

**University of North Texas at Dallas  
Fall 2015  
SYLLABUS**

<b>EDEE 4330 D 002 : Science Grades EC-6      3Hrs</b>	
<b>Department of Teacher Education      Division of Education and Human Services</b>	
<b>Instructor Name:</b>	<b>Dr. Ratna Narayan</b>
<b>Office Location:</b>	<b>201 N Dallas 1</b>
<b>Office Phone:</b>	<b>972 780 1340, Cell: 806 252 5277</b> Phone calls/texts to my cell are welcome between 9AM and 10 PM daily and replies can be expected within no more than 24 hours.
<b>Email Address:</b>	<b>Ratna.narayan@unt.edu</b>
<b>Office Hours:</b>	<b>Monday 1-5pm Wednesday 2:30 - 4:30 pm, Thursday 2:30 – 5:30 pm, or by appointment</b>
<b>Classroom Location:</b>	<b>Dallas 1 room 344</b>
<b>Class Meeting Days &amp; Times:</b>	<b>Thursday 11:30 pm – 2:20 pm</b>
<b>Important dates: Aug 29<sup>th</sup> Orientation at the Perot, Nov 12-14<sup>th</sup> Presentation at CAST in Fort Worth. Attendance is mandatory</b>	
<b>Oct 1<sup>st</sup> Materials list due to Thomas</b>	
<b>Course Catalog Description:</b>	The purpose of this course is to provide teacher candidates with the subject matter, background, and material organization for an integrated science program in the primary/elementary school. Students experience first-hand the scope and sequence of science education in a primary/elementary/middle school setting.
<b>Recommended Text and References:</b>	Articles will be uploaded on Blackboard as and when required.
<b>You Need:</b> A google email id and password. We will be using google docs to create the science resource folios. A print out of the science TEKS EC-6 Access to a scanner A positive attitude towards the course activities and field experiences	
<b>Access to Learning Resources:</b>	UNT Dallas Library: phone: (972) 780-3625; web: <a href="http://www.unt.edu/unt-dallas/library.htm">http://www.unt.edu/unt-dallas/library.htm</a> UNT Dallas Bookstore: phone: (972) 780-3652; e-mail: <a href="mailto:1012mgr@fhg.follett.com">1012mgr@fhg.follett.com</a>
<b>Field Experience: This course has a 25 hour field experience component that must be completed with the field experience logs submitted in a timely manner in order to get a grade for the course.</b>	

<b>20 hours will be completed at the Perot while 5 hours will be spent observing in an elementary science classroom. Failure to complete the field experience will result in failing the class.</b>	
<b>Course Goals or Overview:</b>	
	<p>The goal of this course is provide teacher candidates with the knowledge, skills and dispositions as a basis for making decisions in respect to teaching elementary school science.</p> <p>The knowledge, skills and dispositions developed in this course are delineated in a variety of ways, including student learning outcomes, assessments, assignments, and various course activities. They are also developed in a manner consistent with recommendations of the National Research Council’s National Science Education (NSES) and National Science Teachers Association (NSTA) Standards, requirements of the Texas State Board for Educator Certification (TEKS) and Interstate New Teacher Assessment and Support Consortium (INTASC) standards.</p>
<b>Learning Objectives/Outcomes:</b> At the end of this course, the student will	
1	Be able to demonstrate the use of instructional strategies and teaching activities to teach the science content knowledge included in Texas’ Essential Knowledge and Skills (The TEKS). TEKS
2	Learn to teach science activities or lessons at the elementary level by a variety of approaches (discovery, inquiry, decision-making, and problem solving) and in a variety of grouping arrangements. TEKS, NSES & INTASC standards
3	Develop a deeper understanding and appreciation of the science content covered in K-6 schools.
4	Learn to apply technology to elementary school science by identifying, describing, and using instructional software, Internet and other computer applications than would enhance instruction. TEKS, NSES & INTASC standards
5	Complete classroom observations and related tasks in field-based settings. TEKS, NSES & INTASC standards
6	Plan science activities and lessons and teach them to students in school and field-based settings TEKS, NSES & INTASC standards
7	Use reflective analysis to improve their teaching. TEKS, NSES & INTASC standards

