



**UNIVERSITY OF TEXAS
EL PASO**

College of Education- Department of Teacher Education

Title of Course: STEM 6304 CRN 16737 Instructional Trends in Science Education	Instructor Information: Name: Pei-Ling Hsu
Semester: 2023 Fall, Hybrid	Email: phsu3@utep.edu
Day/Time: Tuesdays, 5:30-8:20pm	Website: http://peilinghsu.utep.edu
Credits: 3	Office: 813, Education Building
Class hours: 3 hours/week	Office hours: 2:30-5:30pm,
Classroom: Room 405, Education Building	Tuesdays, by appointments

Course Description: This course introduces and discusses various science teaching methods, instructions, pedagogical practices in science classrooms and various aspects of student learning in science. Being able to exercise critical thinking to synthesize and examine current literature and practice is at the core of this course. As a result, students will be able to articulate, evaluate, and examine current science instructions and practices.

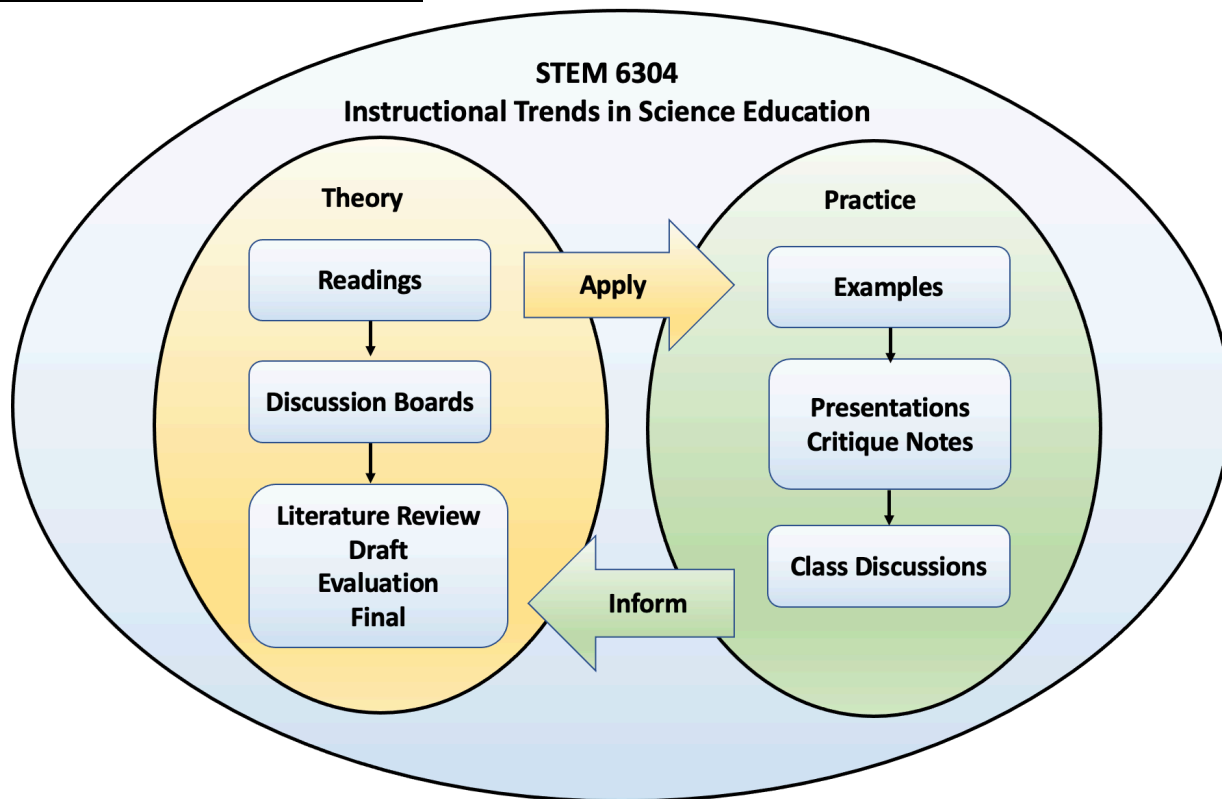
UTEP EDGE Alignments:

This course will help students gain experience of (1) research and scholarly activity, (2) learning communities, (3) creative activity and help students enhance skills of (1) problem-solving, (2) communication, and (3) critical thinking.

