

Program Change Request

Date Submitted: 12/02/24 3:17 pm

Viewing: **CHEDBS-STEM : Childhood Education: STEM Concentration**

Last approved: 10/03/24 3:18 pm

Last edit: 12/09/24 1:32 pm

Changes proposed by: msganio

Catalog Pages Using
this Program

- [Childhood Education B.S.E. with STEM Concentration](#)
- [Childhood Education \(CHED\)](#)

Submitter: User ID: [msganio](#) ~~gelaugher~~ Phone: [575-2956](#) ~~575-3570~~

Program Status: Active

Academic Level: Undergraduate

Type of proposal: Major/Field of Study

Select a reason for this modification

Revising Curriculum of an Existing Certificate or Degree (making a net change of more than 15 credit hours)--(LON)

Are you adding a concentration?

No

Are you adding or modifying a track?

No

Are you adding or modifying a focused study?

No

Effective Catalog Year: Fall 2025

College/School Code: College of Education and Health Professions (EDUC)

Department Code

In Workflow

1. EDUC Dean Initial
2. Provost Initial
3. Director of Curriculum Review and Program Assessment
4. Registrar Initial
5. Institutional Research
6. CIED Chair
7. EDUC Curriculum Committee
8. EDUC Dean
9. Global Campus
10. Provost Review
11. Undergraduate Council
12. Faculty Senate
13. Provost Final
14. Provost's Office-- Documentation sent to System Office
15. Higher Learning Commission
16. Board of Trustees
17. ADHE Final
18. Provost's Office-- Notification of Approval
19. Registrar Final
20. Catalog Editor Final

Approval Path

1. 12/02/24 3:31 pm
Matthew Ganio

Department of Curriculum and Instruction (CIED)

| | |
|--------------|----------------------------------|
| Program Code | CHEDBS-STEM |
| Degree | Bachelor of Science in Education |
| CIP Code | |

(msganio):

Approved for EDUC
Dean Initial

2. 12/02/24 8:09 pm

Jim Gigantino

(jgiganti): Approved
for Provost Initial

3. 12/03/24 4:06 pm

Lisa Kulczak

(lkulcza): Approved

for Director of
Curriculum Review

and Program

Assessment

4. 12/03/24 4:27 pm

Gina Daugherty

(gdaugher):

Approved for

Registrar Initial

5. 12/03/24 4:28 pm

Doug Miles

(dmiles): Approved

for Institutional

Research

6. 12/03/24 4:49 pm

Suzanne Kucharczyk

(suzannek):

Approved for CIED

Chair

7. 12/04/24 2:08 pm

Matthew Ganio

(msganio):

Approved for EDUC

Curriculum

Committee

8. 12/04/24 2:12 pm

Matthew Ganio

(msganio):

Approved for EDUC

Dean

9. 12/04/24 4:00 pm

Suzanne Kenner
(skenner): Approved
for Global Campus
10. 12/04/24 4:20 pm
Jim Gigantino
(jgiganti): Approved
for Provost Review

History

1. Jun 9, 2015 by Lisa Kulczak (lkulcza)
2. Apr 15, 2016 by Lisa Kulczak (lkulcza)
3. Mar 1, 2017 by Denise Bignar (dbignar)
4. Mar 1, 2017 by Charlie Alison (calison)
5. Mar 30, 2018 by Gina Daugherty (gdaugher)
6. May 21, 2019 by hkindall
7. Dec 10, 2020 by Karen Turner (kjvestal)
8. May 19, 2022 by mimbeau
9. Mar 13, 2023 by Gina Daugherty (gdaugher)
10. Apr 15, 2024 by Gina Daugherty (gdaugher)
11. Oct 3, 2024 by Jean Mitchell (jem03)

13.1202 - Elementary Education and Teaching.

Program Title

Childhood Education: STEM Concentration

Program Delivery

Method

On Campus

Is this program interdisciplinary between two or more colleges or schools?

No

Do the proposed changes impact any specific course(s) from another college or school?

No

What are the total 120 ~~123~~ hours needed to complete the program?

