



## **MATHEMATICS EDUCATION (K-12)**

### **Five-Year Teacher Education Program**

Revised April, 2024 -- For students earning a bachelor's degree in May, 2025 or later

Students who complete this program successfully will receive an Ed.M. in Mathematics Education from the GSE as well as a recommendation to the New Jersey Department of Education for **Teacher of Mathematics( K-12) Certificate of Eligibility with Advanced Standing (CEAS)**.

- I. PROGRAM DESCRIPTION:** The five-year teacher education program in mathematics education (K-12) leads to a bachelor's degree, a master's degree, and initial teacher certification. Rutgers undergraduates do preliminary coursework and field placements as assigned during the sophomore and junior years, are admitted to the program during the spring semester of the junior year, and enter the professional education sequence in the summer between junior and senior years. Students then qualify to have their bachelor's degree awarded by the undergraduate liberal arts college.

Students continue with the professional sequence the summer after graduation. They return in the fall to complete a student-teaching internship with related coursework and continue with full-time graduate study, including a field-based research project, in the spring. The Ed.M. degree is conferred upon the completion of all five-year program requirements.

After the master's degree is awarded, the GSE will make a recommendation to the New Jersey State Department of Education on behalf of the student to receive a CEAS as a teacher.

- II. MAJOR:** Every candidate for certification in Mathematics Education must complete at least 30 credits in mathematics, computer science, and statistics, including: calculus III, linear algebra, probability/statistics, and computer science. A minimum of twelve credits must be at the 300 or 400 level.

- III. APPLICATION REQUIREMENTS:** To be considered for admission to the program, applicants must provide the following before the application deadline:

1. Personal statement
2. One letter of recommendation
3. Passing Praxis Core test scores **or** one of the following:
  - a. SAT: greater than 50<sup>th</sup> SAT User Percentile in both Math and Evidence-Based Reading and Writing
  - b. ACT: greater than 50<sup>th</sup> percentile in both Math and English
  - c. GRE: greater than 50<sup>th</sup> percentile in both Verbal and Quantitative Reasoning(Any test scores submitted must be less than five years old at the time of the application deadline. Scores must be official, not self-reported.)
4. Official undergraduate transcripts - the New Jersey Department of Education requires a minimum GPA of **2.75** to be admitted to a teacher education program.

Praxis Core – see [ets.org/test/5752.html](https://ets.org/test/5752.html)  
Combined test code: 5752  
Reading: 5713, minimum score 156/200  
Writing: 5723, minimum score 162/200  
Math: 5733, minimum score 150/200

(NOTE: Admission to the GSE Teacher Education Programs is competitive. Meeting the minimum requirements above does not guarantee admission.)

**IV. HOW TO APPLY:** Applications are submitted online at the Graduate Admissions website:

<http://gradstudy.rutgers.edu/>

1. Click on "Create Account or Login" and follow the instructions given.
2. Under "Start an application today!", click **Apply Now**  
Application Selection
3. For "Level of Application", select **Graduate**
4. For "Applicant Type", select **Degree**
5. Continue filling out the application, following the on-screen instructions.  
Program of Study
6. Under "Program Information", make sure **Degree** is selected for "Applicant Type"
7. For "Degree Type", select **Master's (e.g. MA, MS, EdM, MFA)**
8. For "Area of Study", select **Education**
9. For "Location/Instructional Method", select **New Brunswick**
10. For "Program Selection", select **Education - Mathematics - 5 Year (EDM) New Brunswick**
11. For "Term", select the summer semester after your May undergraduate graduation date.
12. Complete the rest of the application by providing the requested information.
13. Enter payment information for the non-refundable application fee.
14. Submit your application.

**V. GENERAL EDUCATION REQUIREMENTS:** Students must complete coursework in each of the following areas by completion of the program; fulfillment of these courses is not required for admission into the program. It is highly recommended that you coordinate the elements of this list with those of the general distribution requirements of your undergraduate college to make the most efficient use of your time.

| General Education Requirements   | Course Number—Course Title—Term/Year—Grade |
|--|--|
| <b>1. Math: two courses</b><br>Follow SAS Core Quantitative and Formal Reasoning requirement (QQ, QR)  | <b>1a.</b> _____<br><b>1b.</b> _____       |
| <b>2. Science: two courses</b><br>Follow SAS Core Natural Science requirement  | <b>2a.</b> _____<br><b>2b.</b> _____       |
| <b>3. Educational Technology: one course</b><br>05:300:350 Education and Computers <b>or</b><br>15:255:503 Introduction to Teaching with Digital Tools | <b>3.</b> _____                            |
| <b>4. Human Development: one course</b><br>05:300:307 Human Development: Birth through the Transition to Adulthood                                     | <b>4.</b> _____                            |

**VI. LIBERAL ARTS:** Students must complete a minimum of **60 credits** in liberal arts to earn the master's degree. Neither Education courses, nor any other performance-based or vocationally-oriented coursework (accounting, engineering, human resource management, public health, social work, etc.) may be counted toward the 60 liberal arts credits; no School 05, School 15, or E-credit courses may be included.

