"A good teacher, like a good entertainer, first must hold his audience's attention. Then he can teach his lesson."
– Hendrik John Clarke

SCED 4367(21855)/4368 (27253)
Teaching Mathematics and Science in Secondary School

Spring 2018

This syllabus is subject to change as needed. Any changes to the syllabus will be announced in class and/or posted on Blackboard.

No ringing cellular phones or beepers are permitted in class. If you have or suspect a disability and need accommodations, you should contact Disabled Student Services (DSSO) at 747- 5148 or at dss@utep.edu or come by Room 106 Union East Building.

Instructor Contact Information: Ruby Lynch-Arroyo, PhD
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Office Hours: Mondays, 9:00 am – Noon; Mondays, 3:00 pm – 4:00 pm; Wednesdays, 12:30 pm – 3:00 pm; or by appointment.

Meeting Times and Location:

EQUAL EDUCATIONAL OPPORTUNITY

In order to create equal educational opportunities in the class, all students are expected to demonstrate respect for the diverse voices and individual differences in the class. Particularly, no person shall be excluded from participation in, denied benefits of, or be subject to discrimination under any program or activity sponsored or conducted by the University of Texas at El Paso on the basis of race, color, national origin, religion, sex, age, veteran status, disability, or sexual orientation. Any member of the University community who engages in discrimination or other conduct in violation of University policy is subject to the full range of disciplinary action, up to and including separation from the University. Complaints regarding discrimination should be reported to the University's Equal Opportunity Office. Inquiries regarding applicable policies should be addressed to the University's Equal Opportunity Office, Kelly Hall, 3rd Floor, 915.747.5662 or eoaa@utep.edu.

SCED 4367 Required Texts:

Maletsky, E.M. & Sobel, M.A. (1999). ***Teaching Mathematics: A Sourcebook of Aids, Activities, & Strategies***. Paperback ISBN 0-205-29256-9 The following is the link to this book on Amazon.com: http://www.amazon.com/Teaching-Mathematics-Sourcebook-Activities-Strategies/dp/0205292569

Small, M. & Lin, A, (2010). ***More Great Ways to Differentiate Secondary Mathematics Instruction.*** Paperback ISBN 978-0-8077-5088-9. The following is the link to this book on Amazon.com: http://www.amazon.com/s/ref=nb_sb_noss?url=search-alias%3Daps&field-keywords=More+Great+Ways+to+Differentiate+Secondary+Mathematics+Instruction

SCED 4368 Required Texts:

Robertson, W. (2014). *Action Science: Relevant Teaching and Active Learning.* Paperback ISBN 9781452256566

Optional Texts:

National Research Council. (2005). *How Students Learn Mathematics in the Classroom.* Paperback 5th Ed. **ISBN13:** 978-0309089494 **ISBN10:** 0309089492 The following is the link to this book on Amazon.com:http://www.amazon.com/dp/0309089492/?tag=mh0b-20&hvadid=7006650452&hvqmt=e&hvbmt=be&hvdev=c&ref=pd_sl_7mv6j40j4h_e

National Research Council. (2005). *How Students Learn Science in the Classroom.* Paperback. **ISBN:** 0-309-07433-9 (hardcover) **ISBN-13: 978-0309089494 ISBN-10: 0309089492** The following is the link to this book on Amazon.com: https://www.amazon.com/How-Students-Learn-Mathematics-Classroom/dp/0309089492/ref=sr_1_1?ie=UTF8&qid=1485109263&sr=8-1&keywords=National+Research+Council.+%282005%29.+How+Students+Learn+Science+in+the+Classroom.

Jackson, R. R. (2009). *Never work harder than your students and other principles of great teaching*. Alexandria, VA: ASCD. ISBN- 978-1-4166-0757

Brooks, J.G., & Brooks, M.G. (1999). In Search of Understanding: The Case for Constructivists Classrooms. Alexandria, VA: ASCD.

Canestari and Marlow (2013). Educational Foundations: An Anthology of Critical Readings (Third Edition). Sage Publications ISBN-13:978-1452216768

Ornstein, A.C., Pajak, E. F., & Ornstein, S.B. (2007). *Contemporary Issues in Curriculum (Fourth Edition)*. Pearson ISBN 0-205-48925-7

Cuban, L. (2013). *Inside The Black Box of Classroom Practice: Change Without Reform in American Education.* Harvard Education Press ISBN 978-1-61250-556-5

Wiliam, D. (2011). *Embedded Formative Assessment.* Solution Tree Press ISBN 978-1-934009-30-7

Burgess, D. (2012), *Teach Like a Pirate: Increase Student Engagement, Boost Your Creativity, and Transform Your Life as an Educator*. Dave Burgess Consulting, Inc ISBN-13: 860-1401291688; ISBN-10: 0988217600