Program Requirements and Description

Requirements

STEM Concentration

Pre- Elementary Education (PELED) requirements [†]

| | |
|--|---|
| State Minimum Core | 35 |
| Specifically required for CHED program | |
| ENGL 10103 | Composition I (ACTS Equivalency = ENGL 1013) |
| ENGL 10203 | Composition II (ACTS Equivalency = ENGL 1023) |
| MATH 11003 | College Algebra (ACTS Equivalency = MATH 1103) |
| or MATH 11103 | Quantitative Reasoning (ACTS Equivalency = MATH 1113) |
| BIOL 10103 & BIOL 10101 | Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) |
| or BIOL 10004 | Biological Principles (ACTS Equivalency = BIOL 1004 Lecture) |
| GEOL 11103 & GEOL 11101 | Physical Geology (ACTS Equivalency = GEOL 1114 Lecture) and Physical Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) |
| HIST 20003 | History of the American People to 1877 (ACTS Equivalency = HIST 2113) |
| or HIST 20103 | History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) |

| | |
|--|---|
| GEOG 11103 | Human Geography (ACTS Equivalency = GEOG 1113) |
| or ANTH 10203 | Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) |
| HIST 11193 | Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) |
| or HIST 11293 | Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) |
| ARHS 10003 | Basic Course in the Arts: Art Lecture (ACTS Equivalency = ARTA 1003) |
| or MUSC 10003 | Experiencing Music (ACTS Equivalency = MUSC 1003) |
| or THTR 10003 | Theatre Appreciation (ACTS Equivalency = DRAM 1003) |
| PLSC 20003 | American National Government (ACTS Equivalency = PLSC 2003) |
| ENGL 11103 | World Literature: Beginnings to 1650 CE (ACTS Equivalency = ENGL 2113) |
| or ENGL 11203 | World Literature: 1650CE to Present (ACTS Equivalency = ENGL 2123) |
| Additional PELED requirements | 28 |
| CIED 10003 | Introduction to Technology in Education |
| CIED 10103 | Introduction to Education |
| SPCH 10003 | Public Speaking (ACTS Equivalency = SPCH 1003) |
| or COMM 23203 | Interpersonal Communication |
| COMM 12303 | Media, Community and Citizenship |
| or PHIL 20003 | Introduction to Philosophy (ACTS Equivalency = PHIL 1103) |
| or PHIL 21003 | Introduction to Ethics (ACTS Equivalency = PHIL 1003) |
| or PHIL 22003 | Logic (ACTS Equivalency = PHIL 1003) |
| or PHIL 31003 | Ethics and the Professions |
| or PSYC 20003 | General Psychology (ACTS Equivalency = PSYC 1103) |
| HIST 33803 | Arkansas and the Southwest (or any 3 hour Arkansas history course) |
| MATH 22103 | Survey of Mathematical Structures I |
| MATH 22203 | Survey of Mathematical Structures II |
| PHYS 10304 | Physics for Elementary Education Majors |
| or GEOL 11203/11201 | Earth Science (ACTS Equivalency = GEOL 1124 Lecture) |
| or ASTR 20003/20001 | Survey of the Universe (ACTS Equivalency = PHSC 1204 Lecture) |

| | |
|---|---|
| or STEM 41004 | Astronomy for Educators |
| or ENSC 10003/10001 | Environmental Science |
| or CHEM 12103/12101 | Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) |
| or PHYS 10243/10241 | Physics and Human Affairs |
| CIED 30103 | Development and Learning Theories in the K-6 Classroom |
| CIED 30303 | Classroom Learning Theory |
| Childhood Education major requirements | 45 |
| To be completed following admission to CHED program | |
| 3 hours Elective | |
| CIED 44003 | Understanding Cultures in the Classroom |
| ENGL 20003 | Advanced Composition |
| or ENGL 30503 | Technical and Professional Writing (ACTS Equivalency = ENGL 2023) |
| ECON 30503 | Economics for Elementary Teachers |
| or ECON 21403 | Basic Economics: Theory and Practice |
| MATH 21003 | Principles of Statistics (ACTS Equivalency = MATH 2103) (or any 3-hour statistics course) |
| CIED 29403 | Foundations of Language and Literacy |
| CIED 30203 | Survey of Exceptionalities [†] |
| CIED 30503 | The Emerging Adolescent [†] |
| CIED 31103 | Emergent Literacy [†] |
| CIED 31203 | Mathematics Methods in the K-6 Classroom [†] |
| CIED 31303 | Integrated Social Studies for the K-6 Classroom [†] |
| STEM 31403 | Teaching Science in the Elementary Grades [†] |
| CIED 34503 | Developmental Literacy [†] |
| CIED 41203 | Literacy Assessment and Interventions in the Elementary Classroom |
| CIED 41503 | Classroom Management in the Elementary Grades [†] |
| CIED 41803 | Instruction and Assessment of Writing [†] |

| | | |
|--|--|-----------|
| CIED 41903 | Course CIED 41903 Not Found | |
| CIED 45303 | Reading Comprehension Through Children's and Adolescent Literature † | |
| STEM Concentration requirements | | 12 |
| 3 hrs of General Elective | | |
| CIED 44203 | Teaching English as a Second Language † | |
| STEM 40303 | Introduction to STEM Education † | |
| STEM 40403 | Creativity and Innovation in STEM Education | |
| Total Hours | | 120 |