**Course Outline**

This schedule is subject to change by the instructor. Any changes to this schedule will be communicated both verbally in class as well as through Blackboard

**Please Note: assignments include both those completed in class as well as for homework.**

TOPICS	TIMELINE	SLO
Nature of Science and Science Process skills Introduction to Field-Based Experiences and Teaching Science in the Elementary School, examining TEKS, TAKS and NSES standards. Content integration in the EC-6 classroom <b>TEKS: K-6 (a) Nature of Science</b>	<b>Pre-survey due Aug 27th</b> August 27th DAST drawing Science process skills  Aug 29th orientation at the Perot	1,2,3, & 7

<p>NSES / NSTA: Standards for Science Teaching EC-6, Chapter 3 Standard 2 – Nature of Science INTASC: Standard 2 - Student development, Standard 4- Multiple Instructional Strategies INTASC: Standard 1 – Content Pedagogy</p>	<p><b>Homework 1 for Sept 3rd Complete the 5<sup>th</sup> grade science STARR test and bring the results to class. Please check BB discussion thread for more directions on this assignment</b></p>	
<p>The Scientific Method, Inquiry-based Science teaching and Learning. TEKS: K-6 (0.1-0.4) Science Process / Inquiry NSES / NSTA: Inquiry and the National Science Education Standards Standard 3 - Inquiry INTASC: Standard 1 – Content Pedagogy</p>	<p>Sept 3rd Scientific method  <b>Orientation reflection due Sept 5th on BB. Please refer to the discussion section on BB for prompts for this reflection.</b></p>	<p>1,2,3, &amp; 7</p>
<p>Science Safety in the Elementary Classroom, MSDS sheets, safety contracts TEKS: K-6 (0.1) The student conducts field and laboratory investigations using safe, environmentally appropriate, and ethical practices. NSES / NSTA: Safety and School Science Instruction Standard 9 – Safety &amp; Welfare INTASC: Standard 6 – Communication &amp; Technology, Standard 7 - Planning</p>	<p>Sept 10th Safety contract  <b>Submit hands-on EC-6 activity for CAST</b></p>	<p>2, 6 &amp; 7</p>
<p>Constructivism in the Elementary Classroom Planning and Teaching Science: Activities, Lessons, and Units, 5E model, Hands-on activity, Visual Organizer, Extension activity, Formative and Summative Assessments, Administration and Arts Integration (e.g., scientific illustration, using science trade books [language arts literacy]), dramatic performance [skits/historical science leader role play], and music. TEKS: K-6 (0.5 – 0.14) Science concepts NSES /NSTA: Standards for Science Teaching EC-6 Chapter 3, Standards for Science Content EC-6 Chapter 6 Standard 5 – General Teaching Strategies INTASC: Standard 2: Planning Standard 7- Planning</p>	<p>Sept 17th 5E lesson, subject integration  <b>Sept 17th Draft of TK 20 section 2, standards 4, 5 and section reflection due on BB. Please check BB discussion thread for more directions on this assignment</b></p>	<p>1-7</p>

