I COURSE DESCRIPTION
A critical inspection of teaching principles and learning in mathematics and science as related to young children, birth through age 8. Study includes developmentally appropriate learning processes, learning objectives, and the scope and sequence of mathematics and science development. Course content is enriched through experiences in the field.

II PREREQUISITES
Acceptance to Graduate School.

III DIVERSITY STATEMENT
The James I. Perkins College of Education is committed to proactively recruiting and retaining a diverse faculty, staff, and student population. Through open dialogue, mutual respect, and shared responsibility, faculty, staff, and students will demonstrate an understanding and sensitivity to ethnicity, race, gender, exceptionalities, culture, language/dialect, age, social class, family structure, sexual orientation, religion, and spiritual values in order to enhance the quality of life in a diverse, global community.

COURSE OBJECTIVES & ASSESSMENTS

Vision, Mission, and Values of the College of Education
The College of Education at Stephen F. Austin State University (SFA) will be the college of choice for students striving to achieve professional excellence through exemplary programs that are recognized at state, national, and international levels.

Mission Statement
The mission of the College of Education is to prepare competent, successful, caring, and enthusiastic professionals dedicated to responsible service, leadership, and continued professional and intellectual development.

Values
In the College of Education at SFA, we value and are committed to
  Service that enriches the community,
  Openness to new ideas, to culturally diverse people, and to innovation and change;
  Collaboration and shared decision-making,
  Integrity, responsibility, diligence, and ethical behavior
  Academic excellence through critical, reflective, and creative thinking; and
  Life-long learning.
Course content is designed to prepare competent, successful, caring, and enthusiastic professional who are dedicated to continued professional and intellectual development.

Please follow this link to visit the SFASU College of Education Conceptual Framework:
http://www.sfasu.edu/education/about/accreditations/ncate/conceptual/
Additionally, the James I. Perkins College of Education Diversity Statement can be found at the following link: [http://coe.sfasu.edu/about-us/]

IV PROGRAM LEARNING OUTCOMES, STUDENT LEARNING OUTCOMES AND ASSESSMENT

NAEYC Standard 1 and PLO 1: PROMOTING CHILD DEVELOPMENT AND LEARNING:
Candidates prepared in early childhood degree programs are grounded in a child development knowledge base. They use their understanding of young children’s characteristics and needs, and of multiple interacting influences on children’s development and learning, to create environments that are healthy, respectful, supportive, and challenging for each child.

SLO 1.4 Candidates investigate stages of cognitive development in young children.
SLO 1.12 Candidates explore fundamental concepts and gain knowledge of how children learn through active, hands-on exploration of science concepts, and math processes.

NAEYC Standard 3 and PLO 3: OBSERVING, DOCUMENTING, AND ASSESSING TO SUPPORT YOUNG CHILDREN AND FAMILIES:
Candidates prepared in early childhood degree programs understand that child observation, documentation, and other forms of assessment are central to the practice of all early childhood professionals. They know about and understand the goals, benefits, and uses of assessment. They know about and use systematic observations, documentation, and other effective assessment strategies in a responsible way, in partnership with families and other professionals, to positively influence the development of every child.

SLO 3.2 Candidates assess cognitive development in young children.

NAEYC Standard 4 and PLO 4: USING DEVELOPMENTALLY EFFECTIVE APPROACHES TO CONNECT WITH CHILDREN AND FAMILIES:
Candidates prepared in early childhood degree programs understand that teaching and learning with young children is a complex enterprise, and its details vary depending on children’s ages, characteristics, and the settings within which teaching and learning occur. They understand and use positive relationships and supportive interactions as the foundation for their work with young children and families. Candidates know, understand, and use a wide array of developmentally appropriate approaches, instructional strategies, and tools to connect with children and families and positively influence each child’s development and learning.

SLO 4.5 Candidates understand the sequence of cognitive development to the acquisition of math and science concepts.
SLO 4.7 Candidates discuss how young children acquire math and science concepts.
SLO 4.8 Candidates examine settings, activities and approaches to help children develop intellectual curiosity, solve problems, make decisions, and become critical thinkers.

