

APPLICATION FORM

PROMYS for Teachers

(Program in Mathematics for Young Scientists)
at Boston University
July 3 - August 11, 2017

Please complete Part I of this form and ask an appropriate administrator to complete Part II. Completed applications may be mailed to: PROMYS, BU Department of Mathematics, 111 Cummington Mall, Room 142, Boston, MA 02215. Or, scan to: demid@bu.edu. Most admissions decisions will be made on a rolling basis until **June 15, 2017**.

Part I (TO BE FILLED OUT BY THE APPLICANT)

1. Your Name _____
(First) (M.I.) (Last)

2. Date of Birth _____ 3. Social Security # _____
(mm/dd/yyyy)

4. (OPTIONAL) Please check:

- | | |
|---|--|
| <input type="checkbox"/> African American | <input type="checkbox"/> Caucasian/White |
| <input type="checkbox"/> American Indian | <input type="checkbox"/> Hispanic/Latino |
| <input type="checkbox"/> Asian/Pacific Islander | <input type="checkbox"/> Other (_____) |

5. Are you taking PROMYS as part of a degree program? Yes No
(If so, please specify.)

6. Where you teach (skip to Question 7 if you are a pre-service teacher):

Your Position _____

Name of School _____

School's Address _____

City, State, and Zip _____

School Telephone Number (_____) _____

Your Email Address at School _____

Type of School: Public Charter Private

Grades in this School (i.e. 7-8, 9-12) _____

7. Your Home Address _____
 City, State, and Zip _____
 Phone (_____) _____ Email Address _____

8. Mailing Address You Prefer: School Home

9. Email Address You Prefer: School Home

10. Name of accompanying student you will recommend (if applicable): _____

11. Employment Record

List professional experiences over the past five years in teaching and/or work related to teaching. Include any positions of leadership you have held. Also include your anticipated position next year.

Dates	Employer	Nature of Activity
Next Year 2017-2018		
Current Year 20____ to present		

12. Certification Status (check the appropriate box(es))

Subject	Initial License, 5-yr	Professional License, 5-yr	Preliminary License, 5-yr	Temporary License, 1-yr
Mathematics				
Computer Science				
Other (specify)				

13. Years of Teaching Experience (not including student teaching):

- a) Elementary School (grades K-5) _____ years, from _____ to _____
- b) Middle School (grades 6-8) _____ years, from _____ to _____
- c) High School (grades 9-12) _____ years, from _____ to _____
- d) Other (specify _____) _____ years, from _____ to _____

14. College or University Education

Name of Institution and Location	Years Attended	Degree(s) Earned	Major Subject(s)	Minor Subject

15. List your college coursework in mathematics, mathematics education, and related STEM fields.

Mathematics

Check One

Descriptive Course Title	Graduate	Undergrad

Mathematics Education

Check One

Descriptive Course Title	Graduate	Undergrad

Other STEM

Check One

Descriptive Course Title	Graduate	Undergrad

16. On a separate page(s), please write an autobiography of your life experiences with mathematics. Describe how your experiences have affected your answers to each of the following questions:

- (a) What is your definition of mathematics? What does it mean for you to *do* mathematics?
- (b) What is your philosophy of teaching mathematics?

17. Discuss your reasons for wishing to participate in PROMYS for Teachers this summer.
(Attach a separate sheet if needed.)

18. Please tell us how you learned about PROMYS.

Applicant's Signature _____ Date _____

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Part II (Supporting Document)

This section should be completed by an appropriate administrator at the applicant's school. Mail completed applications to: PROMYS, Boston University Department of Mathematics, 111 Cummington Mall, Room 142, Boston, MA 02215. Or, scan to: demid@bu.edu. Most admissions decisions will be made on a rolling basis until **June 15, 2017**.

1. Information about the Applicant and the School

Applicant's Name _____
(First) (M.I.) (Last)

Name of School _____

School Address _____

City, State, and Zip _____

Telephone Number (_____) _____ Website _____

Type of School: Public Charter Private

Grades in this School (i.e. 9-12, 10-12) _____

List the mathematics, computer science, and other STEM courses in your curriculum, together with their usual enrollment. Attach a separate sheet if necessary.

PROMYS for Teachers

An Immersion in Mathematics for Secondary Teachers

Purpose of PROMYS for Teachers

PROMYS for Teachers (PFT) is designed to support current efforts across the US to enhance problem solving and open-ended exploration in secondary school mathematics classrooms. PFT engages middle and high school teachers in an intensive experience of mathematical exploration. Over the course of six weeks during the summer at Boston University, PROMYS teachers develop, through problem solving, many classical results in Number Theory. Their experience is enriched by a supportive community of other teachers, PROMYS high school students, graduate students, and research faculty. PFT fosters new insights into the nature of mathematical investigation as participants practice the habits of mind at the core of creative mathematics. Workshops during the school year help teachers to translate the summer experience into fundamental change in their own classrooms.

The Common Core State Standards for Mathematics (CCSSM) calls for exactly the kind of exploration that PROMYS provides – a shift away from solving routine problems to *problem solving* as the focus of mathematics programs. Indeed, one of CCSSM's guiding principles is that students should *explore mathematical ideas* in ways that help them maintain their enjoyment of and curiosity about mathematics. Accordingly, PROMYS participants are asked to work *beyond their centers of competence* and to push the limits of their knowledge. The PROMYS community provides a rich support network so that teachers can spend time as mathematics learners in a safe and supportive environment.