<p>Sept 24th work day. You will work on your cart activities as a group in class.</p>	<p>Sept 24<sup>th</sup>  <b>Sept 24<sup>th</sup> first phase of the science resource folio due on google docs.</b></p>	
<p>Scientific inquiry in the elementary class          Definition, types, examples , expectations of teachers, students  <b>TEKS: K-6 (0.1-0.4) Science Process / Inquiry</b>  <b>NSES / NSTA: National Science Education Standards, an overview</b>  <b>Standard 3 - Inquiry</b>  <b>NTASC: Standard 2: Planning</b></p>	<p>Oct 1st          Scientific inquiry  <b>Oct 1st the materials list with activity prices and websites for the cart activities will be emailed to Thomas.</b>  <b>Oct 4th P2 reflection due on BB. Please refer to the discussion section on BB for prompts for this reflection.</b></p>	<p>1-3,7</p>
<p>Assessment in the Science Classroom          TeXes, PPR, Content exams  <b>TEKS: The TEKS and the TAKS tests</b>  <b>NSES / NSTA: Assessment in Science Education, Chapter 5</b>  <b>Standard 8 - Assessment</b>  <b>INTASC: Standard 8 - Assessment</b></p>	<p>Oct 8th  <b>Oct 8<sup>th</sup> 5E Cart activity lesson plan due on BB</b></p>	<p>1, 6,7</p>
<p>Professional development opportunities for elementary science teachers  <b>TEKS: K-6 (0.5 – 0.14) Science concepts</b>  <b>NSES /NSTA: Standards for Professional Development of Teachers of Science, Chapter 4</b>  <b>Standard 10 – Professional growth</b>  <b>INTASC: Standard 9 – Reflective Practice, Professional development</b></p>	<p>Oct 15th  <b>Game Day. Test out the Museum game you designed in class. Please bring the game and relevant materials to class to test on your peers.</b>  <b>Oct 15<sup>th</sup> Game lesson plan, documents due on BB</b></p>	<p>1-3,7</p>
<p>Multicultural Science Education  <b>TEKS: K – 6 (0.3) Science Process, connect science concepts with the history of science and contributions of scientists</b>  <b>NSES / NSTA: Diversity and the National Science Education Standard 5 – General skills of teaching</b>  <b>INTASC: Standard 3 – diverse learners</b></p>	<p>Oct 22nd  <b>Oct 24<sup>th</sup> second phase of the science resource folio due on google docs.</b></p>	<p>2, 6,7</p>

<p>Use of Models in the elementary science classroom</p> <p>TEKS: K-6 (a) Use of models of objects and events as tools for understanding the natural world and to show how systems work</p> <p>NSES / NSTA: Standards for Science Teaching EC-6 Chapter 3, Standard 5 – General skills of teaching</p> <p>INTASC: Standard 4- Multiple Instructional Strategies</p>	<p>Oct 29th</p> <p><b>Mock CAST Presentations in class.</b></p>	1-3,7
	<p>Nov 5<sup>th</sup></p> <p><b>Nov 5<sup>th</sup> If Thomas has all the materials, we will have class at the Museum to practice with the cart activity materials. Please bring cart activity documents with you.</b></p> <p><b>Nov 10th P3 reflection due on BB. Please refer to the discussion section on BB for prompts for this reflection.</b></p>	1-3,7
<p>Nov 12<sup>th</sup> – 14th</p> <p>Controversial issues in science and science teaching</p> <p>TEKS: K-6 (0.4,0.5) Science Process</p> <p>NSES / NSTA: National Science Education Standards, an overview</p> <p>Standard 4 – Issues</p> <p>INTASC: Standard 1: Content Pedagogy</p> <p>Standard 10 – School and community involvement</p>	<p>CAST presentation in Fort Worth</p> <p>Nov 19th</p> <p><b>1 hour in class interaction with partner regarding cart activity (exchange of lesson plans)</b></p> <p><b>Nov 24<sup>th</sup> third phase of the science resource folio due on google docs.</b></p>	1-3,7
<p>Thanksgiving holiday</p>	<p>Nov 26<sup>th</sup>-Nov 29th</p> <p><b>Draft of Key assignment uploaded to BB/ TK 20 Nov 30<sup>th</sup></b></p>	
<p>Scientific Literacy, reading and writing science, science notebooks</p> <p>TEKS: K-6 (0.3) Science Process</p> <p>NSES / NSTA: National Science Education Standards, an overview</p> <p>Standard 3 - Inquiry</p> <p>Standard 5 – General skills of teaching</p>	<p><b>Dec 3<sup>rd</sup> Last Class day</b></p> <p><b>Dec 5th P4 reflection due on BB. Please refer to the discussion section on BB for prompts for this reflection.</b></p>	1-3, 5-7

<b>INTASC: Standard 1: Content Pedagogy</b>	<b>Dec 7<sup>th</sup> Post survey completed.</b>	
<b>Finals, Potluck</b>	Dec 10 <sup>th</sup>	
<b>All assignments due /submitted / uploaded by Dec 10<sup>th</sup> 2015, 5pm</b>		

**Tentative Schedule for the Perot Fall 15:**

This is a tentative schedule subject to change. You will be notified of any changes that might occur.