NAEYC STANDARD 5. USING CONTENT KNOWLEDGE TO BUILD MEANINGFUL CURRICULUM
Candidates prepared in early childhood degree programs use their knowledge of academic disciplines to design, implement, and evaluate experiences that promote positive development and learning for each and every young child. Candidates understand the importance of developmental domains and academic (or content) disciplines in early childhood curriculum. They know the essential concepts, inquiry tools, and structure of content areas, including academic subjects, and can identify resources to deepen their understanding. Candidates use their own knowledge and other resources to design, implement, and evaluate meaningful, challenging curriculum that promotes comprehensive developmental and learning outcomes for every young child.

SLO 5.7 Candidates used knowledge of developmental domains and content disciplines in the early childhood curriculum to design a meaningful and challenging collection of science information and activities that promote comprehensive development and learning outcomes for a young child age 8, based on your state curriculum.
SLO 5.8 Candidates identify central concepts in content disciplines for math and science for different age groups in an Early Childhood curriculum.

NAEYC Standard 6 and PLO 6: GROWING AS A PROFESSIONAL:
Candidates prepared in early childhood degree programs identify and conduct themselves as members of the early childhood profession. They know and use ethical guidelines and other professional standards related to early childhood practice. They are continuous, collaborative learners who demonstrate knowledgeable, reflective and critical perspectives on their work, making informed decisions that integrate knowledge from a variety of sources. They are informed advocates for sound educational practices.

SLO 6.1 Candidates demonstrate professional demeanor and behaviors.
SLO 6.2 Candidates demonstrate professional reflection of own work and work of others.
SLO 6.3 Candidates actively participate in class discussions, contributing to the greater knowledge and understanding of course content.
SLO 6.8 Candidates investigate current research on mathematical development and demonstrate an understanding of the principles and implications on early childhood settings and young children.
SLO 6.11 Candidates synthesize peer-reviewed articles in their field of study.
SLO 6.22 Candidates demonstrate a high level of communication skills.

***The Student Learning Outcomes for NAEYC Standard 6 and Program Learning Outcome # 6 are considered in all assignments and expected of a Masters level candidate in his/her growth as a professional.***

V COURSE ASSIGNMENTS, ACTIVITIES, INSTRUCTIONAL STRATEGIES, USE OF TECHNOLOGY
Assignments, assessments, and discussion links are presented in D2L. It is your responsibility to complete work ONLY AFTER you have read the assigned information in the text and modules. Going straight to the assignments IS NOT considered responsible and may show in your work.

You must have a browser that supports D2L at SFA. All necessary software information is available from SFAOnline. This course is completely web-based on D2L. This course may be accessed through MySFA or directly at https://d2l.sfasu.edu/

Success with Accessing Assignments
Know that if you intend to use a “dial-up” connection to access the Internet and this course that you may experience long wait times for files to download and you MAY NOT be able to view all pages in the course. Not being able to view all information is NOT a valid reason to miss requirements. Please make arrangements ahead of time to ensure that you are able to access all components of this online course and are able to log in to the course daily.

Begin your assignments early in case you have technology problems. Then you have time to receive the technology help you need and still complete course requirements on time. If you encounter issues with D2L, please contact the Office of Instructional Technology (OIT) at 936-468-1919.

ASSIGNMENTS
Assignments will be submitted via D2L, unless otherwise specified by your instructor. Plan ahead so that you will not miss a due date in the event of personal issues or technical difficulties. If you experience extenuating circumstances, contact the instructor via D2L email prior to missing the due date. In the event of a truly extenuating circumstance (e.g., you are in the hospital for several days) that prevents you from contacting the instructor ahead of time, you must contact the instructor via D2L email within 24 hours of missing an assignment to make arrangements for making it up. Please be aware that you may be asked to provide documentation of the extenuating circumstance and that the instructor reserves the right to not grant an opportunity to submit a missed assignment, in which case a grade of zero will be earned. All assignments must be typed and submitted as a Microsoft Word (or Rich Text Format) document online through D2L. You are responsible for checking your attachment to ensure it is in the correct format. Assignments submitted in an incorrect file type may earn a grade of zero. In order to enhance learning in this course, assignments may be altered, or additional assignments may be added as the need arises.

