



Appraisal of Educational Disabilities

Fall 2023

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Instructor

Educational Diagnostician Program

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Virtual Office hours via Blackboard

Saturday 9am-1pm or by appointment

Course Description:

Required for educational diagnostician certification. Students will administer, score, and interpret major academic achievement tests used to identify educational disabilities, and design appropriate instruction and services. Students will examine current trends in programs designed for early identification and intervention of possible educational disabilities. Factors involved in multicultural assessment will be addressed. (This is a prerequisite to 5306).

Textbooks

Required Text

Sattler, J. M. (2014). *Foundations of behavioral, social and clinical assessment of children (7th ed)*. La Mesa, CA: Jerome M. Sattler, Publisher, Incorporated.

Required Media Purchase for Program:

Materials needed for purchase

- 2 iPads (1 practitioner and 1 client)

Additional recommended materials:

- Two stylus for writing notes and capturing examinee responses
- Two anti-glare screen covers to minimize glare from interior lighting
- Two durable cases to protect iPads

System, Browser and Tool Requirements can be found at the following link provided:

<https://www.pearsonassessments.com/professional-assessments/digital-solutions/q-interactive/testcomponents.html?tab=system-requirements>

Course Objectives

ED 5323 will contribute to the following Student Learning Outcomes (SLOs):

- Identify and administer appropriate psycho-educational tests for purposes of determining disability criteria for specially designed instruction for students served in the Kindergarten – 12th grade school system.
- Interpret psycho-educational report to recommend evidence based practices for specially designed instruction for students served in the Kindergarten – 12th grade school system.
- Create collaborative relationships with stakeholders and professional responsibilities as an Educational Diagnostician in the Kindergarten through 12th grade school system.
- Create a psycho-educational report after analysis of qualitative and quantitative data to determine disability criteria for specially designed instruction for students in the Kindergarten – 12th grade school system.

Program Marketable Skills:

Research Skills and Awareness

- Exhibit knowledge of advances and developments in their field
- Demonstrate knowledge of research in related fields and disciplines
- Analyze and synthesize new and complex information from diverse sources
- Formulate and apply solutions to research problems and effectively interpret research results
- Exercise critical judgement
- Demonstrate appropriate procedures for standardized testing
- Appreciate basic principles of project and time management
- Utilize descriptive statistics
- Identify the effects of bias
- Demonstrate problem-solving skills
- Utilize organization and time-management skills for prioritizing workload
- Demonstrate self-management for planning improving personal practice.

Communication Skills

- Demonstrate effective technical writing skills
- Effectively use and decide on appropriate forms and levels of communication
- Communicate and explain analysis to diverse audiences, including both specialists and non-specialists
- Demonstrate a use of technology for a variety of management purposes
- Collaboration and leadership
- Develop and maintain effective relationships with colleagues
- Work in a collaborative environment
- Acknowledge others' views with a willingness to reflect on and critically appraise them
- Demonstrate leadership in team environments to work effectively to achieve mutual goals
- Utilize digital technology for collaboration

- Demonstrate interpersonal skills, with the ability to work collaboratively as part of a team
- Sensitively disseminate confidential information

Ethics and Social Justice

- Apply research and principles of ethical conduct during assessment
- Define consequences of social injustice poverty, racism, inequity, violence, isolation, and economic segregation as it relates to disability
- Advocate for free and appropriate public education in the least restrictive environment
- Use of professional formatting for research (e.g. APA) and avoidance of plagiarism, allocation of credit and authorship and definitions of research misconduct
- Describe the impact of research for individuals, groups and society with respect to disability
- Apply federal protections associated with disability (e.g. FERPA, ADA, IDEIA)
- Utilize ethical judgement for the advocacy of others

Course Objectives:

- Complete an achievement evaluation report
- Analyze tests for adequacy
- Describe eligibility criteria for disabilities within Texas Framework
- Describe Texas procedures for assessment
- Administer formal achievement tests
- Describe cultural and linguistic factors that would influence testing
- Describe and utilize test batteries for achievement and adaptive behavior
- Describe the descriptive statistics used for formal assessment and eligibility determination
- Demonstrate proper administration of standardized tests

Professional Standards

This course is part of the Sul Ross State University, Graduate school of Education, Masters in Special Education Program as well as certification as an Educational Diagnostician. This program complies with the standards published by Texas Educational Agency which include:

Competency 1

D. Demonstrate knowledge of issues related to the identification of and the overrepresentation and underrepresentation in special education of culturally and linguistically diverse student populations.