8-Semester Plan

Childhood Education B.S.E. with STEM Concentration**Eight-Semester Plan**

Because this program requires admission to progress, it does not qualify for the university's Eight-Semester Degree Program; however, students who qualify to finish a degree in four years can follow the suggested order of classes below.

| First Year | Units |
|---|--------------|
| | FallSpring |
| ENGL 10103 Composition I (ACTS Equivalency = ENGL 1013) (Satisfies General Education Outcome 1.1) ¹ | 3 |
| MATH 11003 College Algebra (ACTS Equivalency = MATH 1103) (Satisfies General Education Outcome 2.1) ¹ | 3 |
| or MATH 11103 Quantitative Reasoning (ACTS Equivalency = MATH 1113) | |
| Satisfies General Education Outcome 3.4:¹ | |
| BIOL 10103 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) | 4 |
| & BIOL 10101 Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) | |
| or BIOL 10004 Biological Principles (ACTS Equivalency = BIOL 1004 Lecture) | |
| Choose one of the following: ¹ | 3 |
| COMM 12303 Media, Community and Citizenship (Satisfies General Education Outcome 3.2) | |
| PHIL 20003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Satisfies General Education Outcome 3.2) | |
| PHIL 21003 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Satisfies General Education Outcome 3.2) | |
| PHIL 22003 Logic (ACTS Equivalency = PHIL 1003) (Satisfies General Education Outcome 5.1) | |
| PHIL 31003 Ethics and the Professions (Satisfies General Education Outcome 5.1) | |
| PSYC 20003 General Psychology (ACTS Equivalency = PSYC 1103) | |
| CIED 10103 Introduction to Education | 3 |
| SPCH 10003 Public Speaking (ACTS Equivalency = SPCH 1003) (Satisfies General Education Outcome 1.2 and 5.1) | <u>3</u> |
| ENGL 10203 Composition II (ACTS Equivalency = ENGL 1023) (Satisfies General Education Outcome 1.1) ¹ | 3 |
| HIST 20003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Satisfies General Education Outcomes 3.2, 3.3 and 4.2) ¹ | 3 |
| or HIST 20103 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) | |
| Satisfies General Education Outcome 4.1: ¹ | |
| HIST 11193 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) | 3 |
| or HIST 11293 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) | |
| Satisfies General Education Outcome 3.4: ¹ | |

