RUTGERS–NEW BRUNSWICK
Graduate School of Education

Advancing Excellence and Equity in Education

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ED.M. IN SCIENCE EDUCATION WITH INITIAL CERTIFICATION: BIOLOGICAL SCIENCE K-12 TEACHING (4+1)

Revised Summer, 2024 -- For students earning a bachelor's degree in May, 2026 or later

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

I. PROGRAM DESCRIPTION: The Ed.M. in Science Education with Biological Science initial certification program is designed for Rutgers undergraduate students who wish to teach biology or biological science in grades K-12. This program provides undergraduates with an opportunity to earn their bachelor's degree, a master's degree, and an initial teacher certification with just one additional year of study. Rutgers undergraduates do preliminary coursework as advised during the first three undergraduate years, including undergraduate coursework in biological science or a closely related field. They are admitted to the program during the spring semester of junior year and enter the professional education sequence during senior year. After students are awarded a bachelor's degree by the undergraduate college, they continue with the professional sequence for a fifth year of full-time graduate study at the GSE.

Upon completion of all program requirements, students earn an Ed.M. in Science and the GSE will make a nomination to the New Jersey Department of Education on behalf of the student to receive a Certificate of Eligibility with Advanced Standing (CEAS) in Teacher of Biological Science (K-12).

The Ed.M. in Science Education with Initial Certification in Biological Science K-12 Teaching (4+1) program offers a range of foundational and specialized topics in biological science education using a cohort model. Students deepen their understanding of the learning and teaching of biological sciences with a focus on inquiry-based teaching aligned with the Next Generation Science Standards (NGSS). The program curriculum provides students with exposure to fundamental courses related to education including the Urban Social Justice Core classes, as well as program-specific coursework related to teaching biology at the middle and high school levels.

In alignment with the GSE's mission, all teacher preparation programs and courses are designed to prepare teacher candidates to be culturally responsive practitioners and effectively teach diverse learners by fostering a deep understanding of students from historically underserved linguistic, economic, and cultural backgrounds and communities. Pedagogy courses aimed at meeting the specific learning needs of middle and high school students, along with carefully crafted internships under the guidance of experienced teachers and expert faculty providing feedback, ensure that candidates are well-prepared as teachers to advance equity and excellence in their content area.

II. MAJOR: Every candidate for certification in Biological Science Education must complete a full major in a life science (animal science, biotechnology, biological science, cell biology and neuroscience, ecology and natural resources, environmental science [life science option], food science, genetics and microbiology, marine science [life science option], molecular biology, nutritional sciences, plant science, physiology). Regardless of the major chosen, at least 30 credits of coursework in the life sciences must be included.

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. Official undergraduate transcripts - the New Jersey Department of Education requires a minimum GPA of 2.75 to be admitted to a teacher education program.

(NOTE: Praxis Core, SAT, GRE, ACT or other basic skills exams are no longer required as of January 1, 2025. 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: https://newbrunswickgrad.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 - Science - 5 Year (EDM) New Brunswick**
    Program Details
11. For "First Preference Concentration", select **Biological Science Certification**. (2nd and 3rd preferences can be left blank.)
12. For "Term", select the summer semester after your May undergraduate graduation date.
13. Complete the rest of the application by providing the requested information.
14. Enter payment information for the non-refundable application fee.
15. 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. Courses should be selected in conjunction with the undergraduate program advisor.

Some of these requirements may be taken during the fifth year as a graduate elective as noted below.

General Education Requirements
1. Math: two courses (Follow SAS/SEBS Core Quantitative and Formal Reasoning requirement (QQ, QR)
2. Science: two courses (Follow SAS/SEBS Core Natural Sciences requirement)
3. Educational Technology 15:256:561 Demonstrations and Technology in Life Science (take in Phase 4)
4. Human Development: one course (Course may be used to fulfill one elective requirement if taken in the fifth year) 05:300:306 Educational Psychology: Principles of Classroom Learning **or** 05:300:307 Human Development: Birth Through the Transition to Adulthood

VI. PRE-ADMISSION REQUIREMENTS

Course Number	Course Name
05:300:368	Introduction to Teaching in Urban Schools & Communities

VII. PROFESSIONAL EDUCATION REQUIREMENTS

Course Number	Course Name	Credits
Phase 1 Summer (0 credits)		
n/a	Working with Minors	0
n/a	School Law	0
Phase 1 Fall 1 (7 credits)		
05:300:498	Clinical Experience Phase 1	1.0
15:253:512	Teaching Emerging Bilinguals in PK-12 Classrooms	3.0
15:256:550	Biology and Society	3.0
Phase 2 Spring 1 (9 credits)		
05:300:499	Clinical Practice Phase 2	3.0
15:293:534	Classroom Organization for Inclusive and Special Classrooms	3.0
15:256:553	Teaching and Assessment in Life Science	3.0
	Undergraduate Total:	**16.0**

Course Number	Course Name	Credits
Phase 3 Summer 2 (3 credits)		
	Elective	3.0
Phase 3 Fall 2 (12 credits)		
15:255:535	Clinical Practice Phase 3	9.0
15:255:532	Clinical Practice Phase 3 Seminar	3.0
Phase 4 Spring 2 (15 credits)		
15:255:539 **or** 15:253:522 **or** 15:253:523 **or** 15:253:539 **or** 15:293:539 **or** 05:300:406[G]	Students, Communities, and Social Justice **or** Bilingual-Bicultural Education **or** Language and Culture **or** Methods of Teaching and Assessing English Language Learners (TELL) **or** Students with Disabilities, Schools, and Social Justice **or** Community-Based Language Learning (CBLL)	3.0
15:293:523	Inclusive Teaching in Education	3.0
15:256:561	Demonstrations and Technology in Life Science	3.0
	Elective	3.0
	Elective	3.0
	Graduate Total:	**30.0**
	TOTAL CREDITS:	**46.0**

[G] Course must be 300-level or above to count towards graduate credits. 300- and 400-level courses must be registered with a **G-prefix**.

Additional Program Completion Requirements

VIII. PRAXIS II TESTS: Students seeking certification in biological sciences must achieve passing scores on the Biology: Content Knowledge (test code 0235/5235) and General Science: Content Knowledge (test code 0435/5435) Praxis II examinations. **Students must pass both tests prior to the start of full-time Clinical Practice Phase 3.**

IX. PERFORMANCE-BASED ASSESSMENT (PBA): All candidates must pass a designated performance-based assessment during Clinical Practice Phase 3.

X. 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.