Phase	Tentative dates for each phase	What you will be doing in each phase	Assignment
P1	August 29 <sup>th</sup> 9 am -3pm	Orientation to the museum, explore exhibit halls, examples of games, cart activities	P1 Reflection due on BB Sept 5th
P2P1	Aug 30 – Sept 13 <sup>th</sup>	3 hours. In Hall 1 (Cart activity hall). Jointly work on vocab / teks for resource folio. Shadow a GEP for 2 hours. <b>For this phase you will sign up for times provided by the museum on google docs</b>	P2 Reflection due on BB Oct 4th
P2p2	Sept 14 <sup>th</sup> - Sept 27 <sup>th</sup>	2 hours. In hall 1. Interact with visitors in hall 1. <b>For this phase you will sign up for times as per your schedule on google docs</b>	
October 1st the materials list with prices and websites for the cart activities will be emailed to Thomas.			
P3p1	Sept 28 <sup>th</sup> – Oct 11 <sup>th</sup>	3 hours. Explore exhibit hall 2 (game hall of their choice) Shadow GEP in Game Hall for 2 hours. <b>For this phase you will sign up for times provided by the museum on google docs</b>	
October 15 <sup>th</sup> Test game out in class. Submit game details in BB in required format and game lesson plan			
P3p2	Oct 16 <sup>th</sup> – Oct 30 <sup>th</sup>	3 hours. Interact with museum visitors using your game in the Game exhibit hall <b>For this phase you will sign up for times as per your schedule on google docs</b>	P3 Reflection due on BB Nov 10th
P3P3 Oct 31 <sup>st</sup> – Nov 10 <sup>th</sup> 2 hours partner up with someone in another game hall and play their game ( 1 hour in your hall, 1 hour in their hall) <b>For this phase you will sign up for times as per your schedule on google docs</b>			
Nov 6th If Thomas has all the materials then have class at the museum, let them test out cart activities			

P4P1	Nov 10 <sup>th</sup> – 24 <sup>th</sup> (CAST is Nov 12-14 <sup>th</sup> )	3 hrs. Interact with visitors with the cart activity in hall 1 <b>For this phase you will sign up for times as per your schedule on google docs</b>	P4 Reflection due on BB Dec 5th
P4P2	Nov 24 <sup>th</sup> – Dec 3rd	4 hours You will sign up with a partner in another cart activity hall. You will spend 2 hours in your hall teaching them your cart activity and spend 2 hours in their hall interacting with their cart activity. <b>For this phase you will sign up for times as per your schedule on google docs (thanksgiving nov 26-29<sup>th</sup>)</b>	
Post survey to be completed by Dec 7 <sup>th</sup> 5 pm			

**Important Note: Dos and Don'ts at the Perot**

DON'T BE LATE. DON'T CHEW GUM. DON'T BE RUDE.  
 DON'T CHANGE THE TIME AND DATE YOU HAVE SCHEDULED YOURSELF FOR. This is important. Your signing up for a particular date or time at the museum is a PROFESSIONAL COMMITMENT. I have to let the museum know when you are coming and if you don't show up that is unprofessional. If you have signed up for a particular time and don't show up, you get zero on those related assignments plus you don't complete the required hours for the class which can fail you. If you are sick please produce a doctor's note. Just saying I am not feeling well won't cut it sorry!  
 DON'T SIGN UP FOR 3 HOURS AND STAY FOR 2. You will sign in and out each time you go to the Perot. I have access to these sign in times and I will check on these randomly.

Remember you are representing Dr. N and UNT Dallas. Be professional, positive, enthusiastic and engaging and always ready to learn.

**Attire to be worn:**

On the Jan 24th: Comfortable shoes, you will be doing a lot of walking, comfortable, professional looking clothes.