Additional materials/resources we will be using:

Some required readings will be scanned and placed on blackboard or you will be provided with appropriate web links:

- Texas Essential Knowledge and Skills (TEKS) for all content areas and grade levels.
  http://ritter.tea.state.tx.us/rules/tac/chapter111/index.html

- Texas College Readiness Standards

http://www.thecb.state.tx.us/index.cfm?objectid=EADF962E-0E3E-DA80-BAAD2496062F3CD8

- Common Core Standards
  http://www.corestandards.org/

- These websites provide a wide selection of virtual manipulatives for teaching mathematics and science:
  http://nlvm.usu.edu/en/nav/vlibrary.html
  http://teach.oetc.org/manipulatives/virtual-manipulatives-science-examples
  http://nlvm.usu.edu/

- Book "How Students Learn: Mathematics in the Classroom".
  You can read it online at: http://www.nap.edu/catalog.php?record_id=11101

- Book "How Students Learn: Science in the Classroom".
  You can read it online at:
  https://www.nap.edu/search/?term=How+Students+Learn%3A+Science+in+the+Classroom&x=0&y=0

This course will integrate English Language Proficiency Standards (ELPS) for English Language Learners (ELLs) in order to provide strategies for language acquisition and academic success in all content areas for students at different levels (beginning, intermediate, advanced, and advanced high) in the domains of listening, speaking, reading and writing. You can find the ELPS standards and presentations about ELPS and Texas English Language Proficiency Assessment System (TELPAS) at http://www.esc4.net/users/0001/docs2/122-ELPS.pdf

Course Philosophy and Description:

"The mediocre teacher tells. The good teacher explains. The superior teacher demonstrates. The great teacher inspires." – William Arthur Ward, writer

For teachers of mathematics and science to be truly effective involves bringing together four basic components:

A. An appreciation of the discipline of mathematics and/or science itself;

B. An understanding of how students learn and construct ideas;

C. An ability to design and select challenging tasks, create problem-solving environment;

D. The ability to integrate appropriate, mathematically and/or scientific meaningful assessment within the teaching process.

One of the main components of teaching is helping students to "discover" mathematics or science for themselves by creating successful inquiry-based learning environments, a friendly atmosphere, and an "open mind" approach. The goal of teaching is not only for students to find the correct answer, but to find answers using the "best" method. Hence, a teacher needs to promote students' thinking, to encourage searching for different methods leading to the same answer. Discovery learning is enhanced with error analysis and trial and error. The role of teacher is to select the true variety, to engage students by posing challenging problems and encouraging students to creatively invent new ways of approaching the problem without fear of making a mistake.

This course has been constructed to help you in critically examining the philosophies, theories, research, pedagogical techniques, and materials associated with effective learning and teaching in secondary classrooms.

Course Goals and Objectives:

We will address factors that support meaningful growth and progress on an inner journey towards personal transformation. Our classroom community will develop a process that will allow us to explore “who we are, what assumptions we hold as true, how and what we teach, how we organize ourselves, and what barriers prevent us from creating authentic learning environments” (Crowell, Caine & Caine, 1998).

Students enrolled in this course will explore the methods of teaching in secondary classrooms. Emphasis is placed on the equity principle (learning for all) and development of conceptual understanding of topics. Specifically, students will become more effective in the following areas by:

- Exploring innovative learning theories and techniques of teaching and learning including problem-based and inquiry, open-ended approach.
- Studying how to apply general and content methods of teaching and learning in diverse classroom settings.
- Helping the students to create successful learning environment in teaching and learning
- Writing and analyzing lesson plans that support the learning cycle.
- Unpacking state standards for specific content areas and developing practical and engaging use of TEKS.
- Demonstrating use of educational technology within lesson plan development and mini-teaching experiences.
- Demonstrating understanding of critical reading of texts and web sites through writing and discussion.
- Demonstrating reflection about teaching and learning through writing and discussion.
- Writing and discussion to demonstrate an informed perspective about curriculum and related educational issues.
- Addressing the domain and competencies that will prepare you for state certification content exam [TeXes].

Course Structure:

Classes for this course will be done using face-to-face, lab (may be face to face and/or online) and web-enhanced formats. The class will be a combination of lecture, guided instruction, classroom and online discussion, classroom and online exercises and project development. It is expected that students will attend all class sessions.

Materials:

Bring Your Own Electronic Device [BYOD - if available and preferably a laptop or tablet/iPad].