| | |
|---|----------------|
| <u>GEOL 11103</u> Physical Geology (ACTS Equivalency = GEOL 1114 Lecture) | 4 |
| & <u>GEOL 11101</u> Physical Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) | |
| MATH 22103 Survey of Mathematical Structures I | - 3 |
| <u>Any Fine Art Core that satisfies General Education Outcome 3.1</u> | <u>= 3</u> |
| Year Total: | 15 16 |
| | |
| Second Year | Units |
| | FallSpring |
| Satisfies General Education Outcome 3.1:¹ | |
| ARHS 10003 Basic Course in the Arts: Art Lecture (ACTS Equivalency = ARTA 1003) | 3 - |
| or MUSC 10003 Experiencing Music (ACTS Equivalency = MUSC 1003) | |
| or THTR 10003 Theatre Appreciation (ACTS Equivalency = DRAM 1003) | |
| MATH 22203 Survey of Mathematical Structures II | 3 - |
| PLSC 20003 American National Government (ACTS Equivalency = PLSC 2003) | 3 - |
| <u>CIED 10003 Introduction to Technology in Education</u> | <u>3 =</u> |
| <u>GEOG 11103</u> Human Geography (ACTS Equivalency = GEOG 1113) | 3 |
| or <u>ANTH 10203</u> Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) | |
| SPCH 10003 Public Speaking (ACTS Equivalency = SPCH 1003) (Satisfies General Education Outcomes 1.2 and 5.1)¹ | 3 - |
| or COMM 23203 Interpersonal Communication | |
| <u>ENGL 11103 World Literature: Beginnings to 1650 CE (ACTS Equivalency = ENGL 2113)</u> | <u>3 =</u> |
| <u>or ENGL 11203 World Literature: 1650CE to Present (ACTS Equivalency = ENGL 2123)</u> | |
| <u>MATH 22103 Survey of Mathematical Structures I</u> | <u>3 =</u> |
| <u>PHYS 10304 Physics for Elementary Education Majors</u> | <u>4 =</u> |
| <u>or ASTR 20003/20001 Survey of the Universe (ACTS Equivalency = PHSC 1204 Lecture)</u> | |
| <u>or STEM 41004 Astronomy for Educators</u> | |
| <u>or GEOG 11203/11201 Earth Science (ACTS Equivalency = GEOL 1124 Lecture)</u> | |
| <u>or ENSC 10003/10001 Environmental Science</u> | |
| <u>or CHEM 12103/12101 Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture)</u> | |
| <u>or PHYS 10243/10241 Physics and Human Affairs</u> | |
| <u>PLSC 20003 American National Government (ACTS Equivalency = PLSC 2003)</u> | <u>= 3</u> |
| <u>MATH 22203 Survey of Mathematical Structures II</u> | <u>= 3</u> |
| <u>CIED 30303 Classroom Learning Theory</u> | <u>= 3</u> |
| Select one of the following: | 3 |
| <u>HIST 33803</u> Arkansas and the Southwest | |
| Any 3-hour Arkansas History course | |
| PHYS 10304 Physics for Elementary Education Majors | - 4 |
| or GEOG 11203/11201 Earth Science (ACTS Equivalency = GEOL 1124 Lecture) | |
| or ASTR 20003/20001 Survey of the Universe (ACTS Equivalency = PHSC 1204 Lecture) | |
| or STEM 41004 Astronomy for Educators | |
| CIED 10003 Introduction to Technology in Education | - 3 |

| | | |
|---|--------------|--------------|
| ENGL 11103 World Literature: Beginnings to 1650 CE (ACTS Equivalency = ENGL 2113) | - | 3 |
| or ENGL 11203 World Literature: 1650CE to Present (ACTS Equivalency = ENGL 2123) | | |
| CIED 30103 Development and Learning Theories in the K-6 Classroom | - | 3 |
| <u>BIOL 10103 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture)</u> | = | <u>4</u> |
| <u>& BIOL 10101 Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab)</u> | | |
| <u>or BIOL 10004 Biological Principles (ACTS Equivalency = BIOL 1004 Lecture)</u> | | |
| Year Total: | | 16 16 |
| Third Year | | Units |
| | | FallSpring |
| CIED 29403 Foundations of Language and Literacy | 3 | - |
| <u>CIED 44003 Understanding Cultures in the Classroom</u> | <u>3</u> | = |
| <u>CIED 31103 Emergent Literacy</u> | 3 | |
| MATH 21003 Principles of Statistics (ACTS Equivalency = MATH 2103) | 3 | - |
| ENGL 20003 Advanced Composition | 3 | - |
| <u>CIED 31203 Mathematics Methods in the K-6 Classroom</u> | <u>3</u> | = |
| Elective | 3 | |
| <u>CIED 30203 Survey of Exceptionalities</u> | <u>3</u> | = |
| <u>STEM 40303 Introduction to STEM Education</u> | = | <u>3</u> |
| <u>CIED 34503 Developmental Literacy</u> | | 3 |
| CIED 31203 Mathematics Methods in the K-6 Classroom | - | 3 |
| CIED 30203 Survey of Exceptionalities | - | 3 |
| <u>MATH 21003 Principles of Statistics (ACTS Equivalency = MATH 2103) (or any 3-hour statistics course)</u> | = | <u>3</u> |
| Elective | | 3 |
| ECON 30503 Economics for Elementary Teachers | - | 3 |
| or ECON 21403 Basic Economics: Theory and Practice | | |
| <u>CIED 41903</u> <u>Course CIED 41903 Not Found</u> | = | <u>3</u> |
| Year Total: | | 15 15 |
| Fourth Year | | Units |
| | | FallSpring |
| <u>CIED 31303 Integrated Social Studies for the K-6 Classroom</u> | | 3 |
| CIED 30503 The Emerging Adolescent | 3 | - |
| <u>CIED 41803 Instruction and Assessment of Writing</u> | | 3 |
| STEM 40303 Introduction to STEM Education | 3 | - |
| <u>STEM 31403 Teaching Science in the Elementary Grades</u> | | 3 |
| <u>ENGL 20003 Advanced Composition</u> | <u>3</u> | = |
| <u>or ENGL 30503 Technical and Professional Writing (ACTS Equivalency = ENGL 2023)</u> | | |
| <u>CIED 44203 Teaching English as a Second Language</u> | <u>3</u> | = |
| <u>CIED 41503 Classroom Management in the Elementary Grades</u> | | 3 |
| <u>CIED 45303 Reading Comprehension Through Children's and Adolescent Literature (Satisfies General Education Outcome C.11)</u> | | 3 |