**VII. GSE COMMUNITY-SCHOOL PARTNERSHIP NETWORK (GSE-CSPN):** All field experiences will take place in a GSE-CSPN school.

**VIII. HIB TRAINING:** All candidates for teacher certification must complete pre-service training in the prevention of harassment, intimidation, and bullying (HIB) prior to Clinical Practice II.

**IX. PROFESSIONAL EDUCATION REQUIREMENTS: Mathematics Education Five Year Teacher Education Program**

| Phase/<br>Semester                                     | Course<br>Number        | Course Name   | Credits        |      |       |
|--|-------------------------|---|----------------|------|-------|
|  |                         |   | Under-<br>grad | Grad | Total |
| <b>Pre-Admission</b><br>Sophomore<br>or Junior<br>Year | 05:300:200              | Introduction to Education                                       | 3              |      | 12.5  |
|  | 05:300:201              | Introduction to Education Field Based Lab - Clinical Experience | .5             |      |       |
|  | 05:300:306              | Educational Psychology: Principles of Classroom Learning        | 3              |      |       |
|  | 05:300:341              | High School Mathematics Content: Teaching and Assessment        | 3              |      |       |
|  | 05:300:342              | Supervised Undergraduate Tutoring in Mathematics                | 3              |      |       |
| <b>Phase 1</b><br>Summer<br>before Senior<br>Year      | n/a                     | Working with Minors Online Training                             | NC             |      | 0     |
|  | n/a                     | School Law Module   | NC             |      |       |
| <b>Phase 1</b><br>Senior Fall                          | 05:300:498              | Clinical Experience Phase 1                                     | .5             |      | 6.5   |
|  | 05:300:450              | Urban Education 1   | 1.5            |      |       |
|  | 05:300:452              | Teaching Emerging Bilinguals in PK-12 Classrooms 1              | 1.5            |      |       |
|  | 05:300:442              | Mathematical Practices: Doing and Teaching Mathematics          | 3              |      |       |
| <b>Phase 2</b><br>Senior Spring                        | 05:300:499              | Clinical Practice Phase 2                                       | 4              |      | 13    |
|  | 05:300:451              | Urban Education 2   | 1.5            |      |       |
|  | 05:300:453              | Teaching Emerging Bilinguals in PK-12 Classrooms 2              | 1.5            |      |       |
|  | 05:300:443              | Methods of Teaching and Assessing Secondary Mathematics         | 3              |      |       |
|  | 15:254:548              | Technology in Mathematics Teaching                              | 3              |      |       |
| <b>Phase 3</b><br>Fifth Year<br>Summer                 | 15:293:534              | Classroom Organization for Inclusive and Special Classrooms     |                | 3    | 3     |
| <b>Phase 3</b><br>Fifth Year Fall                      | 15:255:535              | Clinical Practice Phase 3                                       |                | 9    | 15    |
|  | 15:255:532              | Clinical Practice Phase 3 Seminar                               |                | 6    |       |
| <b>Phase 4</b><br>Fifth Year<br>Spring                 | 05:300:406 <sup>G</sup> | Community-Based Language Learning; <b>or</b>                    |                | 3    | 12    |
|  | 15:253:540              | Teaching English Language Learners; <b>or</b>                   |                |      |       |
|  | 15:255:539              | Students, Communities, and Social Justice                       |                |      |       |
|  | 15:293:523              | Inclusive Teaching in Education                                 |                | 3    |       |
|  | 15:254:540              | Understanding School-Aged Students' Mathematical Learning       |                | 3    |       |
|  | 15:254:551              | Critical Thinking and Reasoning in Mathematics                  |                | 3    |       |
| <b>Total Credits</b>                                   |                         |   | 32             | 30   | 62    |

<sup>G</sup> Course must be 300-level or above to count towards graduate credits. 300- and 400-level courses must be registered for with a **G-prefix**.

- X. PRAXIS II TESTS:** Students seeking certification in mathematics must achieve a passing score on the Mathematics: Content Knowledge Praxis II examination (code 5165). **Students must pass the Praxis II prior to the start of full-time Clinical Practice Phase 3.**
- XI. PERFORMANCE-BASED ASSESSMENT (PBA):** All candidates must pass a designated performance-based assessment during the Clinical Practice Phase 3.
- XII. PHYSIOLOGY, HYGIENE, AND SUBSTANCE ABUSE ISSUES:** The Office of Student and Academic Services administers this New Jersey Department of Education exam during the final semester of the program.