Course Requirements and Assignments:

1. **RtOP Responses (100 points/10 points per response)**

   To help you synthesize your observations during the semester you will be required to submit 10 "Response to Observation/Practice" (RtOP) reflections/field notes. A calendar window will be provided to guide your observations as well as Course Calendar identifying when to submit your RtOP reflections/field notes. The RtOP rubric will be used to evaluate your reflections. **This course requires 10 hours of observation in a public, charter, or private school setting OUTSIDE of class time.** It is the student's responsibility to obtain criminal background clearance for the district where observations will be completed (contact District Human Resources Offices). It is the student's responsibility to contact the campus administration to schedule observations. Students are expected to comply with professional code of conduct and appearance/dress code guidelines established by the districts.

NOTE: The State of Texas requires all students to undergo a criminal records check. In order to participate in this course, students must obtain the clearance from a school district within the first three weeks of the course.

2. Mini Cross-Curricular Teaching Lesson Facilitation (approximately 110 points)

All students will (individually or as a co-teacher) construct, present and analyze a variety of lesson constructions utilizing the Tools, Tasks and Strategies (TTS) Framework (Giza & Kosheleva) and Technological Pedagogical Content Knowledge (TPACK) Framework (Mishra & Koehler). You will develop and implement a series of lessons using the Learning Cycle, 7-E Model, Fundamental 5 principles, and 'backwards design' model, analyzed using a modified lesson study approach. Each student will be prepared to facilitate interactive discussions with other students in the class. You will teach the objectives of the selected content via videotape [self-created] and facilitate your meta lesson using interactive, hands-on activities. Following videotaped teaching presentation [homework assignment with peer review], you will facilitate providing content activities, and will help to maintain and encourage student interest and focus on conceptual understanding through a Socratic questioning dialog. You should also promote interaction within and among groups participating in content activities. The ultimate goal: by utilizing a blended classroom approach and through participation in hands-on activities, students will be actively constructing their own knowledge and deepen their understanding of mathematical and science concepts and procedures (collaboration and critical thinking) through integration of an inquiry-based approach.

The main criteria for evaluation of the organization and conduct of **Video Presentation/ Lesson Facilitation** are as follows:

A. **Content Activities design**: Content activities should correspond to assigned topic. The activities should be enhanced by your own ideas/examples from mathematics/science teaching observations, and ideas from other resources (provide proper references/citations for all the resources you will be using).

B. **Content Area Knowledge:** Confidence in the mathematics and/or science content area should be visible and identifiable. Awareness of various approaches addressing solution of the concept-related questions, and the ability to respond to various questions accurately should be present.

C. **Level of challenge:** Content activities should motivate students' learning and address creativity, critical and high-order thinking skills development.

D. **Level of class involvement:** You should demonstrate good communication skills, encourage students to share their ideas, and orchestrate the whole class discussion. Specifically, questions from other students and the instructor should be encouraged during the whole presentation (not just at the end). Number and type of questions asked, and answers provided would be one of the main criteria for evaluation.

E. **Level of instructional materials preparation and application:** The use of a variety of instructional materials including manipulatives, visuals, learning centers, and technology tools.

F. **Written report (Lesson Plan describing activities, assessment, discussion questions, etc.**)

G. **Time Frame:** The lesson presentation should not exceed <u>**30 minutes**</u>.

H. S**elf-Created Video:** The student-created flip component should demonstrate basic skills in technological, pedagogical, and content knowledge involved in video teaching creation and should not exceed <u>**15 minutes**</u>.

3. Written Reflection Papers, Homework Assignments, Activities, Presentations (approximately 100 points/varied point assignments)

Over the course of the semester, you will be asked to synthesize what you are reading and integrate it with the activities you are doing in class. At certain points during the semester you will be asked to prepare a 2-3 full page typed reflection on a topic connected to secondary teaching and learning. APA format, 12-point font, New Times Roman, Double Spaced, 1 page, save as .pdf.

4. Final Project: Website/E-Portfolio (approximately 100 points)

Each student will be asked to create a personal website as an e-portfolio throughout the semester. This portfolio should emphasize your skills and talents teaching secondary curriculum, reflective of your teaching philosophy and pedagogical approaches representative of the course concepts presented. Guidelines and Grading Rubric for the website/e-portfolio are included in the syllabus.

Estimated Total Possible Points [not inclusive of Extra Credit] = 400 to 600 Points

General Classroom Business

1. In the unavoidable event that you must miss a class, you must contact the instructor before the beginning of class. E-mail or text will be the best option for this. **If you will be missing or miss a class, immediately contact a classmate to find out what you missed.** Excused and unexcused absences will both result in deduction of your per class points. We will begin on time. Being tardy disrupts the flow of the class. Two tardies will equal one absence. **Student may be dropped for lack of attendance. If you miss two-weeks of class, contact your instructor(s) immediately.**
2. <u>All assignments are due the day they are due.</u> The only exceptions will be made are in the case of extreme circumstances that are supported by documentation of illness, or death in the family. If you are a student-

athlete or university representative making a university sponsored trip please make arrangements with me before you leave town. **Late assignments will be accepted with a penalty of 10% of your awarded score.**

3. Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes, but is not limited to, cheating, plagiarism, and collusion. Cheating may involve copying from or providing information to another student, possessing unauthorized materials during a test, or falsifying data on lab reports. Plagiarism occurs when someone intentionally or knowingly represents the words or ideas of another person's as ones' own. And, collusion involves collaborating with another person to commit any academically dishonest act. More information about scholastic dishonesty can be found on this site: *http://admin.utep.edu/Default.aspx?PageContentID=2084&tabid=30292*
Any act of academic dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. Violations will be taken seriously and will be referred to the Dean of Students Office for possible disciplinary action.
4. Students with Disabilities. Section 504 of the Vocational Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990, states that if a student needs an accommodation then the Center for Accommodations and Support Services (CASS) located at UTEP needs to be contacted. If you have a condition, which may affect your ability to perform successfully in this course, you are encouraged to discuss this in confidence with the instructor and/or the director of the Center for Accommodations and Support Services (CASS). You may call 915-747-5148 for general information about the American with Disabilities Act (ADA) and the rights that you have as a UTEP student with a disability. Individuals with disabilities have the right to equal access and opportunity. It is the student's responsibility to contact the instructor and the Center for Accommodations and Support Services (CASS) at The University of Texas at El Paso.
5. Technical Assistance. If you have technical problems, please contact the UTEP Helpdesk: M-F: 7AM-8PM, Sat: 9AM-1PM, Sun: 12-4PM. On-campus phones: 915-747-5257 Off-campus phones: 915-747-4357. If you are on-campus, you may also visit the ATLAS lab located within the Undergraduate Learning Center or the Technology Support Center in Room 300, Library.

Extra Credit:

You will have opportunities to receive extra credit as suggested or approved by the Instructor. For example, you may be invited to participate in service learning, tutoring, participate in College of Education focus groups, surveys, conferences, volunteer as science fair judge, etc. Bonus points will be given for attendance at a math or science-related, education conference, upon submission of a summary of your learning experience as a result of attending the conference. This summary must be 1 page typed, double spaced, 12-point font, and may include artifacts from the conference as attachments.

Guiding Principles for this Course: *TEXES Domains*

TeXes Mathematics Domains (7-12): cms.**texes**-ets.org/index.php/download_file/view/806/259/

TeXes Science Domains (7-12): cms.**texes**-ets.org/index.php/download_file/view/804/259/

Student Learning Outcomes

"Talent is a dreadfully cheap commodity, cheaper than table salt. What separates the talented individual from the successful one is a lot of hard work and study." ~Stephen King.

The course's learning outcomes will require the student to acquire throughout the semester knowledge and skills, and build upon them. The following table provides a list of the most relevant student learning outcomes for the course. The following outcomes are aligned with SBEC-approved Texas educator standards. Please, see the full standard* at

http://tea.texas.gov/Texas_Educators/Preparation_and_Continuing_Education/Approved_Educator_Standards/

Table 1. Student learning outcomes and assessment

Student Learning Outcomes		Formative & Summative Assessments
TeXes 7-12	***By the end of the course, the student will be able to:***	***To evaluate these outcomes, the faculty member will use the following assessment procedures:***
V, VI	Develop an understanding of current issues, practices and directions in mathematics and science curriculum and the ability to inquire into these.	a. Class and online interactive, Socratic discussions b. Quizzes and Exams c. Written Reflections
V, VI	Develop knowledge and skills in educational research	a. Class and online interactive, Socratic discussions b. Lesson Plan Development c. Quizzes and Exams c. Written Reflections
V, VI	Identify and Analyze topics of importance in current mathematical and science education	a. Class and online interactive, Socratic discussions b. Electronic Databases Literature Searches c. Quizzes and Exams c. Written Reflections
ALL	Deepen their commitment to their pupils' learning of mathematics and science	a. Pre/Post Test b. Pre/Post Survey c. Comprehensive Exams d. Written Reflections
ALL	Increase their confidence to teach mathematics and/or science	a. Mini-Teaching Exercise b. Pre/Post Survey c. Written Reflections d. Self and Peer Feedback and Ratings
V, VI	Improve their ability to manage and assess their pupils' mathematics and science learning. Discover innovative methods of instruction to increase effectiveness and pupils' engagement, learning, and thinking.	a. Class and online interactive, Socratic discussions b. Quizzes and Exams c. Written Reflections d. Mini-Teaching Exercise
ALL	Improve their capacity to think reflectively and creatively about their teaching of mathematics and/or science.	a. Class and online interactive, Socratic discussions b. Quizzes and Exams c. Written Reflections d. Mini-Teaching Exercise
ALL	Increase their capacity to become an agent of change in the field of mathematics and/or science education through effective teaching and communication.	a. Class and online interactive, Socratic discussions b. Lesson Plan Development c. Electronic Databases Literature Searches c. Written Reflections d. Pre/Post Survey 3. e-portfolio/Website Development
ALL	Develop knowledge and strategies to design curriculum at classroom and school levels.	a. Class and online interactive, Socratic discussions b. Lesson Plan Development c. Electronic Databases Literature Searches c. Written Reflections