For all the Phases: Black pants and a white top/ tee, shirt (no color showing at all), comfortable closed toe shoes

**Parking and entry to the museum** will be free each time you go to the museum for the field experiences for EDEE 4330

**Course Evaluation Methods**

The course will utilize the following instruments to determine student grades and proficiency of the learning outcomes for the course

**Assignments –**

1. Weekly Activities– Readings and other activities that are assigned weekly throughout the semester.

2. Reflection Papers– Reflective writings that serve to integrate your experiences in the classroom and in the field during the semester.
3. Perot museum assignments
4. Science resource folio related assignments
5. Other Assignments

**Assignments and grades:**

Assignment	Brief Description	Points	SLOs	Due date
<b>Museum Related Assignments</b>				
Pre-Survey	A pre survey on survey monkey to be completed before you go to the Museum	20	7	Aug 27th
Post-Survey	A post survey taken before finals on survey monkey	10	1-7	Dec 7th
P1 reflection	Orientation reflection at the Museum	20	1, 2, 3, 6, 7	Sept 5th
P2 reflection	Reflection after completing P2 at the Museum	10	1, 2, 3, 6, 7	Oct 4th
P3 reflection	Reflection after completing P3 at the Museum	10	1, 2, 3, 6, 7	Nov 10th
P4 reflection	Reflection after completing P4 at the Museum	20	1, 2, 3, 6, 7	Dec 5th
Museum Game	Description and lesson plan	20	1, 2, 3, 6, 7	Oct 15th
Museum Cart activity	Description, activity, materials list Cart activity Lesson plan	10	1, 2, 3, 6, 7	Oct 1 <sup>st</sup> Oct 8th
<b>Science resource folio related assignments **</b>				
Phase 1 science folio	Phase 1 of the science resource folio on google docs	100	1-7	Sept 24th
Phase 2 science folio	Phase 2 of the science resource folio on google docs	100	1-7	Oct 24th
Phase 3 science folio	Phase 3 of the science resource folio on google docs	100	1-7	Nov 24th
Content final	Comprehensive content final	40	1 - 7	Dec 10th
<b>Other assignments</b>				
5 <sup>th</sup> grade Starr test	Take the 5 <sup>th</sup> grade science STARR test and reflect on how you did	10	1, 3, 7	Sept 3rd
TK20 Section 2	Standards 4 & 5 reflections and artifacts, section reflection	20	1, 2, 3, 6, 7	Sept 17th
Key assignment	Upload key assignment narrative and documents to BB	10	1-7	Nov 30th
CAST science activity and	50 points for presentation 50 points for documents	100 points	1 - 7	Oct 29th



documents				
<b>Grand total = 600 points</b>				

\*\* Please see last pages of this syllabus for more information on the science resource folio

**Grade Distribution:**

600 – 540 = A

539 – 480 = B

479 – 420 = C

419 – 360 = D

Below 359 = F

**Please note: All the assignments are compulsory. All assignments will be submitted to a thread in Blackboard unless mentioned otherwise. I expect you to complete all the assignments in a timely fashion. There will be no substitutions unless I approve of them. Professional development opportunities will be offered; if you are unable to avail of these an alternate assignment will be provided.**

**Critical Grade Considerations:**

**Attendance considerations:**

**You are expected to come to class on time and stay the duration of the class as an active participant. You will lose 10 points from your total for every tardy. You will sign into class each time you arrive and if you are 10 minutes late it will be considered as a tardy.**

**All learning activities must be completed in order to receive credit for this course. There will be a letter grade deduction from the final grade for each unexcused absence and for each excused absence beyond one.**

**Assignment considerations: Students must complete all assignments on time to receive a passing grade. If any assignment is not completed and submitted within 48 hours of the due date, the student will automatically receive no points for that assignment. Not completing work is unacceptable for teachers. Please follow the requirements and due date for each assignment. Assignments turned in more than 24 hours late will lose 50 % of the points for the assignment. Assignments turned in more than 48 hours after the assignment deadline will not receive any points. Assignments that have not been spell checked or have grammatical errors will NOT be graded.**

**Class Participation – Expectations**

1. ATTENDANCE - Attend all classes, meetings, etc. arriving on time.
2. PREPARATION - Be prepared to discuss assigned readings and submit assignments according to established deadlines.
3. PARTICIPATION - Contribute constructively and respectfully to all discussions and activities.
4. RESPECT – Do not talk while the teacher or another presenter is speaking.
5. ACADEMIC HONESTY - Know and follow course, departmental, program and university policies on assignments and assessments.
6. PROFESSIONALISM - Know and follow departmental, program and university policies expected of PDS students.