E. Demonstrate knowledge of important student information needed (e.g., cognitive, academic, communicative, physical, functional, adaptive, and social/emotional characteristics) from a variety of sources, including information regarding students' educational, developmental, medical, and family histories.

Competency 2

A. Demonstrate knowledge of terminology and statistical concepts used in assessment and evaluation (e.g., data distributions, measures of central tendency).

B. Demonstrate knowledge of standards for test norming, reliability, and validity; procedures used in administering and scoring assessment instruments; and sources of measurement error and potential bias.

C. Apply knowledge of the uses and limitations of various types of assessment instruments

(e.g., norm-referenced, criterion-referenced) and observation techniques (e.g., anecdotal, frequency, temporal) to identify students disabilities and determine the presence of an educational need.

D. Demonstrate the ability to choose relevant and appropriate assessments based on the technical quality of the instruments, referral concerns, data needed to make decisions, and individual student characteristics (e.g., ethnic, cultural, linguistic, age, or socioeconomic factors), and demonstrate knowledge of how to ensure fairness and equity in assessment results.

F. Apply knowledge of methods used for academic and nonacademic assessments (e.g., vocational, developmental, behavioral, assistive technology, motor skills).

H. Apply knowledge of administration and scoring procedures for various standardized assessments (e.g., basal, ceilings, testing the limits) and non-standardized assessments.

Competency 3

A. Demonstrate knowledge of the uses and limitations of various types of formal and informal assessment and evaluation data.

B. Demonstrate knowledge of the appropriate application and interpretation of derived scores (e.g., standard scores, percentile ranks, age and grade equivalents, stanines, T-scores, z scores).

C. Apply knowledge of cultural and linguistic diversity in making appropriate evaluation and interpretation decisions.

Competency 7

G. Demonstrate knowledge of qualifications necessary to administer and interpret various assessment instruments and procedures for consistent use of these instruments across instructional settings.

H. Demonstrate knowledge of organizations and publications relevant to the field of educational diagnosis and recognize the importance of engaging in activities that foster professional competence and benefit individuals with exceptional learning needs, their families, and/or colleagues

General Course Policies

LMS: This course will be delivered online in an asynchronous format via Blackboard Learning Management System. This course site opens on the first day of classes. Students are responsible for listening to and review all recorded lectures provided by the instructor.

Schedule: Modules start on Monday, and finish on Sunday at midnight. You may work ahead.

Login Frequency: Students must actively check the course Blackboard site and their SRSU email for communications from the instructor, class discussions, and/or access to course materials at least 3 times per week.

Participation: Students are expected to actively engage in all course activities throughout the length of the course which includes viewing all course materials, completing course activities, completing assignments, and participating in course discussions. Participation is required for synchronous meetings.

Technical Competence: Students are expected to demonstrate competence in the use of all course technology. Students who are struggling with technical components of the course are expected to seek assistance from the instructor and/or College or University technical services.

Technical Issues: Students should anticipate some technical difficulties during the semester and should, therefore, budget their time accordingly. Late work will not be accepted based on individual technical issues.

Workload: Please be aware that this course is not self-paced. Students are expected to meet specific deadlines and due dates listed in the Class Schedule section of this syllabus. It is the student's responsibility to keep track of the weekly course schedule of topics, readings, activities and assignments due.

Instructor Support: Students may schedule a one-on-one meeting to discuss course requirements, content or other course-related issues. Those unable to come to campus can meet with the instructor via telephone or web conference. Students should email the instructor to schedule a one-on-one session, including their preferred meeting method and suggested dates/times.

Writing Expectations: A large component of an Educational Diagnostician's workload is professional writing and synthesis of information. Therefore, a large part of the preparation and participation with this course will involve writing. Students will use APA format when writing. Writing should be free from jargon, grammar errors and written mechanics errors. References should be properly cited.

Netiquette: The course environment is a collaborative space. Innocent remarks typed in the online environment can be misconstrued. Students must always re-read their responses carefully before posting them, so as others do not consider them as personal offenses. Be positive in your approach with others and diplomatic in selecting your words. Remember that you are not competing with classmates, but sharing information and learning from others. All faculty are similarly expected to be respectful in all communications.

