

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 licensure in Mathematics (upper level).

This program is 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, 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 licensure 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. Some programs may have higher grade requirements for Major coursework as noted in the Major requirements section below. Students are allowed a maximum of two course overlaps. Overlaps can be used between Major, Minor, and General Education requirements with only 8 credits overlapped 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 8 credits overlapped between the Major and Minor.

All General Education requirements 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:		
MTH 402	Math for Our World	4
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 601A	Interdisciplinary Seminar: Being Happy	4
or IDIS 601B	Interdisciplinary Seminar: Business of Beer	
or IDIS 601C	Interdisciplinary Seminar: Paranormal Activities	
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 licensure.

Prior to capstone enrollment, students are expected to complete all General Education program requirements. Students should consult with their advisor regarding specific major courses that may be completed with their capstone. Refer to the Degree Plan for a sample course sequence. 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		
Basic Academic Skills Assessment (BASA) Required ²		
EDC 500	Foundations of Education	4
Introductory Level Education Courses		
EDC 700	Introduction to Clinical Experience	1
EDC 717	Positive Behavior Guidance and Student Engagement	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	Upper Level Mathematics Methods	4
MTH 707	Calculus II	4
MTH 708	Discrete Mathematics	4
MTH 709	Topics in Linear and Abstract 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 BASA scores must be submitted prior to taking EDC 700 Introduction to Clinical Experience

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 Licensure Requirements

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

- A **minimum GPA of 3.0** is required for state licensure
- **Basic Academic Skills Assessment (BASA): Pearson Essential Academic Skills or Praxis Core Academic Skills For Educators Exam** required. Passing BASA Exam scores must be submitted prior to taking EDC 700 Introduction to Clinical Experience.
- **Licensure Exam: Pearson Mathematics (Secondary) exam** required. Students must attempt to pass these exams prior to taking the Culminating Teaching Experience & Seminar. Passing exam scores are required for state licensure.

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 601A or IDIS 601B or IDIS 601C	Interdisciplinary Seminar: Being Happy or Interdisciplinary Seminar: Business of Beer or Interdisciplinary Seminar: Paranormal Activities	4
EDC 500	Foundations of Education	4
EDC 700	Introduction to Clinical Experience Nonclinical; Complete CHRC Process	1
Elective		4
Credits		17
Spring		
EDC 717	Positive Behavior Guidance and Student Engagement 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	Upper Level Mathematics Methods Clinical A	4
Credits		16
Spring		
EDC 798	Culminating Teaching Experience and Seminar Clinical A	4
MTH 709	Topics in Linear and Abstract Algebra Nonclinical	4
Credits		8
Total Credits		121

Note: Only 1 Clinical A course allowed per term

Student Learning Outcomes

Program 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.

Disclosures

Professional Licensure/Certification Disclosures

The University of New Hampshire offers a number of academic programs designed to lead to professional licensure or certification in New Hampshire. However, completing a UNH degree/program does not guarantee professional licensure or certification. Eligibility may also depend on factors like years of work experience, professional examinations, passing a background check, and other criteria.

UNH does not guarantee that its professional licensure programs will satisfy the criteria of professional licensure boards in other states. Some states maintain different requirements for professional licensure or certification and requirements can change frequently. Federal regulations require the University to make public disclosure of certain information regarding professional licensure or certification programs, regardless of the modality the program is offered (i.e., in-person or online). The University provides guidance below but recommends students contact their state/territory licensing or certification board to ensure a program meets specific state/territory requirements.

Visit the Office of the Registrar's [website](#) for information about whether this program meets professional licensure requirements in your state.