Student Learning Outcomes:

Students will be able to:	Measurements/Assignments:
1. Explain and appreciate various research-based pedagogical practices of science teaching	(1) Discussion board posts, (2) Discussion board responses
2. Understand and apply research-based knowledge and skills	(1) Discussion board posts, (2) Discussion board responses, (3) Introduction presentation
3. Identify and evaluate various resources to support effective science teaching	(1) Introduction presentation, (2) Critique presentation, (3) Critique notes
4. Understand and apply standards for teaching science (Next Generation Science Standards)	(1) Introduction presentation, (2) Critique presentation, (3) Critique notes
5. Enact critical thinking on curriculum and science teaching activities	(1) Introduction presentation, (2) Critique presentation, (3) Critique notes
6. Conduct literature review on science teaching instructions	(1) Empirical study report, (2) Literature review-Draft, (3) Literature review-Evaluation, (4) Literature review-Presentation, (5) Literature review-Final

Course Overview Representation:



Learning Modules

This course is designed using a modular format—that is, each week is “packaged” as a single module so that all the materials, lecture notes, submission areas, discussion posts are in one area for a given week.

Reading Packets:

1) Reading Packet 1 (5E Inquiry)

- 1-1: National Institutes of Health. (2005). *Doing science: The process of scientific inquiry*. BSCS.
- 1-2: Bybee, R., Taylor, J., Gardner, A., Van Scotter, P., Carson Powell, J., Westbrook, A., Landes, N. (2006). *The BSCS 5E instructional model: Origins, effectiveness, and applications*. BSCS.

2) Case 1 (5E Inquiry)

- Case 1: Tural, G., Akdeniz, A. R., & Alev, N. (2010). Effect of 5E teaching model on student teachers’ understanding of weightlessness. *Journal of Science Education Technology*, 19, 470–488. <https://doi.org/10.1007/s10956-015-9583-3>

3) Reading Packet 2 (Problem-Based Learning)

- 2-1: Hung, W., Jonassen, D. H., & Liu, R. (2007). Problem-based learning. In J. M. Spector, M. D. Merrill, J. van Merriënboer, & M. P. Driscoll (Eds.), *Handbook of research on educational communications and technology* (Vol. 1) (pp. 485–506). Lawrence Erlbaum Associates.

- 2-2: Etherington, M. (2011). Investigative primary science: A problem-based learning approach. *Australian Journal of Teacher Education*, 36(9), Article 4. <http://dx.doi.org/10.14221/ajte.2011v36n9.2>
- 2-3: Hmelo-Silver, C. E. (2004). Problem-based learning: What and how do students learn? *Educational Psychology Review*, 16(3), 235–266. <https://doi.org/10.1023/B:EDPR.0000034022.16470.f3>
- 2-4: Tawfik, A. A., Gish-Lieberman, J. J., Gatewood, J. (2021). How K-12 teachers adapt problem-based learning. *The Interdisciplinary Journal of Problem-based Learning*, 15(1). <https://doi.org/10.14434/ijpbl.v15i1.29662>
- 2-5: Barrett, T. (2005). Understanding problem-based learning. In T. Barrett, I. Mac Labhrainn, & H. Fallon (Eds). *Handbook of Enquiry & Problem Based Learning* (pp. 13–22). Galway: CELT.

4) Case 2 (Problem-Based Learning)

- Case 2: Senocak, E., Taskesenciligil, Y., & Sozbilir, M. (2007). A study on teaching gases to prospective primary science teachers through problem-based learning. *Research in Science Education*, 37, 279–290. <https://doi.org/10.1007/s11165-006-9026-5>

5) Reading Packet 3 (Phenomenon-Based Learning)

- 3-1: Symeonidis, V., & Schwarz, J. F. (2016). Phenomenon-based teaching and learning through the pedagogical lenses of phenomenology: The recent curriculum reform in Finland. *Forum Oświatowe*, 28(2), 31–47. Retrieved from <http://forumoswiatowe.pl/index.php/czasopismo/article/view/458>
- 3-2: Penuel, W. R., Turner, M. L., Jacobs, J. K., Van Horne, K., & Sumner, T. (2019). Developing tasks to assess phenomenon-based science learning: Challenges and lessons learned from building proximal transfer tasks. *Science Education*, 103, 1367–1395. <https://doi.org/10.1002/sce.21544>
- 3-3: Tissington, S. (2019). *Learning with and through phenomena: An explainer on phenomenon based learning*. A summary of a presentation delivered at the Northern Symposium of the Association of Learning Development in Higher Education. Teesside University, UK.
- 3-4: Bobrowsky, M. (2018). Q: How can I make science fun and have students learn more by using phenomenon-based learning? *Science & Children*, 56(2), 70–73.
- 3-5: NGSS (2016). Using phenomena in NGSS designed lessons and units. Retrieved from: <https://www.nextgenscience.org/sites/default/files/Using%20Phenomena%20in%20NGSS.pdf>

6) Case 3 (Phenomenon -Based Learning)

- Case 3: Adaktylou, N. (2020). Remote sensing as a tool for phenomenon-based teaching and learning at the elementary school level: A case study for the urban heat island effect. *International Journal of Educational Methodology*, 6(3), 517–531. <https://doi.org/10.12973/ijem.6.3.517>

7) Reading Packet 4 (Service Learning)

- 4-1: Kaye, C. B. (2010). What is service learning? *The Complete Guide to Service Learning: Proven, practical ways to engage students in civic responsibility, academic curriculum, and social action* (2nd ed., pp. 8–21). Free Spirit Publishing.