Accommodations: Online learners who require effective accommodations to insure accessibility must be registered with SRSU Disability Services.

Grading Policy: All assignments should be submitted via Blackboard by midnight on the due date. Late work will not be accepted unless arrangements with the instructor have been approved before the original due date. Approval will only be granted under extremely unusual circumstances (e.g. major medical event, bereavement).

Late Assignment Policy (Life Happens Policy): Course assignments, including discussion boards, exams, and other graded assignments, should be submitted on time. If you are unable to complete an assignment on time, a ONE TIME, one week extension is granted with the exception of the final assignments due at end of course. It is expected that late assignments will be turned in at the next module or week for the next grading cycle. For example, assignments that were missed in week three will be turned in at the due date of week four. Students are not required to contact the professor or provide an excuse. Should students fail to turn in assignment at the next grading cycle a failed grade will be submitted. It is the students responsibility to complete assignments at due date. The policy is implemented upon first late submission and additional extensions will not be granted.

Changes to Syllabus: This syllabus is intended to give the student guidance in what may be covered during the semester and will be followed as closely as possible. However, the professor reserves the right to modify, supplement and make changes as the course needs arise.

Copyright: Many of the materials and readings for this class have copyright protections. They are for your sole educational use and should not be shared, copied or distributed without permission of the instructor or the copyright holder. Please refer to the Student Handbook for details on your responsibilities regarding copyright and penalties for copyright infringement. If you have questions about sharing specific materials outside the course, either with colleagues at Sul Ross State University or on the internet, please ask me.

Opportunities for Revision: This course is a writing intensive course. Revision opportunities are available should contributions not meet the standards for this course. The instructor will reach out and either suggest a revision or give guidance for similar activities (e.g. discussion board) for the following module. However, extensions and revisions are not offered for work that is missing. Additionally, should the student not apply suggestions at the next module or complete suggested revisions, no further opportunities will be offered. Revisions must be completed within the next module grading period (Sunday, 11:59 pm) from when feedback is given.

University Policies

Attendance policy: Students are expected to attend all scheduled classes. Students in web classes are expected to login several times each week to the Blackboard course site on the Internet site.

Distance Education Statement: Students enrolled in distance education courses have equal access to the university's academic support services, such as Smarthinking, library resources, such as online databases, and instructional technology support. For more information about accessing these resources, visit the SRSU website. Students should correspond using SRSU email accounts and submit online assignments through Blackboard, which requires secure login information to verify students' identities and to protect students' information. The procedures for filing a student complaint are included in the student handbook. Students enrolled in distance education courses at SRSU are expected to adhere to all policies pertaining to academic honesty and appropriate student conduct, as described in the student handbook. Students in web-based courses must maintain appropriate equipment and software, according to the needs and requirements of the course, as outlined on the SRSU website.

ADA Accommodations: The University is committed to equal access compliance with the American with Disabilities Act of 1990 (ADA) and Section 504 of the Rehabilitation Act of 1973. The Disability Services Coordinator in Counseling and Student Support Services has the responsibility to ensure students with disabilities the opportunities for full participation in programs, services and activities. Students seeking disability services need to contact the Disability Services Coordinator (432-837-8203).

Academic Integrity: Students in this class are expected to demonstrate scholarly behavior and academic honesty in the use of intellectual property. Examples of academic dishonesty include

but are not limited to turning in work as original that was used in whole or part for another course or professor, turning in another person's work as one's own, copying from professional works or internet sites without citation. For examples on citing works, please refer to <https://owl.english.purdue.edu/owl/resource/589/02/>

Syllabus Change Policy

The syllabus is only a guide for the course and can change with advance notice.

Technical Requirements

To participate in this course, students will need to satisfy the following technical requirements: High-speed Internet access with standard up-to-date browsers. To get a list of Blackboard's supported browsers see:

https://help.blackboard.com/Learn/Student/Getting_Started/Browser_Support#supportedbrowsers

To get a list of supported operation systems on different devices see:

https://help.blackboard.com/Learn/Student/Getting_Started/Browser_Support#testeddevices-and-operating-systems

Students must maintain consistent and reliable access to their Sul Ross University email and Blackboard, as these are the official methods of communication for this course.

