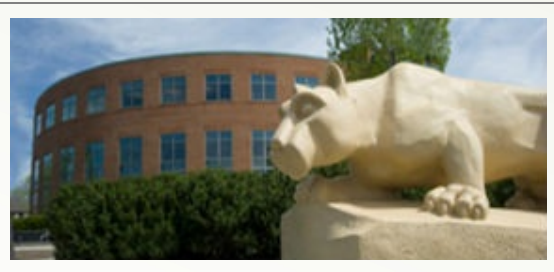


## Certification Program in Secondary Education: Mathematics

The certification program in Secondary Education Mathematics is designed for an individual who holds a baccalaureate degree and wants to become certified to teach mathematics in Pennsylvania secondary schools (grades 7-12). Students who successfully complete the requirements will be recommended for the Secondary Mathematics Instructional I teaching certificate. Course work is required in both mathematics and education. If you are an undergraduate (Bachelor's Degree) student who is interested in becoming an Mathematics teacher, you can do so by enrolling in the [Mathematical Sciences](#) major.



### Contact

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**PennState**  
Harrisburg

**School of Behavioral  
Sciences and Education**



**Certification Program in  
Secondary Education:  
Mathematics**

## Curriculum

### Program Notes

A minimum grade of C is required in all courses for certification; however, a 3.0 grade-point average is required to be eligible for student teaching. In addition, a passing score on the Penn State Harrisburg Mathematics comprehensive exam is required to complete the program.

### Program Requirements

The Mathematics certification program requires students to take mathematics and education courses. All courses required for certification, including an intensive field experience, must be completed with a grade of C or better prior to student teaching. The program requirements are listed on the [Courses page](#). Students should send their undergraduate transcripts to the Certification Officer, Joel Geary, at [jdq24@psu.edu](mailto:jdq24@psu.edu) in order for the program adviser to determine which courses may have already been completed that would satisfy the requirements.

## Testimonials

Attending Penn State Harrisburg has been a wonderful experience rich with opportunities. From my classes, I garnered a strong grasp of pedagogy and a solid understanding of the Mathematics I will be teaching. I feel this is certainly a direct result of the rigor of the program. Moreover, Penn State Harrisburg has provided me with a wealth of professional development, from hosting various speakers to flying with a group of my peers to Los Angeles so that we could attend national conventions. The program has also provided me with ample time to observe and teach in the classroom at various local school districts. From these experiences I know that I am ready to enter the field of education.



Tim Julian

## Courses Overview

### Education Course Requirements

32 Credits Required

- C I 280 (GH) INTRODUCTION TO TEACHING ENGLISH TO ENGLISH LANGUAGE LEARNERS (3).
- EDUC 313 FIELD OBSERVATION/PARTICIPATION (2). Prerequisite: admission into Secondary Teacher Certification Program. Prerequisite or concurrent: EDUC 314
- EDUC 314 LEARNING THEORY AND INSTRUCTION PROCEDURES (3). Prerequisite: admission into Secondary Teacher Certification Program. Prerequisite or concurrent: EDUC 313 (EDUC 313 and EDUC 314 must be taken concurrently.)
- EDUC 315W SOCIAL AND CULTURAL FACTORS IN EDUCATION (3). (Certification students must enroll in section reserved for prospective secondary teachers.) Prerequisite: admission in Elementary Education Major or Secondary Teacher Certification Program
- EDUC 417 TEACHING SECONDARY MATHEMATICS (3). (Offered fall term only). Prerequisite: EDUC 314, EDUC 315W, admission into Secondary Mathematics Certification program
- EDUC 458 BEHAVIOR MANAGEMENT STRATEGIES FOR INCLUSIVE CLASSROOMS (3). Prerequisite: admission to Teacher Education program.
- EDUC 459 STRATEGIES FOR EFFECTIVE TEACHING IN INCLUSIVE CLASSROOMS (3). Prerequisite: admission to Teacher Certification program or Approval of program.
- EDUC 490 STUDENT TEACHING (12). Prerequisite: all other courses required for teacher certification (EDUC 490 and EDUC 435 must be taken concurrently.)

### Mathematics Course Requirements

32 Credits Required

- MATH 140 CALCULUS WITH ANALYTIC GEOMETRY I (4). Prerequisite: MATH 022, MATH 026; or MATH 040 or MATH 041 or satisfactory performance on the mathematics proficiency exam
- MATH 141 CALCULUS WITH ANALYTIC GEOMETRY II (4). Prerequisite: MATH 140, MATH 140A, MATH 140B, or MATH 140H
- MATH 220 MATRICES (2). Prerequisite: MATH 110, MATH 140, or MATH 140H
- MATH 230 CALCULUS AND VECTOR ANALYSIS (4). Prerequisite: MATH 141 or MATH 141H
- STAT 301 STATISTICAL ANALYSIS I (3). Prerequisite: 3 credits of calculus
- MATH 315 FOUNDATIONS OF MATHEMATICS (3). Prerequisite: MATH 141
- MATH 427 FOUNDATIONS OF GEOMETRY (3). Prerequisite: MATH 230 or MATH 231
- MATH 435 BASIC ABSTRACT ALGEBRA (3). Prerequisite: MATH 311W or MATH 315
- MATH 475W INTRODUCTION TO THE HISTORY OF MATHEMATICS (3). Prerequisite: MATH 315 or MATH 311W
- One of the following:
  - MATH 425 INTRODUCTION TO OPERATIONS RESEARCH (3). Prerequisite: MATH 141 and MATH 220
  - MATH 450 MATHEMATICAL MODELING (3). Prerequisite: MATH 315, MATH 430; or MATH 405 or MATH 412

### Computer Science Requirements

3 Credits Required

- CMPS 121 INTRODUCTION TO PROGRAMMING TECHNIQUES (3). Prerequisite: MATH 110 or prerequisite or concurrent MATH 140

For a complete list of courses, [visit the University Bulletin](#).

## Program Requirements for Admission

An applicant must present a baccalaureate degree from an accredited institution with a cumulative grade-point average of 3.0 or higher in the last 60 credits (approximately).

An applicant must obtain [required clearances](#).

**Test Requirements:** Post-baccalaureate applicants do not need to take the Basic Skills tests that are required by Bachelor's degree students; however, all Mathematics certification students must take the Praxis test #5161 prior to earning Pennsylvania certification. [Review this page to see what tests you need to take.](#)

### How to Enroll

Enrollment in this program requires admission to Penn State's Graduate School and to the program in Teaching and Curriculum in the College of Education.

To enroll, complete the online application within the [Graduate School Admissions Portal](#).

- Follow the onscreen instructions to log in.
- Select the appropriate semester of enrollment.
- For *Enrollment Type*, select "Degree Admission." (Certification or Endorsement programs do not award a degree; however, applicants must select "Degree Admission" from the dropdown menu.)
- Answer the question about prior coursework at Penn State and then follow the prompts provided.
- For *Campus*, Choose "Harrisburg" and then select "Teaching and Curriculum" from the *Major* list.
- Select "Pennsylvania Educators Level I Certification" from the *Degree* list. (Applicants who hold PDE Instructional I or II certification already will have their status corrected by PDE.)
- For *Option*, select the appropriate option.
- Choose a semester.

If you experience difficulty using our online application, please contact:  
Janet Althouse [ja25@psu.edu](mailto:ja25@psu.edu) 717-948-6213

### Other Questions

If you have additional questions, please contact Graduate Admissions, 717-948-6250, or the School of Behavioral Sciences and Education, 717-948-6213.