- 4-2: Felten, P., & Clayton, P. H. (2011). Service-learning. *New directions for teaching and learning*, 128, 75–84. <https://doi.org/10.1002/tl.470>
- 4-3: EPA (2011). Service learning: Learning by doing.
- 4-4: Tryon, E., Stoecker, R., Martin, A., Seblonka, K., Hilgendorf, A., & Nellis, M. (2008). The challenge of short-term service-learning. *Michigan Journal of Community Service Learning*, Spring, 16–26. <http://hdl.handle.net/2027/spo.3239521.0014.202>
- 4-5: Service learning tool kit. University of North Georgia. Retrieved from: <https://ung.edu/academic-engagement/faculty-staff-resources/service-learning.php>

8) Case 4 (Service Learning)

- Jensen, S., & Burr, K. (2006). Participation and learning relationships: A service-learning case study. *Journal of industrial teacher education*, 43(3), 6–28. Available at: <https://ir.library.illinoisstate.edu/jste/vol43/iss3/4>

9) Reading Packet 5 (Dialogic Teaching and Learning)

- 5-1: Scott, P., Mortimer, E. F., & Aguiar, O. (2006). The tension between authoritative and dialogic discourse: A fundamental characteristic of meaning making interactions in high school science lessons. *Science Education*, 90(4), 605–631. <https://doi.org/10.1002/sce.20131>
- 5-2: Mercer, N., Dawes, L., & Staarman, J. K. (2009). Dialogic teaching in the primary science classroom. *Language and Education*, 23(4), 353–369. <http://dx.doi.org/10.1080/09500780902954273>
- 5-3: Scott, P. (1998). Teacher talk and meaning making in science classrooms: A Vygotskian analysis and review. *Studies in Science Education*, 32(1), 45–80. <https://doi.org/10.1080/03057269808560127>
- 5-4: García-Carrión, R., López de Aguilera, G., Padrós, M., & Ramis-Salas, M. (2020). Implications for social impact of dialogic teaching and learning. *Frontier in Psychology*, 11, Article 140. <https://doi.org/10.3389/fpsyg.2020.00140>
- 5-5: Lehesvuori, S., Viiri, J., & Rasku-Puttonen, H. (2011). Introducing dialogic teaching to science student teachers. *Journal of Science Teacher Education*, 22(8), 705–727. <https://doi.org/10.1007/s10972-011-9253-0>

10) Case 5 (Dialogic Teaching and Learning)

- Case 5: Kumpulainen, K., & Rajala, A. (2017). Dialogic teaching and students' discursive identity negotiation in the learning of science. *Learning and Instruction*, 48, 23–31. <https://doi.org/10.1016/j.learninstruc.2016.05.002>

11) Reading Packet 6 (Literature Review- Examples)

- 6-1-Sadler, T. D., Burgin, S., McKinney, L., & Ponjuan, L. (2010). Learning science through research apprenticeships: A critical review of the literature. *Journal of Research in Science Teaching*, 47(3), 235–256. <https://doi.org/10.1002/tea.20326>
- 6-2-Potvin, P., & Hasni, A. (2014). Interest motivation and attitude towards science and technology at K 12 levels: A systematic review of 12 years of educational research. *Studies in Science Education*, 50(1), 85–129. <http://dx.doi.org/10.1080/03057267.2014.881626>
- 6-3-Gresnigt, R., Taconis, R., van Keulen, H., Gravemeijer, K., & Baartman, L. (2014). Promoting science and technology in primary education: A review of

integrated curricula. *Studies in Science Education*, 50(1), 47–84.
<http://dx.doi.org/10.1080/03057267.2013.877694>

Technology Requirements

Course content is delivered via the Internet through the Blackboard learning management system. Ensure your UTEP e-mail account is working and that you have access to the Web and a stable web browser. Google Chrome and Mozilla Firefox are the best browsers for Blackboard; other browsers may cause complications. When having technical difficulties, update your browser, clear your cache, or try switching to another browser.

You will need to have access to a computer/laptop, scanner, a webcam, and a microphone. You will need to download or update the following software: Microsoft Office, Adobe Acrobat Reader, Windows Media Player, QuickTime, and Java. Check that your computer hardware and software are up-to-date and able to access all parts of the course.

If you do not have a word-processing software, you can download Word and other Microsoft Office programs (including Excel, PowerPoint, Outlook and more) for free via UTEP's Microsoft Office Portal. Click the following link for more information about Microsoft Office 365 and follow the instructions.

IMPORTANT: If you encounter technical difficulties beyond your scope of troubleshooting, please contact the UTEP Help Desk as they are trained specifically in assisting with technological needs of students. Please do not contact me for this type of assistance. The Help Desk is much better equipped than I am to assist you!