Students may be asked to create logins and passwords on supplemental websites and/or to download trial software to their computer or tablet as part of course requirements. The following software plug-ins for PCs and Macs, respectively, are available for free download:

Adobe Acrobat Reader: <https://get.adobe.com/reader/>

Windows Media Player: <https://support.microsoft.com/en-us/help/14209/get-windows-media-player>

Apple Quick Time Player: www.apple.com/quicktime/download/

Specific Course Requirements

Test Kits and Materials

Option A: Electronic Administration and Scoring of clinical assessments using 1:1 iPads
Beginning Summer and Fall Cohort Students for 2022 are requested to purchase iPads and electronic support for testing. Doing so will provide a greater depth and breadth of understanding psychometric testing. Additionally, many districts are switching to iPad use. Students may still be required to borrow non-electronic psychometric testing from their district or the university. For students experiencing economic hardship other arrangements can be made (see below regarding Test kit ordering and shipping). However, students will still be required to ship and ensure testing kits provided by the university at the student's expense.

Justification for Expense

Many classes in the program have utilized Open Educational Resources (OER) such as textbooks to reduce the burden of purchasing outside materials for your classes. For example, ED 6314 and ED 6318, taught by instructors in the Educational Diagnostician Program utilize free textbooks and materials. Additionally, iPads will be used for 3 to 4 classes in your program (saving you money), depending on the track that you are on. You also have free access to tests and protocols purchased by the university which are at no cost to you. Based upon the frequent usage and other cost reduction measures, this will be cost effective.

A video regarding electronic testing can be found at the following link provided:

<https://www.youtube.com/watch?v=IFe-dTLXqUw&t=1s>

Option B: Test Check Out on Campus due to economic hardship: Tests must be signed out with the Education Office and are limited in availability. The university has a limited number of tests that are used for multiple classes. Late work is not accepted due to inability of securing testing materials. It is critical that the student understand the responsibility that comes with checking out each kit. Students will replace kits, at current expense, if they are lost, stolen, or damaged. Failure to return test kits by the expected due date will result in an incomplete in the course until all components of the test are returned or replacement of damaged items are completed.

Option C: Test Check Out by District of Employment: Many students opt to borrow their district's testing materials. Districts are not required to lend their material. The use of a district's kits and materials is an agreement solely between the student and the district. Sul Ross State University assumes no responsibility in the agreement.

Meeting days: Meetings will be weekly and scheduled by instructor. Those dates will be announced in Blackboard. Should you have questions or require assistance please reach out to the professor via email.

Permission to Evaluate Signed parent consent must be uploaded for standardized testing. It is important to note that you may not share the information of your evaluation and that it is for instructional purposes only. Form will be available in Blackboard

Parent Interview You will complete a parent interview to be incorporated into your final report. Parent interview is fluid and information for how to interview is explained in your text. There is no correct way to complete an interview and this will be left to your discretion. There is not a specific format except to find out information home life, developmental history and physical history. Two questionnaires are provided in blackboard. You are required to synthesize this information to incorporate as part of your final report.

Observation of student You will complete a 45-minute observation of a student as part of your FINAL achievement report. It is an informal assessment to gain information on how the child is performing on academic tasks that are weak. A qualitative narrative should be completed. Observation may be during homework time or a classroom observation. The observation will be completed and uploaded prior to adding to your final report for review.

Observation Rubric (51 points)

Criteria	0 points	3 points
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		Area of Growth	Proficient
General Class Information	Time Date and Location	Time Date and Location are missing	Time, Date and Location are given in the first sentence of observation
	General Classroom environment	General Classroom environment is not discussed	Description of the environment (type of class; student to teacher ratio; disabilities present)
	General Description of teaching and instructional methods for the class	General description is missing or limited	Instructional methods (whole group; small group; learning center, one-on-one; hands on; independent seatwork, other)
	General information about instructional materials available to the class for the activity	Instructional materials are missing	Instructional materials (worksheets; manipulatives; books; AT; Board; technology; other)
	General description of the activity	Classroom activity and lesson is not clear	Description of the activity or lesson of the class
	Adaptations or Universal Design for learning applications for the lesson	Accommodations or lack of are not noted	Adaptations, accommodations or scaffolding noted for the class
	Behavior Management	Classroom Management techniques or lack of are missing	Behavior management strategies used during time of observation either in the classroom or part of the lesson is noted
Specific Student Observation	Description of Student	Physical description of student is missing or limited	General Description of Student is provided
	Student Activity	Student's academic activity in relation to class is missing	Student's academic activity is explained