7. Participation and Professionalism – CRITICAL!
8. **You are expected to be present in class and on time especially on presentation dates. If you arrive late you will lose 25% of the assigned points.**

## University Policies and Procedures

### Students with Disabilities (ADA Compliance):

The University of North Texas Dallas faculty is committed to complying with the Americans with Disabilities Act (ADA).

“Any student requesting academic accommodations based on a disability are required to register with Disability Services each semester. A letter of verification for approved accommodations can be obtained from this office. Please be sure the letter is delivered to me as early in the semester as possible. Disability Services is located in DAL 2, Room 204 and is open 8:30-5:00p.m., Monday through Friday. The phone number is (972) 338-1777.”

Students' with documented disabilities are responsible for informing faculty of their needs for reasonable accommodations and providing written authorized documentation. For more information, you may visit the Office of Disability Accommodation/Student Development Office, Suite 115.

### Student Evaluation of Teaching Effectiveness Policy:

The Student Evaluation of Teaching Effectiveness (SETE) is a requirement for all organized classes at UNT. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work to continually improve my teaching. I consider the SETE to be an important part of your participation in this class.

### Assignment Policy:

All assignments are compulsory. There are no exceptions to this rule. Please refer to the assignment expectations document for details about each assignment and its due dates.

Late assignments: Please adhere to the due dates for each assignment. If your

If I am not satisfied with an assignment response, I reserve the right to deduct points and return it to you so you may improve on it and resubmit to get some of the deducted points back if the work is deemed satisfactory. **All assignments are due by 5pm Dec 10th 2015** after which **NO assignments will be accepted or graded.**

### Exam Policy:

Exams should be taken as scheduled. No makeup examinations will be allowed except for documented emergencies (See Student Handbook).

### Academic Integrity:

Academic integrity is a hallmark of higher education. You are expected to abide by the University's code of conduct and Academic Dishonesty policy. Any person suspected of academic dishonesty (i.e., cheating or plagiarism) will be handled in accordance with the University's policies and procedures. Refer to the Student Code of Conduct at [http://www.unt.edu/csr/student\\_conduct/index.html](http://www.unt.edu/csr/student_conduct/index.html) for complete provisions of this code.

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Please take the time to go through this link. If I find you have plagiarized from any source without giving them due credit I will give you a zero for that assignment.

**Bad Weather Policy:**

On those days that present severe weather and driving conditions, a decision may be made to close the campus. In case of inclement weather, call UNT Dallas Campuses main voicemail number (972) 780-3600 or search postings on the campus website [www.unt.edu/dallas](http://www.unt.edu/dallas). Students are encouraged to update their Eagle Alert contact information, so they will receive this information automatically.

**Attendance and Participation Policy:**

The University attendance policy is in effect for this course. Class attendance and participation is expected because the class is designed as a shared learning experience and because essential information not in the textbook will be discussed in class. The dynamic and intensive nature of this course makes it impossible for students to make-up or to receive credit for missed classes. Attendance and participation in all class meetings is essential to the integration of course material and your ability to demonstrate proficiency. **Students are responsible to notify the instructor if they are missing class and for what reason. If I have not heard from you AND receive supporting documentation for your absence, I shall consider it an unexplained absence. Two such absences will reduce your overall grade by a letter grade irrespective of the points you might make. Students are also responsible to make up any work covered in class. It is recommended that each student coordinate with a student colleague to obtain a copy of the class notes, if they are absent. If you have missed a class, please make an appointment to meet me so we can determine what needs to be done to make up the lost time. If you are absent on a presentation day you will get zero points for that assignment.**

**Diversity/Tolerance Policy:**

Students are encouraged to contribute their perspectives and insights to class discussions. However, offensive & inappropriate language (swearing) and remarks offensive to others of particular nationalities, ethnic groups, sexual preferences, religious groups, genders, or other ascribed statuses will not be tolerated. Disruptions which violate the Code of Student Conduct will be referred to the Center for Student Rights and Responsibilities as the instructor deems appropriate.

**Optional Policies:**

***Use of WebCT/Blackboard***

I will expect you to use Blackboard to upload your reflection papers and I will give you feedback on those on Blackboard. Please monitor these for additional comments I give or information I require.