Components of the PFT Program

PROMYS for Teachers consists of three major components: 1) in the summer of 2017, new teachers will come to Boston University for an intensive six-week experience of exploring deep mathematical ideas, focused primarily on Number Theory; 2) during the school year 2017-2018, these teachers will attend up to five workshops at Education Development Center (EDC) in Waltham to discuss and support exploration-based activities they are using in their classrooms; and, 3) in the summer of 2018, teachers have the option of returning to PROMYS for a second six weeks of more advanced mathematical activities.

A Typical Day at PFT (Monday - Friday, 9 A.M. - 5 P.M.)

A typical day in the summer program begins with a morning lecture attended by all PROMYS participants – teachers and high school students, first year and returning participants alike. PFT teachers then retreat to their own space to work collaboratively on daily problem sets. Counselors – graduate students in mathematics, research mathematicians, and previous PROMYS participants – serve as mentors and resources for the teachers. Participants' written work on problem sets is reviewed by the counselor staff each evening and returned the next morning with comments. Weekly problems sessions run by PROMYS staff help teachers pull together threads of ideas from the problem sets and focus on the big ideas.

Second-year participants: Twice weekly, returning teachers meet with their small research group (usually two teachers and a counselor) in the exploration labs. In the fifth week, each research group submits written reports of their work and gives an oral presentation summarizing their results to the rest of the program.

A Typical PFT Follow-Up Workshop

During the academic year, PROMYS teachers attend up to five full-day workshops offered jointly by Education Development Center in Waltham and Boston University's Department of Mathematics. These seminars are designed to help teachers "unpack" the pedagogical approaches used in PROMYS to enrich the school curricula. Another important goal of the workshops is to establish an ongoing network of teachers, mathematics educators, and research mathematicians. Typical agenda items include:

- A few teacher volunteers share experiences, activities, and student work from their classrooms.
- The whole group works together on some mathematics inspired by topics in the secondary curriculum.
- Teachers collaboratively plan lessons, inspired by their mathematics research experience in PROMYS, working in the style of Japanese Lesson Study groups.

History of PROMYS (Program for Mathematics for Young Scientists)

PROMYS has existed for nearly three decades at Boston University, engaging mathematically inclined high school students from the US and around the globe in the process of mathematical exploration on unusually challenging problems in Number Theory. It was founded in 1989, by Professor Glenn Stevens and other alumni of the famous Ross Young Scholars Program, which is still running successfully at the Ohio State University in Columbus. PROMYS has adapted aspects of the Ross Program to the BU environment, and has introduced strategies for the discovery of bright and eager young students from all backgrounds. Since 1991, PROMYS has also worked with pre-service and in-service secondary school mathematics teachers. In 2015, PROMYS Europe was founded at the University of Oxford in England.

Accompanying Student

Each teacher participant is invited to recommend a high school student to the PROMYS program. The student may be admitted to PROMYS through the usual high school admissions process. Students are admitted only for the summer of 2017. However, it is possible that students will be invited to return for a second summer to engage in advanced PROMYS activities designed especially for them.

Dates of the Program

The 2017 summer component will be held from July 3 to August 11. The five academic year workshops will be held approximately once a month at EDC from September 2017 through April 2018. The dates for the summer component in 2018 are not yet definite.

Stipends

Teacher participants will receive a stipend of \$1,200 for their participation in the six-week summer component in 2017.

Graduate Credits

Teacher participants will receive 8 graduate credits in mathematics from Boston University for their participation in the summer component of 2017. An additional 6 graduate credits (4 in mathematics education and 2 in mathematics) will be awarded for the summer of 2018. Assessment for the summer program is based on participants' work on the daily problem sets and on the results of a midterm exam and a final exam.

Sponsors

PROMYS gratefully acknowledges the financial support of its sponsors: Boston University, PROMYS Foundation, the National Science Foundation, the Noyce Foundation, Math for America Boston, and many generous private contributions from alumni and friends.

Application Information

Applications to the program will be accepted through June 1, 2017. Admissions will be conducted on a rolling basis beginning in February 2017. Completed applications should be mailed to PROMYS, Boston University Department of Mathematics, 111 Cummington Mall, Room 142, Boston, MA 02215. For more information call (617) 358-2388 or email demid@bu.edu. Visit the PROMYS website <http://www.promys.org>.

PROMYS for Teachers At-A-Glance

Summer Sessions

First Summer:

- 6 weeks (July 3 to August 11, 2017) of an immersion experience in mathematics, run by Boston University's Department of Mathematics
- Focus on Number Theory, working on problem sets with other teachers and with the help of PROMYS counselors
- Teachers receive a stipend of \$1,200 in addition to eight graduate credits in mathematics for participation in the first summer.

Second Summer:

- Returning teachers take other graduate-level courses as well as the opportunity to revisit Number Theory, filling in the missing pieces and serving as a mentor to the first-year teachers.
- Teachers receive a stipend of \$1,200 and six graduate credits (four in mathematics education and two in mathematics) for participation in the second summer.

Academic Year Sessions

- Up to 5 full-day workshops jointly run by Education Development Center and BU's Department of Mathematics
- Focus on pedagogy and connecting the PFT immersion experience in mathematics back to the classroom
- Teachers explore mathematics inspired by the secondary curriculum and collaboratively plan lessons.