

B.S.Ed. Elementary Education: 4-8 Mathematics and Science Requirements

The 4-8 Mathematics and Science Program provides course preparation in education and includes clinical experience. The program leads to a bachelor's degree and teaching certification in 4-8 Middle Level Mathematics and Science.

Note that all students must achieve 120 undergraduate credits and a minimum 3.0 overall GPA to graduate. Some of the coursework in the program will require a final grade of C or better to count for the major. Please consult with your academic advisor. The final GPA requirement for 4-8 Mathematics and Science is 3.0.

Required Professional (Pre-Candidacy) Courses – 9 credits

Note that these courses require a final grade of C or better. Refer to the Directed General Education section for additional pre-candidacy coursework.

ELED 212 Teaching Diverse Learners Mid-Level (3 credits)

ELED 312 Culturally Responsive Teach for ELL (3 credits)

ELED 226 Teach Mid-Level (3 credits) or EDUC 326 Intro Middle Level (3 credits)

Mathematics Courses – 15 credits

MATH 040 Geometry (3 credits)

MATH 105 College Algebra (3 credits)

MATH 122 Applied Calculus (3 credits)

MATH 140 Applied Stat Methods (3 credits)

MATH 106 Trigonometry (3 credits) or MATH 115 Pre-Calculus (3 credits) or MATH 123 Discrete Math (3 credits)

English Language Arts & Reading Courses – 9 credits

ELED 221 Literature for Upper Elementary & Middle Level Learners (3 credits)

ELED 331 Teach & Assess Literacy for Mid Lev Learners (3 credits)

ENGL Literature Course (3 credits)

Natural Sciences Courses – 18 credits

ASTR 020 Introductory Astronomy (Lab) (3 credits)

BIOL 130 Environmental Issues Global Perspective (3 credits)

CHEM 020 Introduction to Chemistry (Lab) (3 credits)

GEOG 204 Meteorology (3 credits)

GEOL 020 Introduction to Geology (Lab) (3 credits)

PHYS 020 Introduction to Physics (Lab) (3 credits)

Social Sciences Course – 3 credits

GEOG 010 Elements of Physical Geography (3 credits) or GEOG 101 World Regional Geography (3 credits)

Professional Semester Courses – 15 credits

Note that these courses require a final grade of C or better.

ELED 342 Teaching Writing at the Mid-Level (3 credits)

ELED 344 Teaching & Assess. Social Studies for Middle Level Learners (3 credits)

ELED 346 Mid-Level Cognitive Development (3 credits)

ELED 347 Teaching & Assess. Math For Middle Level Learners (3 credits)

ELED 349 Teaching & Assess. Science For Middle Level Learners (3 credits)

Clinical Experience Courses – 12 credits

Note that these courses require a final grade of C or better.

ELED 392 Clinical Experience I with Mid-Level Learners (6 credits)

ELED 393 Clinical Experience II with Mid-Level Learners (6 credits)

Directed General Education Courses – 39 credits

While counting toward General Education fulfillment, these courses are required for completion of the major.

Required before candidacy:

Note that these courses require a final grade of C or better.

SPEE 201 Cognitive Devel. of Diverse Learners – Category B (3 credits)

SPEE 314 Effective Instructional Strategies – Category B (3 credits)

SPEE 316 Literacy Development Core & Intervention – Category A4 (3 credits)

LLTC 321 Technology for the 21st Century Educator – Category D (3 credits)

Not required before candidacy:

MATH 103 Fundamentals of Math I – Category C2 (3 credits) *Final grade of C or better is required.*

MATH 104 Fundamentals of Math II – Category C3 (3 credits) *Final grade of C or better is required.*

COMP 100 Level course – Category A1 (3 credits) *Final grade of C or better is required.*

COMP 200 Research and Composition – Category A2 (3 credits)

COMM 010 Fundamentals of Oral Comm – Category A3 (3 credits) *Final grade of C or better is required.*

BIOL 010 Introduction to Biology (Lab) – Category C1 (3 credits)

HIST 014 History of Civilization A (3 credits) *or* HIST 015 History of Civilization B – Category D (3 credits)

HIST 025 US Formative Years and Fed. Rep (3 credits) *or* HIST 026 History of the United States – Category B (3 credits)

ECON 100 Introduction to Economics – Category B (3 credits)

Program Plan Code: BSSED_ELED_MASC

Effective Date: Fall 2023



4-8 Mathematics and Science Major Check Sheet

Student Name:

Student ID Number:

This check sheet provides a mechanism for students and advisors to keep track of a student's progress in the program. Please refer to the program requirements for more details regarding options.