***Use of Cell Phones & other Electronic Gadgets in the Classroom***

Please do not use your cell phones in class. If it is an emergency, I will permit you to leave class and take the call. **If I see you texting or playing videogames or checking your email in class I will drop you a letter grade.**

**Food & Drink in the Classroom**

I do not mind food and drink in the classroom, however when we are conducting an activity, I will expect all food and drink to be put away immediately. All food and drinks must be properly disposed of.

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**Use of Laptops**

If I need you to use a laptop during class I will take you to the computer lab.

**Grade of Incomplete, "I"**

A grade of incomplete, "I" will be given only under extenuating circumstances.

### **Science Resource Folio**

You will use the format provided to create science resource folios in groups and individually. A science resource folio is a collection of pages with relevant information on them. Each page will revolve around a particular concept providing a drawing / picture, meaning of the word, word in Spanish, TEKS, stem and everyday life application pictures, an activity for the concept etc. Please see Force example.

The science resource folio will be created in different phases with different groups and we will merge them at the end. The purpose is to make sure all students get familiar with different science concepts and vocabulary terms related to the museum and to the EC-6 generalist, so it will help you study for the generalist exam and serve as a resource when you teach.

You will be divided into 6 groups according to the cart activity groups and you will use google docs to work collectively and individually on your group folio throughout the semester

### **Phase 1 of the Science resource folio:**

This will correlate to Phase 2 of the Perot Museum field experience. Explore the exhibit Hall you are assigned to. You will take your TEKS science EC-6 with you. I want a vocabulary list of 25 important science vocabulary terms relevant to the exhibit hall and to the EC-6 TEKS and EC-6 generalist. I want the terms to be distinct and not overlap. You can work on this with a partner. You will create individual pages on google docs for each term using the format provided.

In addition to the 25 terms I want each student to pick 1 new term related to any of the 25 terms and create an individual page for that term. So each student will have 5-6 terms they are responsible for. The format asks for you to draw your understanding of the term or concept. Please make sure your drawing is clear and representative of your thoughts on the concept. Of the 6 terms you can draw 3 and ask a child you know to draw the other three.

Please make sure you use the same format throughout and alphabetize the document.

The completed Phase 1 of the science folio is due on sept 24th

**Consequences for late submission: All the members of the group lose 10 points a day. The individual responsible for the late submission loses 10 points per missing word and drops a letter grade regardless of their total score at the end.**

### **Phase 2 of the Science resource folio:**

For this section you will work in pairs. You will locate the new EC-6 generalist preparation manual uploaded to the content section of BB. Your task for the next three phases lies on pages 45 from Competency 007 to page 49 Competency 018. For this phase, among the pairs, (assuming there are three pairs), one pair will pick 10 vocabulary words / concepts from Physical science (concepts 007-010), a second pair will pick 10 vocabulary words / concepts from Life Science (concepts 011 – 014), while a third pair will pick 10 vocabulary words / concepts from Earth and Space Science (concepts 015 – 018) and enter them in your resource folio following the same format as in the earlier phase. Please keep the three sections separate, yet alphabetize the concepts in each section. Please make sure these are terms that have not appeared in the folio before.

The completed Phase 2 of the science folio is due on Oct 24th

**Consequences for late submission: All the members of the group lose 10 points a day. The individual responsible for the late submission loses 10 points per missing word and drops a letter grade regardless of their total score at the end. If you have already been dropped a letter grade for phase 1, you will drop a second letter grade for phase 2 being late regardless of your total at the end.**

**Part 3 of the resource folio:**

For this section you will work in pairs. You will locate the new EC-6 generalist preparation manual uploaded to the content section of BB. Your task for the next three phases lies on pages 45 from Competency 007 to page 49 Competency 018 or from the EC-6 generalist or Starr tests. Each pair will pick 5 words each from remaining two sections that they did not do in phase 2 of this project. For instance if you did Physical science in phase 2 in phase 3 you will do 5 words from earth science and 5 from life science. Again there must be NO replications. Due date Nov 24th

**Consequences for late submission: All the members of the group lose 10 points a day. The individual responsible for the late submission loses 10 points per missing word and drops a letter grade regardless of their total score at the end. If you have already been dropped a letter grade for phase 1, you will drop a second letter grade for phase 2 being late regardless of your total at the end.**

**Here is a sample of what I am expecting for the term force!**

**Science Concept:** Force

**Spanish:** Fuerza

**Comment [O1]:** I want this to be a single vocabulary term

**Comment [O2]:** Translate to spanish

Draw what you think the term force means here  
(this will be your drawing or that of a child that you can scan in here.) Describe what you have drawn.