Assessment and Grading:

Grades and Assignment Percentages: The entire class assignments will be calculated based on total points. **This means that every assignment is important and even missing one can seriously impact your grade.** This course is graded on a rubric style in alignment with the 4.0 (A-F) grading at UTEP. I will select all or random submissions for grading and provide feedback to students.

Grading Scale:

Excellent	Above Average	Average	Below Average	Failing
A = 90 – 100%	B = 80 – 89%	C = 70 – 79%	D = 60 – 69%	F = 59% and below

Tentative Schedule Spring 2018
SCED4367/4368 Secondary Mathematics/Science
Wednesday, 3:00 – 5:00pm Face-to-Face/5:00 – 5:50 pm Lab EDUC405

NOTE: All topics, assignments, and due dates are subject to change at the instructor's discretion

Class/ Date	Topics	Lab Topics/Activities	Hands-on Activities	Assignments Due
		Module 01: Introduction, Constructivism, TTS		
Week 1: January 17	Orientation to course: Syllabus & Schedule Course structure: Discussion TPACK/SCK/Tools, Tasks & Strategies: "What Is Technological Pedagogical Content Knowledge?" and "Specialized Content Knowledge".	Complete Cornell Notes for Readings & Class Discussion Submit on Blackboard by January 17 at 6:00 pm (20 points) Gmail Account/Google Drive	• Entrance Ticket (5 points) • Set Up google account	• **Math Read** *"The Art of Teaching"*, Chapter 1, Sobel & Maletsky, pp 1- 32 and *"Why & How to Differentiate Math Instruction"*, Small & Lin, pp. 1-16. • Create Seed Discussion Organizer [template on Blackboard] [20 POINTS] • Due: January 21 at 11:59 pm • **Science Read:** Chapter 1 and 2 in *Action Science*, pp 1-19 • Create Seed Discussion Organizer [template on Blackboard] [20 POINTS] • Due: January 21 at 11:59 pm
Week 2: January 24	Review Tools, Tasks and Strategies. Using the posted lesson plan, identify components that are Tools, Tasks and Strategies.	Complete Lesson Plan/TTS identification. Submit word document/.pdf on Blackboard by January 24 at 6:00 pm (20 points) E-Portfolio/ website creation Blackboard	• Entrance Ticket (5 points) • TTS Lesson Plan • Website url	

Class/ Date	Topics	Lab Topics/Activities	Hands-on Activities	Assignments Due
		Module 02: Learning through Discovery and Lesson Planning		
Week 3: January 31	• Elements of Curriculum/Lesson Planning: • 7-E Model • Introduction to Depth of Knowledge/Blooms Revised Taxonomy • Lesson Cycle • Inquiry-Based/Collaborative/Cooperative Learning • Critical Thinking Skills • Effective Questioning	• Elements of a Project-Based or Problem-Based Classrooms "Why Problem-Based Learning Is Better". Posted by Tim Holt on Jan 10, 2013 in Less Teacher, More Student, Making The Shift, The How of 21st Century Teaching, Voices ***http://plpnetwork.com/2013/01/10/problem-vs-project-based-learning/*** "Personalized PBL -Student Designed Learning" *http://www.edutopia.org/blog/personalized-pbl-student-designed-learning-andrew-miller* • Compare & Contrast Organizer synthesizing both articles [20 POINTS] Due: January 31 at 6:00 pm	Entrance Ticket (5 points) Compare & Contrast Organizer (20 points)	• Read Articles: • **"Schools Mix One-to-One with a Helping of BYOD"** http://www.edtechmagazine.com/k12/article/2014/06/schools-mix-one-one-helping-byod, • **Flipping Classrooms** (Posted on Blackboard), • **Upside Down, Inside Out - Flip Your Classroom to Improve Student Learning** (Posted on Blackboard) • **Things You Should Know About Flipped Classrooms** (Posted on Blackboard). • Write and submit reflections on your readings: • (1page, Times New Roman, double space, 12 pt. font, save in pdf format) • Review the Syllabus and Rubric for guidelines and grading. APA Format. • **Respond** to the prompt: ***"How does blended learning benefit or not benefit teachers and students in high school mathematics classes?".*** • Provide citations or resources referenced. [20 POINTS] • Due: February 4 at 11:59 pm
		Module 3: Vocabulary and Lesson Planning		
Week 4: February 7	• Academic Vocabulary: • Building academic content **vocabulary** & addressing the needs of English Language Learners (ELLs) • Develop 3 foldables or graphic organizers	•Review Texas Essential Knowledge and Skills (TEKS) for individual content areas http://ritter.tea.state.tx.us/rules/tac/chapter111/index.html •Co- teachers Select a TEKS and Student Expectation (Task) for mini teaching assignment • Begin to co-develop Draft#1 of Lesson Plan & scripting/design of video. • Due February 7 at 11:59 pm • Bring printed copy of Draft#1 to next class February 14	• Entrance Ticket (5 points) • 3 foldables /graphic organizers (15 points) • Draft #1 Lesson plan (20 points)	Math Read: *"Motivating Mathematical Learning"* Chapter 2, Sobel & Maletsky, pp 33-64. **Science Read:** *"Linking Pedagogy and Science Content in Practice"* in Action Science, pp 31-40