Note that all students must achieve 120 undergraduate credits and a minimum 3.0 overall GPA to graduate. The final GPA requirement for 4-8 Mathematics and Science is 3.0.

Required Professional Pre-Candidacy Courses – 9 credits

Note: these courses require a grade of C or higher for a final grade.

ELED 212 Teaching Diverse Learners Middle Level	3 credits	Grade:
ELED 312 Culturally Responsive Teaching for ELL	3 credits	Grade:
ELED 226 Teaching Middle Level or EDUC 326 Introduction to Middle Level	3 credits	Grade:
Total Credits	9 total credits	

Required Mathematics Courses – 15 credits

MATH 040 Geometry	3 credits	Grade:
MATH 105 College Algebra	3 credits	Grade:
MATH 122 Applied Calculus	3 credits	Grade:
MATH 140 Applied Statistical Methods	3 credits	Grade:
MATH 106 Trigonometry or MATH 115 Pre-Calculus or MATH 123 Discrete Math	3 credits	Grade:
Total Credits	15 total credits	

English Language Arts & Reading Courses – 9 credits

ENGL Literature Course	3 credits	Grade:
ELED 221 Literature Middle Level Learners	3 credits	Grade:
ELED 331 Teaching and Assessing Literacy Middle Level	3 credits	Grade:
Total Credits	9 total credits	

Natural Sciences Courses – 18 credits

CHEM 020 Introduction to Chemistry (Lab)	3 credits	Grade:
BIOL 010 Introduction to Biology (Lab)	3 credits	Grade:
PHYS 020 Introduction to Physics (Lab)	3 credits	Grade:
ASTR 020 Introductory Astronomy (Lab)	3 credits	Grade:
GEOL 020 Introduction to Geology (Lab)	3 credits	Grade:
GEOL 204 Meteorology	3 credits	Grade:
Total Credits	21 total credits	

Social Sciences Courses – 3 credits

GEOG 010 Planet Earth Users' Guide: An Introduction to Physical Geography or GEOG 101 World Regional Geography	3 credits	Grade:
Total Credits	3 total credits	

Professional Semester Courses – 15 credits

ELED 342 Teaching Writing at the Middle Level	3 credits	Grade:
ELED 344 Teaching & Assessing Social Studies for Middle Level Learners	3 credits	Grade:
ELED 346 Middle Level Cognitive Development	3 credits	Grade:
ELED 347 Teaching & Assessing Math for Middle Level Learners	3 credits	Grade:
ELED 349 Teaching & Assessing Science for Middle Level Learners	3 credits	Grade:
Total Credits	15 total credits	

Clinical Semester Courses – 12 credits

ELED 392 Clinical Experience I with Middle Level	6 credits	Grade:
ELED 393 Clinical Experience II with Middle Level	6 credits	Grade:
Total Credits	12 total credits	

Directed General Education Courses – 39 credits

SPEE 201 Cognitive Development of Diverse Learners in a Standards Aligned System (Category B)	3 credits	Grade:
SPEE 314 Effective Instructional Strategies for Students with Disabilities in Inclusive Settings (Category B)	3 credits	Grade:
SPEE 316 Literacy Development and Instruction in Core and Intervention Areas (Category A4)	3 credits	Grade:
LLTC 321 Technology for the 21st Century Educator (Cat D)	3 credits	Grade:
MATH 103 Fundamentals of Math I (Category C2)	3 credits	Grade:
MATH 104 Fundamentals of Math II (Category C3)	3 credits	Grade:
COMP 100-level course (Category A1)	3 credits	Grade:
COMP 200 Research and Composition (Category A2)	3 credits	Grade:
COMM 010 Fundamentals of Oral Communication (Cat A3)	3 credits	Grade:
BIOL 010 Introduction to Biology (Lab) (Category C1)	3 credits	Grade:
HIST 014 History of Civilization A or HIST 015 History of Civilization B (Category D)	3 credits	Grade:
HIST 025 U.S. Formative Years and the Federal Republic or HIST 026 History of the U.S.: the Emergence of Modern America (Category B)	3 credits	Grade:
ECON 100 Introduction to Economics (Category B)	3 credits	Grade:

Summary of Graduation Requirements

Total credits from major courses	81
Total credits from general education program	42
Total credits from free electives	0
Minimum total credits to graduate	120
Minimum overall GPA	3.0
Minimum GPA in major program	3.0

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4- 8 Mathematics and Science 8-Semester Planner

Student Name:

Student ID Number:

Each semester listed below provides information including course categories, typical credit hours (CH.), and space to add specific course selections. This planner is a suggested path. Consult with your advisor regarding your unique plans and interests as you make choices about your schedule.

First Semester Plan

Gen Ed	COMP 100 (Category A1)	3 CH.	Selection:
Major	GEOL 020	3 CH.	Selection:
Gen Ed	FYSM 100	3 CH.	Selection: FYSM 100 -
Gen Ed	BIOL 010 (Category C1)	3 CH.	Selection:
Gen Ed	MATH 103 (Category C2)	3 CH.	Selection:
Total		15 CH.	

Second Semester Plan

Gen Ed	HIST 025 or HIST 026 (Category B)	3 CH.	Selection:
Gen Ed	ENGL Literature (Category D)	3 CH.	Selection:
Major	CHEM 020	3 CH.	Selection:
Major	MATH 104 (Category C3)	3 CH.	Selection:
Major	MATH 105	3 CH.	Selection:
Total		15 CH.	

Third Semester Plan

Gen Ed	SPEE 201 (Category B)	3 CH.	Selection:
Major	ELED 221	3 CH.	Selection:
Major	EKED 226	3 CH.	Selection:
Major	GEOG 204	3 CH.	Selection:
Major	MATH 040	3 CH.	Selection:
Total		15 CH.	

Fourth Semester Plan

Gen Ed	LLTC 321 (Category D)	3 CH.	Selection:
Gen Ed	SPEE 314 (Category B)	3 CH.	Selection:
Major	BIOL 130	3 CH.	Selection:
Major	ELED 212	3 CH.	Selection:
Major	GEOL 020	3 CH.	Selection:
Major	MATH 106, MATH 115, or MATH 123	3 CH.	Selection:
Total		18 CH.	

Fifth Semester Plan

Gen Ed	COMP 200 (Category A2)	3 CH.	Selection:
Gen Ed	COMM 010 (Category A3)	3 CH.	Selection:
Gen Ed	ECON 100 (Category B)	3 CH.	Selection:
Major	GEOG 010 or GEOG 101	3 CH.	Selection:
Major	MATH 122	3 CH.	Selection:
Major	PHYS 020	3 CH.	Selection:
Total		18 CH.	

Sixth Semester Plan

Gen Ed	SPEE 316 (Category A4)	3 CH.	Selection:
Major	ASTR 020	3 CH.	Selection:
Major	ELED 312	3 CH.	Selection:
Major	ELED 331	3 CH.	Selection:
Major	HIST 014 <i>or</i> HIST 015 (Category D)	3 CH.	Selection:
Major	MATH 140	3 CH.	Selection:
Total		18 CH.	

Seventh Semester Plan

Major	ELED 342	3 CH.	Selection:
Major	ELED 344	3 CH.	Selection:
Major	ELED 346	3 CH.	Selection:
Major	ELED 347	3 CH.	Selection:
Major	ELED 349	3 CH.	Selection:
Total		15 CH.	

Eighth Semester Plan

Major	ELED 392	6 CH.	Selection:
Major	ELED 393	6 CH.	Selection:
Total		12 CH.	

Additional Notes:

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