The following assignments will be submitted through the Dropbox in D2L:

**Dropbox Assignments**
Overall Concepts – 20 Points
Commercial Materials – 20 Points
Using Picture books to support – 20 Points
Citizen Science – 20 Points
Collecting from Nature – 20 points
Final – Applying Cognitive development in Math and Science Research Paper - 40 Points –
This assignment is submitted to LiveText

The following assignments will be completed through the Discussions area in D2L:

**Discussion Board Assignments**
Course Introductions – About You – 4 points
Surfing for Science and Mathematics Resources – 20 points
The following quizzes will be submitted through the Quizzes area in D2L:

**Quizzes**

- Chapter One quiz – 7.5 Points
- Chapter Two quiz – 7.5 Points
- Chapter Three quiz – 5 Points
- Chapter Four quiz – 7.5 Points
- Chapter Five quiz – 7.5 Points
- Chapter Six quiz – 7.5 Points
- Chapter Seven quiz – 7.5 Points
- Chapter Eight quiz – 7.5 Points
- Chapter Nine quiz – 5 Points
- Chapter Ten quiz – 3 Points
- Chapter Eleven quiz – 3 Points
- Chapter Twelve quiz – 7.5 Points

**VI EVALUATION AND ASSESSMENTS (GRADING)**

Grading Scale:

- A (100-90%)
- B (89-80%)
- C (79-70%)
- F (69% or below)

Please note that grades will not be rounded up. (For example, a final score of 89.5 out of 100 points [89.5%] will be entered as a B). Anything below a “C” is a “F”, no “D” will be awarded.

**Assignment Policy** — Students must complete all assignments and be prepared to participate in class discussions. All students are expected to complete assignments on the due date shown in the course timeline. Failure to complete course work will result in a grade of zero, or “Fail”, for the assignment and an automatic reduction of the course grade earned by one letter grade for each missed assignment, regardless of total number of points earned during the semester. Of course, extenuating circumstances are always considered, but communication with the instructor is essential. Communicate with your instructor BEFORE, not after, problems occur.

**TENTATIVE COURSE TIMELINE**

**VII TENTATIVE COURSE TIMELINE**

<table>
<thead>
<tr>
<th>Week &amp; Date</th>
<th>Module</th>
<th>Actions</th>
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| Before Class Begins | Getting Started with ECH 507                   | Purchase textbooks
|                   |                                                  | Register or check LiveText account
|                   |                                                  | Read and complete the Before Class Begins module
|                   |                                                  | Read syllabus
|                   |                                                  | Read and print timeline, mark your calendar with due dates
|                   |                                                  | Review APA guidelines and where to find help
| Week of May 17    | Module 1: Concept Development in Mathematics and Science | Read content pages, including all associated readings
|                   |                                                  | Reading Assignment – chapters 1 & 2
|                   |                                                  | **Complete the quizzes for chapters 1 and 2**
|                   |                                                  | **Discussion Course Introduction Assignment**
|                   | Module 2: Fundamental Concepts and Skills         | Read content pages, including all associated readings
|                   |                                                  | **Complete the quizzes for chapters 3 & 4**
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<tr>
<td>Week of May 31</td>
<td>Module 4: Symbols and Higher Level Concepts and Activities</td>
<td>Read content pages, including all associated readings. Complete the quiz for chapter 7.</td>
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<tr>
<td>Week of June 7</td>
<td>Module 5: Mathematics Concepts and Operations for the Primary Grades</td>
<td>Read content pages, including all associated readings. Complete the quizzes for chapters 8 &amp; 9. Dropbox assignment – Citizen Science. PLEASE NOTE YOU WILL NEED TO BEGIN LOOKING AT AND PLANNING YOUR FINAL NOW- YOU CANNOT WAIT UNTIL THE LAST MINUTE!</td>
</tr>
<tr>
<td>Week of June 14</td>
<td>Module 6: Investigations in Primary Science</td>
<td>Read content pages, including all associated readings. Complete the quizzes for chapters 10 &amp; 11. Dropbox – Collecting from nature. PLEASE NOTE YOU SHOULD ALREADY HAVE BEGUN LOOKING AT AND PLANNING YOUR FINAL- YOU CANNOT WAIT UNTIL THE LAST MINUTE!</td>
</tr>
<tr>
<td>Week of June 21</td>
<td>Module 8: Final Research Project</td>
<td>Carefully read all information about the final. It will take you at least 2 weeks to complete this final so do not wait until the last minute. This assignment is submitted to LiveText and the Dropbox.</td>
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**ADDITIONAL RESOURCES TO SUPPORT LEARNING**