Class/ Date	Topics	Lab Topics/Activities	Hands-on Activities	Assignments Due
Week 5: February 14	• Educative (Formative) Assessment: Formative Assessment • TTS Peer Review of Draft #1 of Lesson Plan	• Co-Develop Draft #2 of Lesson Plan (20 Points) using the TEKS you chose as the Objective • Due February 14 at 6:00 pm • Bring hard copy of Draft#2 to next class (February 21)	● Entrance Ticket (5 points) ● Lesson Plan Development/ Collaboration	● **Math Read**: "*Motivating Problem Solving Instruction*", Chapter 3, Sobel & Maletsky, pp.65 – 88 ● **Science Read**: "*Unlocking Resources for Active Learning*" in Action Science, pp 51-60 ● Identify (highlight) the tools, tasks, & strategies that integrate active learning and problem solving in Draft#2 of your lesson plan. ● Due February 21 in class (hard copy of lesson plan)
Module 04: Lesson Planning, Active Learning, Integrating Technology				
Week 6: February 21	• Active Learning • Introduction to Learning Centers • Integrating Technology: • Draft #2 of Lesson Plan Feedback Sessions	• Co-Lesson Plan Final Development • Flip Video Production • Technology Quest – Identify at least 1 form of technology integrated in the lesson plan • Due February 21 at 11:59 pm	● Entrance Ticket (5 points) ● Artifacts from Learning Centers (20 points) ● Co-Lesson Plan Development/ Collaboration	● Math Read: "Activities in Algebra", Chapter 5, Sobel & Maletsky, pp. 128 - 162 ● Math Read: "Algebra", Chapter 2, Small & Lin, pp. 17 – 62. ● Science Read: "Action Science Classroom Activities", Chapter 8, in Action Science, pp 69-124.

Week 7: February 28	**On-Line Class**
	• With your Learning Center Collaborators and using the Google document template:
	• Select a 'Big Idea' or 'Activity' from the readings or another you like, develop a hands-on learning center to present the concept for the next class.
	● Students will rotate through the learning centers.
	● Directions/ instructions/ guidance will not be given verbally. Be explicit in directions and materials creation/ manipulation.
	• If you need specific manipulatives such as calculators, rulers, paper, etc., email (rllynch@utep.edu) the needs to me by March 5
	• Completion of the task in the learning center should take approximately 15 minutes.
			• Prepare Learning Center
			  ● Bring to class (Due in Class March 7).
			  ● Lesson Plan 20 points
			● Lesson Plan Development/Collaboration
			
			• Submit RtOP #1 & #2/Field Notes on Blackboard Assignment
			  ● Due: March 4 by 11:59 pm	

Week 8: March 7	Student Learning Center Rotations:	● Final Lesson Plan Preparation ● Flip Video Production ● E-Portfolio development	● Entrance Ticket (5 points) ● Artifacts from Learning Centers (20 points)	• Lesson Plan Development/Collaboration/Flip Video Production • Submit RtOP #3 & #4/Field Notes on Blackboard Assignment • Due: March 18 by 11:59 pm