	Activity level of student	Activity level is missing	Activity level in comparison to other students is noted (e.g. fatigue, alert)
	Attention	Attention to task is missing	Attention issues are noted in comparison to other students (Executive Processing; shifting attention, sustaining attention, inhibiting responses, initiating response)
	Accommodations	Accommodations specific to the student are not addressed (even if lacking)	Accommodations are/are not provided to student and are noted
	Communication	Communication in comparison to peers is not addressed	Communication skills in comparison to peers is noted
	Transition	Transition is not addressed	Transition to tasks, physical environment or activities are noted
	Difficulty of tasks	Frustration level is not addressed or stated not observed	Student Response to difficult or easy tasks is noted
	Interaction	Interaction to others not addressed	Student Interaction with peers and/or adults is noted
Synthesis	Student Performance in relation to class	Comparison to peers not addressed	Informal assessment; Curriculum Based Measure or Error Analysis; or Professional view is provided regarding student performance; If student is within normal limits it is explained in detail
	Grammar and written mechanics	Observation contains errors and uses "I"	Observation is free from errors in writing;

		statements (e.g. I observed...)	Professional quality and appearance
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Calculate Age Activity This activity is an introduction into how to calculate age for a standardized test. Read through the PowerPoint. Then complete and submit the activity.

Video Submission and Self-Analysis The purpose of this assignment is to demonstrate proper administration of a standardized test.

- Review manual and testing procedures of chosen test
- Review Rubric for conducting an assessment found in blackboard
- Review reference materials (e.g. power point, videos) if applicable to chosen test
- Administer test
- Record the first three subtests of your chosen test for submission

When recording please do the following:

- Only record one subtest
- Pan the area you are testing at the beginning of testing
- Give a brief description of the test you will be administering
- Make sure testing materials can be seen
- Do not record your test subject. You, as the examinee are being evaluated and recorded
- Both you and the test subject should be heard
- Upload the video in an unlisted YouTube Account (explanation in Blackboard)
- Use the provided rubric (in Blackboard) to review your recorded administration.
- Complete a **1-page reflection** using the rubric as a guide for areas of growth and success
- Upload the reflection and YouTube link for submission.
- The instructor will also review your submission and provide and additional feedback.

Chapter Quizzes varies see grading for more information

Protocols and Test Administration You will administer the WIAT-3, VINELAND 3 and WISC-

Protocol Rubrics

Point Value	0 points	4 points
Criteria	Area of Growth	Proficient
Test subject	Incomplete information	information clearly written and completely on protocol regarding test subject with the exception of personal information being redacted (school and name)
Basal established	*Exception Protocol One; Basal is not followed or missing	Basal established and guidelines followed according to subtest procedures

Ceiling established	*Exception Protocol One Ceiling not established or missing	Ceiling established and guidelines followed according to subtest procedures
Raw Scoring appropriate	Raw score not accurately calculated on one or more subtests	Raw Scores calculated accurately
Standardized Scoring	Standard score errors on one or more subtests	Accurately calculated to reflect scaled score
Scaled Scoring	Scale Score errors on one or more subtests	Accurately calculated to reflect scaled score
Descriptors of performance		Description matches standardized score reflected in manual (e.g. “below average”, “extremely low”, “average”)
Age calculation		Accurately calculates the age and includes any “rounding” that could occur in consideration for the days
Composites		Composite scores are accurately and completely filled out and calculated

WIAT administration due week 4 – an adult, administer the test battery in its entirety and upload score report. When using an age scoring use 16.0.

Child Case Study/Psychoeducational Assessment

This class will build on a psychoeducational assessment that will be completed in steps throughout the semester. For the final psychoeducational assessment that is due on week 15, you will use ONE child subject. You will secure permission to test from the parent. It may be your own child, a child in your classroom or another volunteer. The child must be between the ages of 6 and 16 years of age. You will complete the following components during the semester:

- WIAT administration and score report
- Analysis of WIAT scores
- Vineland or ABAS administration and score report
- Classroom/homework observation
- Parent interview
- WISC V administration and score report
- Review Educational Records