**My understanding of the term:** it is some kind of pull or push, power

**Comment [O3]:** You define what the word means to you , in your own words

**Definition:** A **force** is a push or pull upon an object resulting from the object's *interaction* with another object. Whenever there is an *interaction* between two objects, there is a force upon each of the objects. When the *interaction* ceases, the two objects no longer experience the force. Forces only exist as a result of an interaction. Interaction means how one object affects the other

**Comment [04]:** The scientific definition of the vocabulary word

**Source of definition:** <http://www.physicsclassroom.com/class/newtlaws/Lesson-2/The-Meaning-of-Force>

**Comment [05]:** Where you got the definition from

**Units:** It is measured in the SI unit of Newtons and represented by the symbol **F**.

**Comment [06]:** Units of measurement where relevant

**Formula:**  $F = m \times a$  where  $m$  = mass and  $a$  = acceleration

**Comment [07]:** Formula where relevant

**Related terms:** mass, acceleration, newton, balanced and unbalanced forces, Newton's Laws, inertia, gravitational force

**Comment [08]:** At least 5 related terms

**TEKS:** 6 (A,B,C,D)

**Comment [09]:** These terms can also come from the TEXES prep manual for the EC=6 generalist

**Comment [10]:** Relevant TEKS

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

**Comment [011]:** Comes from the prep manual for the EC-6 generalist [http://cms.texas-ets.org/files/5914/1881/7139/core\\_subjects\\_ec\\_6\\_291.pdf](http://cms.texas-ets.org/files/5914/1881/7139/core_subjects_ec_6_291.pdf)

**Lesson plan with activity:** <http://www.discoveryeducation.com/teachers/free-lesson-plans/rules-of-forces-and-motion.cfm> .The activity involves toy cars and ramps and discussing the effects of gravity and friction

**Comment [012]:** Lesson plan with an activity based on the vocab concept. Paste the link to the lesson plan. Describe briefly what the activity is

**You tube video:** <https://www.youtube.com/watch?v=2OJbztWitk>

**Comment [013]:** This can be a song, rap, video about the topic

**Question from the Generalist or Starr test:**

An object is being acted on by a force of 20 N directed to the left and a force of 30 N directed to the right. What is the net force acting on the object?

- A. 10 N to the left
- B. 50 N to the left
- C. 10 N to the right
- D. 50 N to the right

**Comment [014]:** If this isn't available then you can replace it with common misconceptions about the topic or something else

**Relation to everyday life:**

**Picture 1:** What am I looking at: Children in a tug of war trying to pull the rope towards them. Force = pull, also friction

**Comment [015]:** Picture of how the concept is related to everyday life with a description of how it is relevant



**Comment [O16]:** The picture must be of good quality, must not be grainy or unclear

**Source:** [http://www.fourseasonsamusements.com/assets/root/categories/Photo%20Opp%20and%20Other/tug\\_of\\_war.jpg](http://www.fourseasonsamusements.com/assets/root/categories/Photo%20Opp%20and%20Other/tug_of_war.jpg)

**Comment [O17]:** Where did you get the picture from?

**Picture 2: STEM application.** What am I looking at: Parachute drifting towards the earth because of the earth's gravitational force, the broad chute slows down its descent.

**Comment [O18]:** How is this related to a STEM application. Describe in a line or two





Source: <http://www.planetstillalive.com/wp-content/uploads/2011/12/Parachute-AcrobaticsA-7-1024x689.jpg>

**Comment [O19]:** Source of the picture

Prepared by: xxxxxx and date

**Comment [O20]:** Your name and that of your partner goes here and the date you completed it.