Class/ Date	Topics	Lab Topics/Activities	Hands-on Activities	Assignments Due
			• E-Portfolio	
Spring Break: March 12 – March 16				
Educator's Blended Mini-Lesson Plans Showcase				
Week 9: March 21	• 3 Mini-Teachings		Entrance Ticket (5 points) Complete Peer review & ratings (Exit Ticket 5 points)	• Submit RtOP #5 & #6/Field Notes on Blackboard Assignment • Due: March 25 by 11:59 pm
Week 10: March 28	• 3 Mini-Teachings		• Entrance Ticket (5 points) • Complete Peer review & ratings (Exit Ticket 5 points)	• E-Portfolio development • Mini-Lesson Preparation • Submit RtOP #7 & #8/Field Notes on Blackboard Assignment • Due: April 1 by 11:59 pm
Week 11: April 4	• 3 Mini-Teachings		• Entrance Ticket (5 points) • Complete Peer review & ratings (Exit Ticket 5 points)	• E-Portfolio development • Mini-Lesson Preparation • Submit RtOP #9 & #10/Field Notes on Blackboard Assignment • Due: April 8 at 11:59 pm
Week 12: April 11	• 3 Mini-Teachings		• Entrance Ticket (5 points) • Complete Peer review & ratings (Exit Ticket 5 points)	• E-Portfolio development • Mini-Lesson Preparation
Week 13: April 18	• 3 Mini-Teachings		• Entrance Ticket (5 points) • Complete Peer review & ratings (Exit Ticket 5 points)	• E-Portfolio development • Mini-Lesson Preparation • Final Reflection Paper for Observations April 29 at 11:59 pm
Week 14: April 25	• 3 Mini-Teachings		• Entrance Ticket (5 points) • Complete Peer review & ratings (Exit Ticket 5 points)	• E-Portfolio development • Mini-Lesson Preparation (based on mini-teaching schedule)

Class/ Date	Topics	Lab Topics/Activities	Hands-on Activities	Assignments Due
Week 15 May 2	• 3 Mini-Teachings (If needed) • Turn in Final Observation Log (Hard Copy)		• Entrance Ticket (5 points) • Complete Peer review & ratings (Exit Ticket 5 points)	• *Extra Credit (2 points added to final grade): Course evaluation [send email to me stating you completed the survey]. • **Final Project: e-Portfolio** • **Due May 9 at 11:59 pm**

Total Estimated Possible Course Points [not including *Extra Credit* Points] = 500 to 600 points

Final Word: *I reserve the right to adjust the course syllabus or change assignments as needed.*

RtOP Reflections/Field Notes Rubric - 10 points (each) possible		
CATEGORY	**2**	**1**
Observational Tool	Observation tool is complete and fully documents the classroom experience details such as quotes, diagrams and other explanations of practice.	Observation lacks any detail and does not document the classroom experience or is missing from the RtOP altogether.
Connection to Standard	It is clear that there is a thorough understanding of the standard as there is a clear and well documented connection based on the classroom observation.	The connection to the standard is missing or the connection is not substantiated.
Connection to Text	The connection(s) to text informs the standard and is clearly aligned to the classroom observation and standard addressed.	The connection to text does not inform the observation or connection to the standard, or it is missing altogether.
Connection to Self	The connection to self is clearly tied to classroom observation, the standard addressed and text to inform what it means to be a teacher.	The connection to self is missing altogether or is not related to the observation, standard, or text.
Mechanics/Sources	There are no grammatical, spelling or punctuation errors. All sources (information and graphics) are accurately documented.	Ideas are distracted by too many grammatical, spelling or punctuation errors. Some sources are documented or are missing altogether.

Grading Rubric for Video Presentation/Mini Teaching [30 minutes] -80 Points possible			
CRITERIA	**Good (20 – 15 Points)**	**Fair (14 – 7 Points)**	**Poor (6 – 1 Points)**
Knowledge of Content and Summary	Solid Knowledge and understanding of the topic to be presented is demonstrated. The Presentation is clear and understandable.	Good knowledge and understanding of the topic to be presented is demonstrated. The presentation is clear and understandable, but some important points are not addressed.	Weak knowledge and understanding of the topic to be presented is demonstrated. The presentation is unclear.
Critical Thinking and Argumentation	Effective Questioning focused on encouraging student critical thinking based on Bloom's Revised Taxonomy. Students were challenged.	Effective Questioning focused generally encouraging student critical thinking based on Bloom's Revised Taxonomy. Students were somewhat challenged.	Effective Questioning did not focus on encouraging student critical thinking based on Bloom's Revised Taxonomy. Students were not challenged.
Organization and Communication Accuracy	The presentation is well organized, has the 7-E components clearly defined. The purpose of the presentation is clear from the beginning.	The presentation is organized, has the 7-E components clearly defined. The purpose of the presentation becomes clear within the presentation.	The presentation is not well organized and the elements of the 7-E model are not clear or not present. The purpose of the presentation is unclear.
'Flip' Video Component [developed by student]	The 'flip' video component is developed with technical clarity and in an engaging format. The teaching is clear and understandable. The video transitions to classroom activities seamlessly and clearly connected.	The 'flip' video component is developed with technical clarity with minimal issues and in a basically engaging format. The teaching is generally clear and understandable. The video generally transitions to classroom activities and is somewhat connected.	The 'flip' video component is developed with technical clarity issues and not in a basically engaging format. The teaching is not generally clear and understandable. The video does not transition to classroom activities in a connected manner.