**VIII READINGS**

**Textbook:**

**LiveText:**
This course uses the LiveText/Watermark data management system to collect critical assessments for students who are Perkins College of Education majors (undergraduate, graduate, and doctoral) or majors in other colleges seeking educator certification through the Perkins College of Education. Students who do not have an existing LiveText/Watermark account will receive an access code via the SFA email system within the first week of class. You will be required to register your LiveText/Watermark account, and you will be notified how to do this via email. If you forward your SFA e-mail to another account and do not receive an e-mail concerning LiveText/Watermark registration, please be sure to check your junk mail folder and your spam filter for these e-mails. LiveText account, ISBN: 978-0-979-6635-4-3.
END OF COURSE

IX COURSE EVALUATIONS

Near the conclusion of each semester, students in the Perkins College of Education electronically evaluate courses taken within the PCOE. Evaluation data is used for a variety of important purposes including:

1. Course and program improvement, planning, and accreditation;
2. Instruction evaluation purposes; and
3. Making decisions on faculty tenure, promotion, pay, and retention.

As you evaluate this course, please be thoughtful, thorough, and accurate in completing the evaluation. Please know that the PCOE faculty is committed to excellence in teaching and continued improvement. Therefore, your response is critical!

In the Perkins College of Education, the course evaluation process has been simplified and is completed electronically through MySFA. Although the instructor will be able to view the names of students who complete the survey, all ratings and comments are confidential and anonymous, and will not be available to the instructor until after final grades are posted.

UNIVERSITY POLICIES

X STUDENT ETHICS AND OTHER POLICY INFORMATION (WWW.SFASU.EDU/POLICIES)

ATTENDANCE

- This course meets in cyberspace. There are no face-to-face meetings. Students will login to Desire to Learn (D2L) EACH day. Due to an abbreviated semester, it is imperative that students stay abreast of all assessments, assignments, chats, discussions, postings, and communications. The only way to do this is to CHECK THE COURSE at least once daily. A student tracking system monitors courses in D2L. Evidence of daily participation, discussion postings, viewing and submitting assignments, and viewing and taking quizzes is available to the instructor of record and the instructional assistant. Learn more in D2L.

ACADEMIC ACCOMMODATION FOR STUDENTS WITH DISABILITIES (POLICY 6.1 AND 6.6)

To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 936-468-3004 as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/

STUDENT ACADEMIC DISHONESTY (POLICY 4.1)

Abiding by university policy on academic integrity is a responsibility of all university faculty and students.

- DEFINITION OF ACADEMIC DISHONESTY
  - Academic dishonesty includes both cheating and plagiarism. Cheating includes, but is not limited to:
    - using or attempting to use unauthorized materials on any class assignment or exam;
    - falsifying or inventing of any information, including citations, on an assignment; and/or;
    - helping or attempting to help another in an act of cheating or plagiarism.

- PLAGIARISM
  - Plagiarism is presenting the words or ideas of another person as if they were one’s own. Examples of plagiarism include, but are not limited to:
    - submitting an assignment as one’s own work when it is at least partly the work of another person;
    - submitting a work that has been purchased or otherwise obtained from the Internet or another source; and/or,
    - incorporating the words or ideas of an author into one’s paper or presentation without giving the author credit.

- PENALTIES FOR ACADEMIC DISHONESTY
  - Penalties may include, but are not limited to reprimand, no credit for the assignment or exam, re-submission of the work, make-up exam, failure of the course, or expulsion from the university.
Course Policies

XII Course Policies

WORK POLICIES

- Late Work—Late work receives no credit unless there is prior approval from the instructor.
- Make-up Work Policy—The decision whether to accept make-up work is at the discretion of the instructor.
- "Redo Work" Policy—Some assignments may be subject to editing and resubmission at the discretion of the instructor. In this event, the resubmitted work is due no later than one week after it is received from the instructor. Edited work resubmitted without the original work will not be accepted.

Students must submit all assignments in the requested format found in the assignments. Refer to Section III of the course syllabus for additional information.

EMAIL COMMUNICATION

When you email me, make sure that the email includes a specific question and/or provides clear information. Make sure to proofread for typos prior to sending. During the week, I will do my best to answer your email within 24 hours. If you do not receive an answer in 24 hours (during the week), please re-send the email. I may not check email regularly on the weekends and may not check my email outside of normal working hours. If you email Friday night, you may not receive a response until Monday; if you email at midnight during the week, do not be surprised if I do not answer until normal working hours during the next business day. Please also make sure to check your email daily so you do not miss course information and announcements.