Netiquette

As we know, sometimes communication online can be challenging. It's possible to miscommunicate what we mean or to misunderstand what our classmates mean given the lack of body language and immediate feedback. Therefore, please keep these netiquette (network etiquette) guidelines in mind. Failure to observe them may result in disciplinary action.

- Always consider audience. This is a college-level course; therefore, all communication should reflect polite consideration of other's ideas.
- Respect and courtesy must be provided to classmates and to the instructor at all times. No harassment or inappropriate postings will be tolerated.
- When reacting to someone else's message, address the ideas, not the person. Post only what anyone would comfortably state in a face-to-face situation.
- Blackboard is not a public internet venue; all postings to it should be considered private and confidential. Whatever is posted on in these online spaces is intended for classmates and professor only. Please do not copy documents and paste them to a publicly accessible website, blog, or other space.

Standards of academic integrity: Students are expected to uphold the highest standards of academic integrity. Any form of scholastic dishonesty is an affront to the pursuit of knowledge and jeopardizes the quality of the degree awarded to all graduates of UTEP. Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes, but is not limited to: cheating, plagiarism, collusion [making plans to cheat with another], the submission for credit of any work or materials that are not attributable in whole or in part to another

person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts. Proven violations of the detailed regulations, as printed in the Handbook of Operating Procedures (HOP) and available in the Office of the Dean of Students, may result in sanctions ranging from disciplinary probation, to failing grades on the work in question, to failing grades in the course, to suspension or dismissal among others.

Students with Disabilities statement: If you have or believe you have a disability; you may wish to self-identify. You can do so by providing documentation to the Center for Accommodations and Support Services (CASS) located in Union E Room 106. Students who have been designated as having a disability must reactivate their standing with CASS on a yearly basis. Failure to report to this office will place a student on the inactive list and nullify benefits received. If you have a condition which may affect your ability to exit safely from the premises in an emergency or which may cause an emergency during class, you are encouraged to discuss this in confidence with the instructor and/or the director of CASS. You may call 919-747-5148 or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at <https://www.utep.edu/student-affairs/cass/>.

Student Conduct and Discipline: All students are expected and required to obey the law and to comply with Regent, Rules, and Regulations (<http://www.utsystem.edu/bor/rules>) with system and University rules, with directives issued by an administrative official in the course of his or her authorized duties and to observe the standards of conduct appropriate for the university.

Equal Opportunity: All students regardless of gender, age, class, race, religion, physical disability, sexual orientation, etc., shall have equal opportunity without harassment in this course. Any problems with or questions related to this can be discussed confidentially with the instructor.

Excused Absences and Course Drop Policy:

According to UTEP Curriculum and Classroom Policies, “When, in the judgment of the instructor, a student has been absent to such a degree as to impair his or her status relative to credit for the course, the instructor may drop the student from the class with a grade of “W” before the course drop deadline and with a grade of “F” after the course drop deadline.” See academic regulations in the UTEP Undergraduate Catalog for a list of excuse absences. Therefore, if I find that, due to non-performance in the course, you are at risk of failing, I will drop you from the course. I will provide 24 hours advance notice via email.

Evaluation & Coursework Requirements of Students:

All assignments should be submitted to Blackboard and all due dates are listed in Table 1.

1. Discussion Board Posts (25 points, 5 points for each reflection)

Each student will post 5 reflections through Discussion Board Posts (DBP) on corresponding readings (Reading packets 1, 2, 3, 4, and 5). Each of the reflections (minimum: 500 words & 2 references) should include (1) summary of the reading, (2) personal connection to the reading, (3) concerns and questions for the readings. Each reflection should cite at least 2 references and post the 2 references at the end of each reflection. The titles for the reflection posts should indicate student name and reflection chapter number: “Pei-Ling Hsu - Reflection on Reading

Packet 1,” “Pei-Ling Hsu - Reflection on Reading Packet 2,” etc. The rubric for this assignment can be found in Appendix 1 of the syllabus.

2. Discussion Board Responses (10 points, 1 point for each response)

Each student will respond to other classmates’ reflections. Each Discussion Board Response (DBR) should: (1) identify merits, (2) suggest ideas for improvements, and (3) end the response with a question. For each reflection, each student will choose 2 different classmates’ discussion board posts to respond each time. The minimum of a response is 200 words. A record of these responses will be posted and updated in Blackboard. Students should check the record regularly and let the instructor know immediately if there is any question about the updated response record.

3. Introduction Presentations (10 points)

Each student group will conduct one introduction presentation. Each student group will present one instructional topic (e.g., 5E inquiry, problem-based learning, phenomenon-based learning, service learning, dialogic teaching) through a powerpoint presentation (30-40 mins). The presentation should (1) provide an introduction of the instructional topic, (2) demonstrate one concrete example of the instructional topic (e.g., hands on activities, teaching demonstrations, videos). Updated schedules for these presentations can be found in Blackboard. The rubric for this assignment can be found in Appendix 2 of the syllabus.