Education Outcome 6.1)-

| | |
|---|-------|
| CIED 44203 Teaching English as a Second Language | - 3 |
| <u>CIED 41203 Literacy Assessment and Interventions in the Elementary Classroom</u> | = 3 |
| <u>STEM 40403 Creativity and Innovation in STEM Education</u> | 3 |
| Elective | - 3 |
| Year Total: | 15 12 |

Total Units in Sequence: 120
1

Students must complete the [State Minimum Core requirements](#) as outlined in the Catalog of Studies. The courses that meet the state minimum core also fulfill many of the university's [General Education requirements](#), although there are additional considerations to satisfy the general education learning outcomes. Students are encouraged to consult with their academic adviser when making course selections.

Are Similar Programs available in the area?

No

Estimated Student Demand for Program: na
 Scheduled Program: [2026-2027 See](#)
 Review Date: [CHEDBS](#)

Program Goals and Objectives

Program Goals and Objectives

The program goals are based on the principles that educators must: master knowledge-bases appropriate to their discipline; access and use knowledge; generate knowledge; use and model best practices; approach learning as developmental and life-long; be skillful in interpersonal relations; practice on the basis of professional standards and ethical conduct; and honor diversity.

Learning Outcomes

Learning Outcomes

Student Learning Outcomes (based on the CAEP accreditation standards, COEHP conceptual framework, and Danielson’s Framework for Teaching)

1. Knowledgeable about Content and Pedagogy: Candidates will possess general knowledge, content knowledge, pedagogical knowledge, and professional knowledge to be effective pre-service educators. They must know how to access, use and generate knowledge. In order to be current, they must be inquiring and up to date on new knowledge in their content, pedagogy, and school systems.
2. Skillful in Practice: Candidates will be skillful in the pedagogy required to be an effective pre-service educator as demonstrated through planning, implementing, and modeling best practices including best technology practices.

Learning Outcomes

- 3. Supportive in Developing the Whole Student: Candidates will create a caring learning environment for all students. This will include being caring, supportive, and responsive to the diverse backgrounds students bring to the classroom and school. The ability to communicate and collaborate with groups of colleagues and others who contribute to the student’s education such as families and communities is also essential.
- 4. Professional in Actions: Candidates will inquire and seek to improve their practice through participation in professional communities. This involves staying current with educational research and working with appropriate professional organizations to better their profession. The candidates will demonstrate ethical behavior in all aspects of their multi-faceted career.

Description and justification of the request

| Description of specific change | Justification for this change |
|------------------------------------|------------------------------------|
| Changes to comply with LEARNS act. | Changes to comply with LEARNS act. |

Upload attachments

[CHEDBS-STEM before after.pdf](#)

[Letter of Notification Form - CHEDBS-STEM.pdf](#)

[CHEDBS - Curriculum Revision - Ltr of Notification_Rev_BOT.pdf](#)

Reviewer Comments

Matthew Ganio (msganio) (12/02/24 3:31 pm): LON and DESE paperwork to be added no later than Dec. 6.

Lisa Kulczak (lkulcza) (12/03/24 4:05 pm): Updated submitter information and inserted next scheduled program review dates. While this proposal does not require DESE paperwork, it will need a LON uploaded before the proposal reaches Undergraduate Council. Per dean's office, removed COMM 23203 as an alternative option to SPCH 10003, since the COMM course does not satisfy GELO 1.2 (or 5.1).

Lisa Kulczak (lkulcza) (12/03/24 4:06 pm): Added missing GELO information for 1.2 per conversation with dean's office.

Lisa Kulczak (lkulcza) (12/09/24 11:50 am): Uploading LON and Before and After documentation.

Lisa Kulczak (lkulcza) (12/09/24 1:32 pm): Uploaded revised LON.

Key: 151