MATH STUDIES, UPPER LEVEL (B.S.)

https://cps.unh.edu/online/program/bs/math-studies-upper-level

Description

Individuals who complete this program will be eligible for the New Hampshire Department of Education teacher certification in Mathematics (upper level).

This is a field-based program for qualified participants working or volunteering in approved programs or education settings. The key components of this program include mentorship of the teacher candidates by highly skilled professionals in the field, the hands-on experience of working with children in educational settings, and the opportunity to build your teaching capacity over time. Graduates of this program will be eligible for certification and highly qualified in mathematics (upper level).

Requirements

Degree Requirements

Minimum Credit Requirement: 120 credits

Minimum Residency Requirement: 30 credits must be taken at UNH

Minimum Cumulative GPA: 2.0 is required for conferral*

Core Curriculum Required: General Education Program

Major, Option and Elective Requirements as indicated.

**GPA: Major and any state certification GPA requirements may be higher and are indicated in program details.*

A minimum grade of C- is required in all Major coursework. Students are allowed a maximum of two course overlaps. Overlaps can be used between Major, Minor, and General Education requirements with only one overlap being utilized between the Major and Minor. Please note that Option requirements are considered part of the Major. Students must complete 16 upper-level credits in majors within the College of Professional Studies, Online.

General Education Program Requirements

A minimum grade of D- is required in all General Education coursework. Students are allowed a maximum of two course overlaps. Overlaps can be used between Major, Minor and General Education requirements with only one overlap being utilized between the Major and Minor.

All General Education requirements, including CRIT 602 Advanced Critical Analysis and Strategic Thinking and IDIS 601 Interdisciplinary Seminar, must be taken prior to the capstone.

Code	Title	Credits
ENG 420	The Writing Process	4
COM 460	Interpersonal Communication and Group Dynamics	4
COM 480	Visual Communication	4
CRIT 501	Introduction to Critical Inquiry	4
Select one of the following:		4
MTH 402	Math for Our World	
MTH 504	Statistics	
MTH 510	Pre-Calculus	
Knowledge of Human Behavior & Social Systems: PSY 525		4
Knowledge of the Physical & Natural World		4
Knowledge of Human Thought & Expression		4
CRIT 602	Advanced Critical Analysis and Strategic Thinking	4
IDIS 601	Interdisciplinary Seminar	4
Total Credits		**40**

Writing Program Requirements

All bachelor's degree candidates are required to complete four writing intensive courses as part of the University Writing Program Requirements as follows:

Code	Title	Credits
ENG 420	The Writing Process	
One Writing Intensive course in the Major		
One Writing Intensive course at the 600-level or above		
One Additional Writing Intensive Course		

Writing Intensive courses are identified with the label "Writing Intensive Course" in the "Attributes" section of the course description and/or a W following the course number.

Major Requirements

A **minimum GPA of 3.0** is required for state certification.

Prior to capstone enrollment, students are expected to complete the majority of their required major courses along with CRIT 602 Advanced Critical Analysis and Strategic Thinking and IDIS 601 Interdisciplinary Seminar. Students should consult with their advisor regarding specific major courses that may be completed with their capstone. Academic Advisor approval is required for registration to be processed.

Code	Title	Credits
Major in Math Studies, Upper Level		
MTH 504	Statistics	4
MTH 510	Pre-Calculus	4
MTH 702	Mathematical Proof	4
MTH 703	Number Systems	4
MTH 704	Geometric Structures	4
MTH 705	Calculus I	4
MTH 706	History of Mathematics	4
Declaration of Candidacy Form Required [1]		
Praxis Core Academic Skills for Educators Exam Required [2]		
EDC 500	Foundations of Education	4
Introductory Level Education Courses		
EDC 700	Introduction to Field Experience and Program Requirements	1
EDC 717	Managing Student Behavior	4
EDC 731	Aspects of Mathematics Learning	4
Intermediate Level Education Courses		
EDC 732	Reading and Writing in the Mathematics Content Area	4
Advanced Level Education Courses		
EDC 734	Secondary School Mathematics Methods	4
MTH 707	Calculus II	4
MTH 708	Discrete Mathematics	4
MTH 709	Linear Algebra	4
EDC 798	Culminating Teaching Experience and Seminar	4
Total Credits		**65**