4. Case Study Critique Presentations (6 points)

Each student group will conduct one case study critique presentation. Each student group will present critiques on one instructional topic’s case study through a powerpoint presentation (10-15 mins). The presentation should cover (1) an introduction of one particular case study, and (2) at least 5 strengths and at least 5 weaknesses on the use of the particular instruction (e.g., 5E inquiry, problem-based learning, phenomenon-based learning, service learning, dialogic teaching) used in the case study. ***Each of the 10 points/insights should be supported by at least one quote from scholarly work about this particular instruction.*** References to support these quotes should include both the readings from the class and outside of the class. Updated schedules for these presentations can be found in Blackboard. The rubric for this assignment can be found in Appendix 3 of the syllabus.

5. Case Study Critique Note (6 points, 2 point for each note)

Each student will write 3 case study critique notes. Each critique note should identify at least two strengths and at least two weaknesses on the use of one particular instruction and ways for improving these weaknesses for its case study. ***Each of the 4 points/insights should be supported by at least one quote from scholarly work about this particular method.*** References to support these quotes should include both the readings from the class and outside of the class. Students will use “Template 1 - Critique Note (minimum: 500 words [exclude references] & 3 references)” to complete these notes. Updated schedules for writing these exemplary study critique notes can be found in Blackboard.

6. Literature Review (30 points)

(1) Empirical Study Report (6 points)

Each student will identify at least 30 relevant empirical studies (including at least 2 dissertations) on the instructional topic (e.g., 5E inquiry, problem-based learning, phenomenon-based learning, service learning, dialogic teaching) s/he is interested in and conduct a preliminary analysis on these 30 studies. Students will use “Template 2 - Empirical Study Report (minimum: 30 empirical studies, including at least 2 dissertations)” to complete the assignment.

(2) Literature Review - Draft (6 points)

Each student will draft a literature review that provides a review on one instructional topic and identify trends involved in the instructional topic (e.g., 5E inquiry, problem-based learning, phenomenon-based learning, service learning, dialogic teaching). Students will use “Template 3 -Literature Review-Draft (minimum: 2000 words [exclude references] & 30 empirical studies/references)” to complete the assignment. The rubric for this assignment can be found in Appendix 4 of the syllabus.

(3) Literature Review - Evaluation (6 points)

Each student will review two other classmates’ literature review-draft and provide feedback (minimum 500 words for each review) for improvements. Students will use “Template 4 - Literature Review-Evaluation (minimum: 1000 words)” to complete this assignment. Each literature review draft 1- evaluation may include but not limit to (1) praise for merits, (2) identifications of weakness, and (3) ideas and suggestions for improvements. The rubric for this assignment can be found in Appendix 5 of the syllabus.

(4) Literature Review - Presentation (6 points)

Each student will present his/her final literature review in classes (10-15 minutes). A presentation powerpoint file should be submitted to the corresponding assignment section in Blackboard. The rubric for this assignment can be found in Appendix 6 of the syllabus.

(5) Literature Review - Final (6 points)

Students will revise and improve their literature review - draft 2 according to the feedback they receive from the instructor and the class. Students will use “Template 5 -Literature Review-Final (minimum: 4000 words [exclude references] & 40 references)” to complete the assignment. The rubric for this assignment can be found in Appendix 4 of the syllabus.

7. Self- and Peer- Assessments on Group Work (5 points)

Students will evaluate self and peer performance about their collaboration work. Students are invited to create their own criteria to evaluate themselves. Students are provided with “Template 6-Self and Peer Assessments” to fill out.

8. Class Attendance and Participation (8 points)

Each week, we have different readings and topics for discussions. Students should be prepared and are expected to participate in the classes actively. Students are expected to attend classes on time, finish assignments, and participate in the course professionally. ***Students who have more than two absences may be dropped with an “F” (Fail).*** Students missing a class are responsible for finding help to catch up with the course, complete any exercises, readings, activities, etc.

*Bonus point (1 point): At the end of the semester, students will receive a UTEP email inviting students to submit a course evaluation. Once students complete the evaluation, students will receive a completion confirmation message. To encourage students complete the course evaluation for this course, students may receive a bonus point by submitting their course evaluation “completion confirmation screenshots” (“NOT” the evaluation results) to show that they complete their course evaluation.

Course Requirements:

1. The link for all zoom meetings: <https://utep-edu.zoom.us/j/6178265571>
2. All assignments should be submitted through the Blackboard system and use WORD files or Powerpoint files. File names should start with “your name” and end with “the

assignment name”. There should be no space in between. Taking the name of “Isaac Newton” for example.