## New Jersey Certification Options

| <b>Bilingual/Bicultural Teacher</b>  | <b>English as a Second Language</b>  | <b>Bilingual/Bicultural &amp; ESL</b>  | <b>Teacher of Students with Disabilities</b>                           | <b>Preschool through Grade 3</b>  |
|--|--|--|--|---|
| 12 credits - ONLINE  | 15 credits - ONLINE  | 18 credits - ONLINE  | 21 credits - ONLINE  | 24 credits  |
| 15:253:522 Bilingual-Bicultural Ed   | 15:253:523 Language and Culture  | 15:253:522 Bilingual-Bicultural Ed   | 05:300:383 Intro to Special Ed   | 05:300:304 Art Across the Curriculum  |
| 15:253:520 Principles of Language Learning: Second and World Language Acquisition  | 15:253:520 Principles of Language Learning: Second and World Language Acquisition  | 15:253:520 Principles of Language Learning: Second and World Language Acquisition  | 15:293:523 Inclusive Teaching in Education                             | 05:300:410 Learning and Development in a Social Context: Preschool and Primary Years                          |
| 15:253:530 Foundations of Language   | 15:253:530 Foundations of Language   | 15:253:530 Foundations of Language   | 15:299:516 Literacy Development in the Elementary and Middle School    | 15:251:574 Integrated Curriculum with Young Children  |
| 05:300:452 and 05:300:453 Teaching Emerging Bilinguals in PK-12 Classrooms 1 and 2 | 05:300:452 and 05:300:453 Teaching Emerging Bilinguals in PK-12 Classrooms 1 and 2 | 05:300:452 and 05:300:453 Teaching Emerging Bilinguals in PK-12 Classrooms 1 and 2 | 05:300:480 Literacy for Students with Disabilities                     | 15:251:581 Early Childhood Curriculum and Assessment  |
|  | 15:253:539 Methods for Teaching and Assessing English Language Learners            | 15:253:539 Methods for Teaching and Assessing English Language Learners            | 15:293:522 Learning Disabilities                                       | 15:253:540 or 15:255:539 Teaching English Language Learners or Students, Communities, and Social Justice      |
|  |  | 15:253:523 Language and Culture  | 15:293:533 Assessment and Measurement for Special Education            | 15:295:521 Child, Family, and Community: Relationships in Development   |
|  |  |  | 15:293:534 Classroom Organization for Inclusive and Special Classrooms | 15:295:522 Cognition and Language Birth to Age 8: Normal Development and Implications for Risk and Disability |
| <i>Demonstrated proficiency in an additional language required</i>                 | <i>Demonstrated proficiency in English required</i>                                | <i>Demonstrated proficiency in English and an additional language required</i>     | <i>Not available to students in ESL-only programs</i>                  | 15:299:514 Literacy Development in the Early Years  |

## Rutgers Professional Certificate Options

| <b>Educational Technology</b>                          | <b>Gifted Education</b>  | <b>Maker Education</b>   |
|--|--|--|
| 9 credits - ONLINE                                     | 15 credits - ONLINE  | 15 credits   |
| 15:255:503 Introduction to Teaching with Digital Tools | 15:294:531 (OR 05:300:320) The Gifted Child                                      | 15:290:553 Developing a Maker Mindset                                  |
| 15:255:504 Web-Based Multimedia Design for Educators   | 15:294:532 (or 05:300:322) The Social & Emotional Development of Gifted Children | 15:290:554 Designing/Facilitating Maker-Centered Learning Environments |
| 15:255:506 Developing Digital e-Learning Environment   | 15:294:533 Curriculum & Instruction for the Gifted                               | 15:290:556 Introduction to Design Thinking                             |
|  | 15:294:534 Gifted Program Development  | 15:290:555 Makerspace Safety and Emergency Lab                         |
|  | 15:294:535 Clinical Placement and Practicum                                      | 15:290:559 Maker Education Capstone                                    |

**Consider starting an additional state licensure program and/or a Rutgers certificate program while working on your master's degree requirements. In consultation with your advisor, you may consider taking courses from these areas in place of your graduate-level elective(s).\***

You must complete an application form and obtain a signature from your faculty advisor prior to the final semester of the program. The application forms are available in the Office of Student and Academic Services or by emailing Marie Pavelchak at: [marie.pavelchak@gse.rutgers.edu](mailto:marie.pavelchak@gse.rutgers.edu). Some programs require licensure exams for admission and/or certification recommendation.

These programs do not lead to a degree of any kind.

It is your responsibility to enroll in all of the required courses through Rutgers University. No program requirements may be met at any other institution. You are expected to maintain a "B" or better average in the non-degree coursework.

After completing all of the required courses in a NJ certification program, you should contact Ken Tufo in the Office of Student and Academic Services for instructions on applying for the state endorsement. Please note that you cannot obtain an endorsement until you complete the initial teacher certification. After completing all of the required courses in a GSE certificate program, you contact Marie Pavelchak to obtain your completion certificate.

\*Not all courses are available to five-year students during their senior year. You may not be able to complete these programs until after you earn your master's degree. Please email [ken.tufo@gse.rutgers.edu](mailto:ken.tufo@gse.rutgers.edu) for specifics.