After week 12, you will have 3 weeks to complete your report which should include a summary that triangulates the data. It is not a simple cut and paste. More will be explained in blackboard and during lectures. The purpose of the assignment is to score a formal standardized test and write an interpretive report. You will be given a modified evaluation shell for completion of a screening dependent upon the activity. Guidance is highlighted in yellow within the shell to help the student examiner with content. Extraneous information should be deleted and should look

like a professional report when submitted. Secondly, the first and last name of participant should be redacted from your evaluation when submitted. This can be done by highlighting the name and making it black (e.g. Name = Name, Name=XXXXXX) Consult rubric and shell for more information. Deductions will be made for reports that have overt spelling, grammar and written mechanics errors. It should look professional in appearance

WIAT Reflection- one page discussion on strengths and weaknesses; see blackboard for more information

Video recording of one subtest and submission – you will record yourself recording an administration of one subtest of the WIAT additional information found in Blackboard

Oral presentation – you will orally present your findings to your peers. Presentation will be 10 minutes in length. More information will be explained in Blackboard

Discussion Board postings will occur in this class

Grading

A=100-91% B=90-81% C=80-71% D=70-61%

Final point value is graded on curved performance of the class.

Graduate students must maintain a 3.0 GPA to remain in good standing. Grades of **Incomplete (I)** are not given in the Professional Studies Division of Sul Ross State University *except* in the *most extreme* situations

Course Schedule

Week		Due Date
Week one: Introduction to the Behavioral, Social, and Clinical Assessment of Children	Required Readings: Chapter 1 (Sattler) 7 th Ed iPad, Q interactive and q global set up Activities: Quiz Introduce yourself to your cohort	09/03
Week two: Conducting assessments and formal standardized tests	Required Readings: Chapter 2 (Sattler) 7 th edition book iPad, Q interactive and Q global set up Activities: Secure child study candidate Quiz	09/10
Week three: Descriptive Statistics	Required Readings: Chapter 2 (Sattler 6 th Edition) Chapter 3 and 4 (Fowler et. Al)	09/17

	*those with 7 th edition Sattler book will not have this reading Activities Descriptive Stats Quiz Calculate Age Activity	
Week four: Achievement testing	Activities: Upload permission to test WIAT-4 score report Reflection Video submission	09/24
Week five: Adaptive Behavior Assessment and why is it used?	Required Readings: Chapter 11 Activities Upload permission to test for child case study Administer the vineland Discussion Board	10/01
Week six: observations in the classroom	Required Reading: Chapter 10 and Chapter 14 7th edition Activities: Upload the ABAS of child case study (parent form) Upload Classroom observation of case study Quiz	10/08
Week seven: parent information confidentiality, culture, how to talk to parents; health information; testing observations	Activities: Parent interview Child Case study	10/15
Week 8 (Midterm) WIAT and Testing observations	Activities: WIAT Score report upload WIAT explanation of Scores upload	10/22
Week 9 Reviewing school records and the triangulation of data	Activities: Review of school records upload	10/29
Week 10 Cognitive Assessment and why is it used	Required Readings: WISC V manual Activities: Discussion Board activity	11/05

	Begin Administration of the WISC	
Week 11 Behavior & Suicide Prevention	Required Readings: Chapter 13 (Sattler 7 th Edition) Activities: Upload suicide module Continue WISC	11/12
Week 12 CLD learners	Required Readings: Chapter 3 (Sattler 7 th edition) Activities: Upload WISC score report CLD quiz	11/19
Week 13 SLD and dyslexia; report writing and triangulating data	Activities Upload dyslexia module Continue Report writing	11/26
Week 14 Oral Presentations of FIE	Activities: Report writing Oral presentations of FIE	12/03
Week 15 EVERYTHING DUE	Activities: Final FIE Child Study report Oral presentation of FIE	12/08

Reference:

(1) 19 TAC §228.30(c)(2)

(2) 19 TAC §228.30(c)(3)

(3) 19 TAC §228.30(c)(4)

(4) 19 TAC §228.30(b)

This course is based upon the following research based practices (4)

Bean, J. C. (2011). *Engaging ideas: The professor's guide to integrating writing, critical thinking, and active learning in the classroom*. John Wiley & Sons.

Guo, P., Saab, N., Post, L. S., & Admiraal, W. (2020). A review of project-based learning in higher education: Student outcomes and measures. *International Journal of Educational Research*, 102, 101586.

Stavredes, T. (2011). *Effective online teaching: Foundations and strategies for student success*. John Wiley & Sons.