- 1) IsaacNewton-IntroductionPresentation.ppt
 - 2) IsaacNewton-CaseStudyCritiquePresentation.ppt
 - 3) IsaacNewton-CaseStudyCritiqueNote.docx
 - 4) IsaacNewton-EmpiricalStudyReport.xlsx
 - 5) IsaacNewton-LiteratureReview-Draft1.docx
 - 6) IsaacNewton-LiteratureReview-Evaluation.docx
 - 7) IsaacNewton-LiteratureReview-Draft2.docx
 - 8) IsaacNewton-LiteratureReviewPresentation.ppt
 - 9) IsaacNewton-LiteratureReview-Final.docx
3. Due dates are specified in Table 1 of the syllabus and due time is **11:59pm (midnight)** for ALL electronic submissions. Delayed submissions of any assignments will cause grade reductions. One delay day causes 10% reduction of a deserved grade, two delay days causes 20% of a deserved grade, and so on.
 4. Grading Evaluations: A (90 – 100 points), B (80 – 89 points), C (70 – 79 points), D (60 -69 points) F (<60 points)
 5. Each electronic file of assignments should not exceed 10 MB.

UTEP Course Resources:

UTEP provides a variety of student services and support:

Technology Resources

- [Help Desk](#): Students experiencing technological challenges (email, Blackboard, software, etc.) can submit a ticket to the UTEP Helpdesk for assistance. Contact the Helpdesk via phone, email, chat, website, or in person if on campus.

Academic Resources

- [UTEP Library](#): Access a wide range of resources including online, full-text access to thousands of journals and eBooks plus reference service and librarian assistance for enrolled students.
- [University Writing Center \(UWC\)](#): Submit papers here for assistance with writing style and formatting, ask a tutor for help and explore other writing resources.
- [Math Tutoring Center \(MaRCS\)](#): Ask a tutor for help and explore other available math resources.
- [History Tutoring Center \(HTC\)](#): Receive assistance with writing history papers, get help from a tutor and explore other history resources.
- [RefWorks](#): A bibliographic citation tool; check out the RefWorks tutorial and Fact Sheet and Quick-Start Guide.

Individual Resources

- [Military Student Success Center](#): Assists personnel in any branch of service to reach their educational goals.
- [Center for Accommodations and Support Services](#): Assists students with ADA-related accommodations for coursework, housing, and internships.

- [Counseling and Psychological Services](#): Provides a variety of counseling services including individual, couples, and group sessions as well as career and disability assessments.

Scholarly Tools & Resources

- 1) Pei-Ling Hsu's website: <http://peilinghsu.utep.edu>
- 2) Survey website: <http://slido.com>
- 3) Scimago Journal & Country Rank: <https://www.scimagojr.com/>
- 4) OWL- Purdue Online Writing Lab: https://owl.purdue.edu/owl/purdue_owl.html
- 5) Free DOI Look Up – Crossref: <https://www.crossref.org/guestquery/>
- 6) ProQuest Dissertations & Theses Global : <https://0-search-proquest-com.lib.utep.edu/pqdtglobal/advanced?accountid=7121>
- 7) American Doctoral Dissertations: <http://0-web.b.ebscohost.com.lib.utep.edu/ehost/search/advanced?vid=0&sid=2d4941da-a556-4391-aa68-c865a493819a%40sessionmgr102>
- 8) Zotero (Online Reference Organization): <https://www.zotero.org/>
- 9) Mendeley (Reference Management): <https://www.mendeley.com/homepage5/?switchedFrom=>
- 10) LucidChart (Create diagrams on line): <https://www.lucidchart.com/>
- 11) Research Guide (University of Southern California): <http://libguides.usc.edu/writingguide>
- 12) UTEP-COE-EL3 colloquiums <http://coe.utep.edu/el3lab/>
- 13) UTEP-COE-EL3 STEMers seminars <https://www.utep.edu/education/stemers/>
- 14) National Academies Press: <http://www.nap.edu/>
- 15) Next Generation Science Standards (NGSS): <http://www.nextgenscience.org/next-generation-science-standards>
- 16) Assessments Tools in Informal Science (ATIS): <http://www.pearweb.org/atis/>
- 17) Informal Science: <http://informalscience.org/>
- 18) CAISE (Center for Advancement of Informal Science Education): <http://caise.insci.org/>
- 19) Informal Science Education Evidence Wiki: http://iseevidencewiki.org/index.php/Main_Page
- 20) Texas Education Agency (TEA): <http://www.tea.state.tx.us/index.aspx>
- 21) Texas Essential Knowledge and Skills (TEKS): <http://www.tea.state.tx.us/index2.aspx?id=6148>

Class Schedule (Table 1)

Changes may be made during the classes. Students should follow the latest changes.

