned in one week after the experience has been completed. Further, any errors in grammar and spelling found in work passed out by the instructor will result in one extra point for each error found.									
Late Work	Late work will be accepted with a 10% deduction in the grade for each day an assignment is late. This begins at the time the class ends on the assignment due date. Please note: This does NOT include Reflections.									
Class Attendance	Regular attendance is critical to the collaborative learning environment and to your comprehension of the material being presented. If you have an emergency and cannot attend class, notify me prior to class. When you have four (4) absences, 10% of the total possible points will be deducted. That is, if you have points that total the equivalent of an "A", you will make a "B". If you have points that total to an equivalent of a "B", you will make a "C". If you exceed five (5) absences, you will receive an F or an I, at the discretion of the instructor. Two tardies (or leaving early) will be counted as one absence. Activities done during class will be included in questions on your exams and quizzes. If you miss a class, you will need to get any handouts and other pertinent information from your class "buddy".									
Classroom Citizenship	Students are expected to present themselves as professionals and work in a cooperative learning environment.									
Field Trip Policies	N/A									
Student Conduct and Discipline	<p>The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UTD publication, <i>A to Z Guide</i>, which is provided to all registered students each academic year.</p> <p>The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the <i>Rules and Regulations, Board of Regents, The University of Texas System, Part 1, Chapter VI, Section 3</i>, and in Title V, Rules on Student Services and Activities of the university's <i>Handbook of Operating Procedures</i>. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SU 1.602, 972/883-6391).</p>									

	<p>A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.</p>
<p>Academic Integrity</p>	<p>The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.</p> <p>Scholastic dishonesty includes, but is not limited to, statements, acts or omissions related to applications for enrollment or the award of a degree, and/or the submission as one's own work or material that is not one's own. As a general rule, scholastic dishonesty involves one of the following acts: cheating, plagiarism, collusion and/or falsifying academic records. Students suspected of academic dishonesty are subject to disciplinary proceedings.</p> <p>Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.</p>
<p>Email Use</p>	<p>All email communication for this class should be done through eLearning.</p> <p>The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individual corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.</p>
<p>Withdrawal from Class</p>	<p>The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.</p>

<p style="text-align: center;">Student Grievance Procedures</p>	<p>Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's <i>Handbook of Operating Procedures</i>.</p> <p>In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the dean will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties.</p> <p>Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.</p>
<p style="text-align: center;">Incomplete Grades</p>	<p>As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of F.</p>
<p style="text-align: center;">Disability Services</p>	<p>The goal of Disability Services is to provide students with disabilities educational opportunities equal to those of their non-disabled peers. Disability Services is located in room 1.610 in the Student Union. Office hours are Monday and Thursday, 8:30 a.m. to 6:30 p.m.; Tuesday and Wednesday, 8:30 a.m. to 7:30 p.m.; and Friday, 8:30 a.m. to 5:30 p.m.</p> <p>The contact information for the Office of Disability Services is: The University of Texas at Dallas, SU 22 PO Box 830688 Richardson, Texas 75083-0688 (972) 883-2098 (voice or TTY)</p> <p>Essentially, the law requires that colleges and universities make those reasonable adjustments necessary to eliminate discrimination on the basis of disability. For example, it may be necessary to remove classroom prohibitions against tape recorders or animals (in the case of dog guides) for students who are blind. Occasionally an assignment requirement may be substituted (for example, a research paper versus an oral presentation for a student who is hearing impaired). Classes enrolled students with mobility impairments may have to be rescheduled in accessible facilities. The college or university may need to provide special services such as registration, note-taking, or mobility assistance.</p> <p>It is the student's responsibility to notify his or her professors of the need for such an accommodation. Disability Services provides students with letters to present to faculty members to verify that the student has a disability and needs accommodations. Individuals requiring special accommodation should contact the professor after class or during office hours.</p>

<p>Religious Holy Days</p>	<p>The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.</p> <p>The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment.</p> <p>If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.</p>
<p>Off-Campus Instruction and Course Activities</p>	<p>Off-campus, out-of-state, and foreign instruction and activities are subject to state law and University policies and procedures regarding travel and risk-related activities. Information regarding these rules and regulations may be found at http://www.utdallas.edu/BusinessAffairs/Travel_Risk_Activities.htm. Additional information is available from the office of the school dean.</p>
<p>Fitness to Teach and Code of Ethics</p>	<p>As a student in this course, you are expected to comply with the Code of Ethics and Standard Practice for Texas Educators and the Fitness to Teach Policy.</p>
<p>Sharing Confidential Information</p>	<p>Students considering sharing personal information in email, in person, or within assignments or exams should be aware that faculty members and teaching/research assistants are required by UT Dallas policy to report information about sexual misconduct to the UT Dallas Title IX Coordinator. Per university policy, faculty have been informed that they must identify the student to the UT Dallas Title IX Coordinator. Students who wish to have confidential discussions of incidents related to sexual harassment or sexual misconduct should contact the Student Counseling Center (972-883-2527 or after hours 972-UTD-TALK or 972-883-8255), the Women's Center (972-883-8255), a health care provider in the Student Health Center (972-883-2747), the clergyperson (or other legally recognized religious advisor) of their choice, or an off-campus resource (i.e., rape crisis center, doctor, psychologist). Students who are sexually assaulted, harassed, or victims of sexual misconduct, domestic violence, or stalking, are encouraged to directly report these incidents to the UT Dallas Police Department at 972-883-2222 or to the Title IX Coordinator at 972-883-2218. Additional information and resources may be found at http://www.utdallas.edu/oiec/title-ix/resources.</p>
<p>Campus Carry</p>	<p>The University's concealed handgun policy is posted on the campus carry website: https://www.utdallas.edu/campuscarry/</p>

These descriptions and timelines are subject to change at the discretion of the Professor.