RUTGERS
Graduate School of Education

*Advancing Excellence and Equity in Education*

Office of Student and Academic Services
Graduate School of Education
Rutgers University--New Brunswick
10 Seminary Place
New Brunswick, NJ 08901-1183

www.gse.rutgers.edu
academic.services@gse.rutgers.edu
p. 848-932-3232
f. 732-932-8206

# BIOLOGICAL SCIENCE EDUCATION (K-12)

**Five-Year Teacher Education Program**

Revised August, 2016 -- For students earning a bachelor's degree in May, 2018 or later

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

**I. PROGRAM DESCRIPTION**: The five-year teacher education program in biological science education (K-12) leads to a bachelor's degree, a master's degree, and initial teacher certification in science education. 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.

The program has four major goals:

1. To help students develop a view of science as a knowledge building enterprise and understand the scientific practices associated with scientific inquiry.
2. To help students learn pedagogical content knowledge of biological sciences, i.e., content specific teaching methods in these disciplines.
3. To familiarize students with current state and national standards in life science education.
4. To provide students with the knowledge and skills of integrating technology into biological science instruction.

**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 February 1st deadline:

1. Personal statement
2. Three letters of recommendation
3. Passing Praxis Core test scores
   a. **or**, minimum SAT scores of:
      i. 560 Reading, 540 Math (if taken 2/28/16 or earlier) or
      ii. 610 Reading & Writing or 30 Reading, 570 Math (if taken on or after 3/1/16)
   b. **or**, minimum ACT scores of: 23 English, 23 Math
   c. **or**, minimum GRE scores of: 155 Verbal, 156 Quantitative

Praxis Core – see **ets.org/praxis/about/core**
Combined test code: 5752
Reading: 5713, minimum score 156/200
Writing: 5723, minimum score 162/200
Math: 5733, minimum score 150/200
*NOTE: Praxis Core test codes were updated on 9/1/19. Passing test scores taken before 9/1/19 are still valid.*

(Any test scores submitted must be less than five years old as of the application deadline. Scores must be official, not self-reported.)

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

*(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 "Apply Now" and follow the instructions given.
2. Choose "Degree Application", for Application Type.
3. For Program Name choose "Education: Science" from the drop down menu.
4. Across from "Education: Science 5-Year Program 15256T", click the link for the Summer semester.
5. For Enrollment Year, select the year when you'll be graduating with your bachelor's degree. For example, if you will be graduating with your bachelor's degree in May 2021, you should apply for Summer 2021.
6. Under First Preference Concentration, choose "Biological Science Certification". (2nd and 3rd preferences can be left blank.)
7. Complete the application by providing the requested information.
8. Supporting materials must be submitted online or mailed to the Graduate Admissions office at Office of Graduate and Professional Admissions (New Brunswick), Rutgers, The State University of New Jersey, 56 Bevier Road, ASB Annex I, Piscataway, NJ 08854, U.S.A.
9. Enter payment information for the non-refundable application fee.
10. Submit your application and authorize payment for the non-refundable application fee.

**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 |
|---|---|
| **1. Math: two courses** | |
| Follow SAS Core Quantitative and Formal Reasoning requirement (QQ, QR) | **1a.** _____ |
| | **1b.** _____ |
| **2. Science: two courses** | |
| Follow SAS Core Natural Science requirement | **2a.** _____ |
| | **2b.** _____ |
| **3. Educational Technology: one course** | |
| 05:300:462 Demonstrations and Technology in Science Teaching (see professional sequence Phase 4 below) | **3.** _____ |
| **4. Human Development: one course** | |
| 05:300:307 Human Development: Birth through the Transition to Adulthood | **4.** _____ |

**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. PORTFOLIO:** Students will archive artifacts from various GSE courses via an online instructional and evaluation system as directed by faculty. Details of this portfolio are specified in the *Student Policy and Procedures Handbook*.

**VIII. PROFESSIONAL EDUCATION REQUIREMENTS: Biological Science Education Five Year Teacher Education Program**

| Phase/ Semester | Course Number | Course Name | Credits | | |
|---|---|---|---|---|---|
| | | | Under-grad | Grad | Total |
| **Pre-Admission** Sophomore or Junior Year | 05:300:200 | Introduction to Education | 3 | | 6.5 |
| | 05:300:201 | Introduction to Education Field Based Lab - Clinical Experience | .5 | | |
| | 05:300:306 | Educational Psychology: Principles of Classroom Learning | 3 | | |
| **Phase 1** Summer before Senior Year | n/a | Working with Minors Online Training | NC | | 0 |
| | n/a | School Law Module | NC | | |
| **Phase 1** 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 | | |
| | 11:300:450 | Biology and Society | 3 | | |
| **Phase 2** Senior Spring | 05:300:499 | Clinical Practice Phase 2 | 4 | | 10 |
| | 05:300:451 | Urban Education 2 | 1.5 | | |
| | 05:300:453 | Teaching Emerging Bilinguals in PK-12 Classrooms 2 | 1.5 | | |
| | 11:300:453<br>15:256:553 | Teaching Life Science **or**<br>Teaching and Assessment in Life Science | 3 | | |
| **Phase 3** Fifth Year Summer | 15:293:534 | Classroom Organization for Inclusive and Special Classrooms | | 3 | 6 |
| | Grad level[G] | Elective | | 3 | |
| **Phase 3** Fifth Year Fall | 15:255:535 | Clinical Practice Phase 3 | | 9 | 15 |
| | 15:255:532 | Clinical Practice Phase 3 Seminar | | 6 | |
| **Phase 4** Fifth Year Spring | 05:300:406[G]<br>15:253:540<br>15:255:539 | Community-Based Language Learning; **or**<br>Teaching English Language Learners; **or**<br>Students, Communities, and Social Justice | | 3 | 12 |
| | 05:300:462[G] | Demonstrations and Technology in Science Teaching (Biology) | | 3 | |
| | 15:293:523 | Inclusive Teaching in Education | | 3 | |
| | Grad level[G] | Elective | | 3 | |
| | | **Total Credits** | 20 | 36 | 56 |

[G] 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**.

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

**X. 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.

**XI. 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.**

**XII. edTPA PERFORMANCE BASED ASSESSMENT:** Students must pass a performance based assessment of their teaching practice during the full-time Clinical Practice II semester. Details of this assessment are specified in the *Student Policy and Procedures Handbook*.

**XIII. 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.