No	Date	Topics & Activities	Readings before the class	Assignments Due (11:59pm) E: Everyone O: Only scheduled people
01	Aug 29 (F2F)	-Review Syllabus -Course Overview	Syllabus	
02	Sep 05	-5 E Inquiry-based learning	Packet 1	E: 5E inquiry-Discussion board posts (Sep 01) E: 5E inquiry-Discussion board responses (Sep 04) E: Syllabus Test (Sep 04)
03	Sep 12 (F2F)	-5 E Inquiry-based learning	Case 1	O: 5E inquiry-Introduction presentation (Sep 11) O: 5E inquiry-Case study critique presentation (Sep 11) O: 5E inquiry-Critiques notes (Template 1) (Sep 11)
04	Sep 19	-Problem-based learning	Packet 2	E: Problem-based learning-Discussion board posts (Sep 15) E: Problem-based learning-Discussion board responses (Sep 18)
05	Sep 26 (F2F)	-Problem-based learning	Case 2	O: Problem-based learning-Introduction presentation (Sep 25) O: Problem-based learning-Case study critique presentation (Sep 25) O: Problem-based learning-Critiques notes (Template 1) (Sep 25)
06	Oct 03	-Phenomenon-based learning	Packet 3	E: Phenomenon-based learning-Discussion board posts (Sep 29) E: Phenomenon-based learning-Discussion board responses (Oct 02)
07	Oct 10 (F2F)	-Phenomenon-based learning	Case 3	O: Phenomenon-based learning-Introduction presentation (Oct 9) O: Phenomenon-based learning-Case study critique presentation (Oct 9) O: Phenomenon-based learning-Critiques notes (Template 1) (Oct 9)
08	Oct 17	-Service Learning	Packet 4	E: Service Learning-Discussion board posts (Oct 13) E: Service Learning-Discussion board responses (Oct 16)
09	Oct 24 (F2F)	-Service Learning	Case 4	O: Service Learning-Introduction presentation (Oct 23) O: Service Learning-Case study critique presentation (Oct 23) O: Service Learning-Critiques notes (Template 1) (Oct 23)
10	Oct 31	-Dialogic Teaching	Packet 5	E: Dialogic Teaching-Discussion board posts (Oct 27) E: Dialogic Teaching-Discussion board responses (Oct 30)
11	Nov 07 (F2F)	-Dialogic Teaching	Case 5	O: Dialogic Teaching-Introduction presentation (Nov 06) O: Dialogic Teaching-Case study critique presentation (Nov 06) O: Dialogic Teaching-Critiques notes (Template 1) (Nov 06)
12	Nov 14	-Literature Review	Packet 1-5	E: Empirical Study Report (Template 2) (Nov 13)
13	Nov 21 (F2F)	-Discussion on Literature Review	Packet 1-5	E: Literature Review-Draft (Template 3), B-Email to the class (Nov 20)
14	Nov 28	-Literature Review -APA	Packet 1-5	E: Literature Review-Evaluation (Template 4), B-Email to the class (Nov 27)
15	Dec 05 (F2F)	Final Presentation Day	Packet 1-5	E: Literature Review-Presentation (Dec 04)
16	Dec 12	No Class- Semester End		E: Literature Review-Final (Template 5) (Dec 11) E: Self and Peer Assessment of Group Work (Template 6) (Dec 11) E: UTEP Course Evaluation (Dec 11)

Appendixes:

Appendix 1: Grading Rubric for “Discussion Board Post”

	67-100%	34-66%	0-33%
Follow instructions to cover required content	Reflection (minimum 500 words) should include (1) summary of the reading, (2) personal connection to the reading, (3) concerns and questions for the readings. Each reflection should cite at least 2 references and post the 2 references at the end of each reflection. The titles for the reflection posts should indicate student name and reflection chapter number: “Pei-Ling Hsu - Reflection on Reading Packet 1,” “Pei-Ling Hsu - Reading Packet 2,” etc.	Reflection covers most of the requirements.	Reflection covers only a few requirements.
Analysis / Interpretation	The reflection uses sources, including outside as well as required reading. In addition, it demonstrates that the student has gained new understanding of the topic.	Some reflections do analysis or interpretation well, but a significant number do not. This might be because the analysis was not done well or because it was not attempted (that is, was simply opinion).	Reflections generally show little evidence of analysis, consisting instead of opinion and feelings and impressions.
Writing Skill	Sentences are clear and wording is unambiguous. Correct word choice, correct spelling, and correct grammar. Writing style can still be conversational rather than formal. The writing does not have to be flawless, but it will be better than average writing.	Ordinary, good writing. Lapses are regular and patterned, but do not undermine the communication or the persuasiveness of the argument.	Grammar, spelling, and/or word choice errors are frequent enough that the sense of the message is lost or muddled.