1 Required prior to beginning the last 60 credits of degree program
2 Passing Praxis Core Exam scores must be submitted prior to taking EDC 700 Introduction to Field Experience and Program Requirements

Electives

Open electives are courses students will need to take in addition to their general education and major requirements in order to satisfy the remaining credit totals for their programs. Open electives are defined as any credit course offered by the College not already included in the student's general education, major, option or minor. Students will need 120 credits total to graduate with a bachelor's degree from the Online Division of the College of Professional Studies.

State Certification Requirements

The following requirements must be completed in order to be recommended to the state for Teacher Certification:

- A **minimum GPA of 3.0** is required for state certification
- **Praxis Core Academic Skills For Educators Exam required.** Passing Praxis Core Exam scores must be submitted prior to taking EDU 622 Introduction to Field Experience and Program Requirements (1 s.h.)EDU 622 Introduction to Field Experience/Program Requirements (1 s.h.)EDU 622 Introduction to Field Experience/Program Requirements (1 s.h.).
- **Praxis II-Math Content Knowledge Exam** Required. Passing Praxis II Exam Scores must be submitted prior to taking the Culminating Teaching Experience & Seminar.
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Degree Plan

This degree plan is a sample and does not reflect the impact of transfer credit or current course offerings. UNH CPS Online undergraduate students should develop individual academic plans with their academic advisor during their first year at UNH.

Sample Course Sequence

First Year		
Fall		**Credits**
COM 460	Interpersonal Communication and Group Dynamics	4
ENG 420	The Writing Process	4
MTH 402	Math for Our World	4
General Education Course		4
	Credits	**16**
Spring		
COM 480	Visual Communication	4
CRIT 501	Introduction to Critical Inquiry	4
MTH 504	Statistics	4
MTH 510	Pre-Calculus	4
	Credits	**16**
Second Year		
Fall		
MTH 702	Mathematical Proof Nonclinical	4
MTH 703	Number Systems Nonclinical	4
General Education Course		4
Elective		4
	Credits	**16**
Spring		
MTH 704	Geometric Structures Nonclinical	4
PSY 525	Human Development	4
Elective		4
Elective		4
	Credits	**16**
Third Year		
Fall		
CRIT 602	Advanced Critical Analysis and Strategic Thinking	4
IDIS 601	Interdisciplinary Seminar	4
EDC 500	Foundations of Education	4
EDC 700	Introduction to Field Experience and Program Requirements Nonclinical; Complete CHRC Process	1
Elective		4
	Credits	**17**
Spring		
EDC 717	Managing Student Behavior Clinical A	4
EDC 731	Aspects of Mathematics Learning Clinical A	4
MTH 705	Calculus I Nonclinical	4
MTH 706	History of Mathematics Nonclinical	4
	Credits	**16**
Fourth Year		
Fall		
MTH 707	Calculus II Nonclinical	4
MTH 708	Discrete Mathematics Nonclinical	4
EDC 732	Reading and Writing in the Mathematics Content Area Clinical A	4
EDC 734	Secondary School Mathematics Methods Clinical A	4
	Credits	**16**
Spring		
EDC 798	Culminating Teaching Experience and Seminar Clinical A	4
MTH 709	Linear Algebra Nonclinical	4
	Credits	**8**
	Total Credits	**121**

Note: Only 1 Clinical A course allowed per term

Student Learning Outcomes

- Develop a working understanding of current brain research and its implications for teaching and learning.
- Develop the skills to access and utilize technology as a tool to empower teaching and learning.
- Develop a solid understanding of the utilization of formative and summative assessment for program design, monitoring student progress and evaluating teaching effectiveness.
- Work with colleagues to observe, analyze and provide feedback on student progress and teaching effectiveness.

- Utilize research methods and materials, pedagogies and assessment strategies to teach for understanding and application specific to content area.