Participation Rubric

Throughout the semester students are expected to:

- Be present (in mind and body) and be well prepared for class.
- Participate fully in class and online activities and assignments - take an active part in the work of small and large group; participate in discussions and attend class face-to-face sessions. Understand your roles and responsibilities in acquiring Student Learning Outcomes for this class.
- Make insightful comments, informed by required reading and your own critical thinking. Demonstrate reflections on your readings. Come to class with questions, comments and thoughts on readings.
- Treat class activities, group discussions as important components of the course, showing respect for fellow classmates and the course material.

Grading Rubric for Short Reflection- 20 points possible			
Category	**Exceeds Standard**	**Meets Standard**	**Does Not Meet Standard**
Points	**20-15**	**14-7**	**6-1**
	The piece is thoughtful, engaging, and clearly written. The piece shows careful consideration of the topic at hand. It responds directly to the question or prompts and makes meaningful connections with the readings and course content. The piece has been proofread. Follows APA format	Shows adequate reflection along with some level of thoughtfulness, and may or may not have responded directly to the question or prompt. It also contains grammatical or sentence structure errors that disrupt the flow of the narrative. Follows parts of APA format	Does not adequately address the question or prompt, and shows limited thoughtfulness. Does not follow APA format.

Grading Rubric for Final Lesson Plan - 30 points possible			
Category	**Exceeds Standard**	**Meets Standard**	**Does Not Meet Standard**
Points	**10 – 8**	**7 – 4**	**3 - 1**
Structure (Tools)	Lesson Plan format is concise and includes the elements of the 7-E Model, TTS, Active Learning, Vocabulary & differentiation	Lesson format has some of the elements of the 7-E Model, TTS, Active Learning, Vocabulary & differentiation.	Lesson Plan format is disorganized and does not include elements of the 7-E Model nor TTS, Active Learning, Vocabulary & differentiation.
Content (Tasks)	Texas Essential Knowledge and Skills and Learning objective are stated and addressed in the lesson structure. SCK Addressed & Critical Thinking Integrated	Texas Essential Knowledge and Skills and Learning objective are somewhat stated and somewhat addressed in the lesson structure. SCK somewhat Addressed & Critical Thinking somewhat Integrated	Texas Essential Knowledge and Skills and Learning objective are not stated and not addressed in the lesson structure. SCK minimally Addressed & Critical Thinking minimally Integrated
Lesson Delivery (Strategies)	Strategies for lesson delivery include interactive, hands-on approaches and differentiated instruction. Technology is embedded in lesson delivery.	Strategies for lesson delivery include some interactive hands-on approaches and differentiated instruction. Some technology is embedded in lesson delivery.	Strategies for lesson delivery do not include interactive, hands-on approaches and differentiated instruction. Technology is not embedded in lesson delivery.

Texas Education Agency Approved Teacher Standards for 7-12 Mathematics may be downloaded from:
http://tea.texas.gov/Texas_Educators/Preparation_and_Continuing_Education/Approved_Educator_Standards/

Grading Rubric for Portfolio/E-Portfolio - 100 points possible			
Category	**Exceeds Standard**	**Meets Standard**	**Does Not Meet Standard**
Points	**26 – 33**	**16 – 25**	**0 - 15**
Structure	Portfolio has all 7 of elements: 1. Teaching Philosophy 2. Sample Lesson Plans 3. Co-Teaching Video and Reflection 4. Samples of TTS 5. Resume 6. 3 Letters of Reference 7. Website link/QR Code on resume	Portfolio has 4-6 of elements: 1. Teaching Philosophy 2. Sample Lesson Plans 3. Co-Teaching Video and Reflection 4. Samples of TTS 5. Resume 6. 3 Letters of Reference 7. Website link/QR Code on resume	Portfolio has at least 3 of elements: 1. Teaching Philosophy 2. Sample Lesson Plans 3. Co-Teaching Video and Reflection 4. Samples of TTS 5. Resume 6. 3 Letters of Reference 7. Website link/QR Code on resume
Content	All Portfolio elements are quality work products.	Most of the Portfolio elements are quality work products.	Some of Portfolio elements are quality work products.
Lesson Delivery (Tools, Task & Strategies)	Strategies for lesson delivery include interactive hands-on approaches and differentiated instruction with content-specific connections made. Examples are content-specific and thoroughly explained in detail for later reference.	Strategies for lesson delivery include interactive hands-on approaches and differentiated instruction with some content-specific connections made. Examples are content-specific and somewhat explained in detail for later reference.	Strategies for lesson delivery include interactive hands-on approaches and differentiated instruction without content-specific connections made. Examples are not content-specific and are not thoroughly explained in detail for later reference.