Appendix 2: Grading Rubric for “Introduction Presentation”

	67-100%	34-66%	0-33%
Coverage	The presentation covers the essences of the topic thoroughly.	The presentation covers the essences of the topic partially.	The presentation does not cover the essences of the topic.
Concrete example	The presentation illustrates concrete examples and demonstration to explain the topic.	The presentation illustrates unclear examples and demonstration to explain the topic.	The presentation does not illustrate concrete examples and demonstration to explain the topic.
Visuals	The presentation includes various visual representations to convey the topic.	The presentation includes a few visual representations to convey the topic.	The presentation does not use any visual representation to convey the topic.
Clarity	The presentation is well-structured, clear and easy to follow	The majority of the presentation is unclear and confusing	The presentation has no structure and difficult to follow

Appendix 3: Grading Rubric for “Case Study Critique Presentation”

		67-100%	34-66%	0-33%
Case Study Coverage		The presentation covers the essences of the case study thoroughly	The presentation covers the essences of the case study partially	The presentation covers the essences of the case study poorly
Visuals		The presentation includes various visual representations to convey the case study.	The presentation includes a few visual representations to convey the case study.	The presentation does not use any visual representation to convey the case study.
Clarity		The presentation is well-structured, clear and easy to follow	The majority of the presentation is unclear and confusing	The presentation has no structure and difficult to follow
Critiques of the exemplary study	Fruitfulness	The presentation includes 5 or more topic related strengths and 5 or more topic related weaknesses of the case study	The presentation includes 3-4 topic related strengths and 3-4 topic related weaknesses of the case study	The presentation includes 0-2 topic related strengths and 0-2 topic related weaknesses of the case study
	Validity	All critiques are well supported with quotes to validate arguments and elaborations	A majority of these critiques are well supported with quotes to validate arguments and elaborations	Less than 50% of these critiques are well supported with quotes to validate arguments and elaborations
	Clarity	The critiques are clear and easy to follow	The majority of the critiques is unclear and confusing	The critiques have no structure and difficult to follow

Appendix 4: Grading Rubric for “Literature Review - Draft and - Final)

67-100%	34-66%	0-33%
<p>-Fulfill the minimum required words, references, and 30 empirical studies (please see the minimum required words and references in the templates)</p> <p>-The significance of the topic is well articulated and supported by scholarly work</p> <p>-Major themes of methods used, ethics considerations, methodological critiques, and suggestions for future research on in these empirical studies are synthesized logically and supported with logical reasoning and evidences</p> <p>-All references follow APA 7 format</p>	<p>- Fulfill the minimum required words, references, and 30 empirical studies (please see the minimum required words and references in the templates) partially</p> <p>-The significance of the topic is articulated but is not supported by scholarly work</p> <p>-Most of the themes of methods used, ethics considerations, methodological critiques, and suggestions for future research on in these empirical studies are synthesized logically and supported with logical reasoning and evidences</p> <p>-Most of references follow APA 7 format</p>	<p>-Does not the Fulfill the minimum required words, references, and 30 empirical studies (please see the minimum required words and references in the templates)</p> <p>-The significance of the topic is articulated but is not supported by scholarly work</p> <p>-Only some themes of methods used, ethics considerations, methodological critiques, and suggestions for future research on in these empirical studies are synthesized logically and supported with logical reasoning and evidences</p> <p>-Only some references follow APA 7 format</p>

Appendix 5: Grading Rubric for “Literature Review - Evaluation”

67-100%	34-66%	0-33%
<p>-Praise for merits are well articulated with logical reasoning and supported by scholarly work</p> <p>-Identifications of weaknesses and suggestions for improvements are well articulated with logical reasoning and supported by scholarly work</p> <p>-All references follow APA 7 format</p>	<p>-Praise for merits are partially articulated with logical reasoning and supported by scholarly work</p> <p>-Identifications of weaknesses and suggestions for improvements are partially articulated with logical reasoning and supported by scholarly work</p> <p>-Most of references follow APA 7 format</p>	<p>-Praise for merits are not articulated with logical reasoning and supported by scholarly work</p> <p>-Identifications of weaknesses and suggestions for improvements are not articulated with logical reasoning and/or supported by scholarly work</p> <p>-Only some references follow APA 7 format</p>

Appendix 6: Grading Rubric for “Literature Review-Presentation”

67-100%	34-66%	0-33%
<ul style="list-style-type: none"> -The presentation covers the essences of the literature review. -All critiques are well supported with quotes to validate arguments and elaborations -The presentation includes various visual representations to convey the literature review. -The presentation is well-structured, clear and easy to follow. 	<ul style="list-style-type: none"> -The presentation covers the essences of the literature review partially. -Most of the critiques are supported with quotes to validate arguments and elaborations -The presentation includes a few visual representations to convey the literature review. -The presentation is not clear. 	<ul style="list-style-type: none"> -The presentation does not cover the essences of the literature review. -Only a few critiques are supported with quotes to validate arguments and elaborations -The presentation does not include visual representations to convey the chapter. -The presentation is difficult to follow.