

# SCIENCE CERTIFICATE IN BIOLOGICAL SCIENCE, CHEMISTRY, EARTH SCIENCE, PHYSICAL SCIENCE, &/OR PHYSICS

## Program Overview

This Post-Baccalaureate Teacher Certification Program in Science (K-12) is designed for college graduates seeking initial teacher certification in the subject areas of one or more of the scientific disciplines (Biological Science, Chemistry, Earth Science, Physical Science, and/or Physics). The streamlined yet rigorous program of professional teacher preparation studies combines theory, research, field experience, and practice. It is designed for part-time students who take one or two late afternoon/evening courses per semester. The clinical experience (student teaching and seminar) at the end of the program requires full-time enrollment for one semester.

The course work in this program may be applied toward completion of the 30-credit Master of Arts in Teaching (MAT). (<http://catalog.rider.edu/graduate/colleges-schools/education/programs-certificates/ma-teaching/>)

## Curriculum Overview

The Post-Baccalaureate Teacher Certification Program in Science is a 21-credit graduate program requiring four teacher preparation courses taken in late afternoons/evenings followed by a semester of full-time student teaching.

## Certificate Offered

- Science Certificate in Biological Sciences, Chemistry, Earth Science, Physical Science, and/or Physics (K-12)

## Contact

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**Associated Department:** Department of Graduate Education, Leadership, and Counseling (<http://www.rider.edu/academics/colleges-schools/college-liberal-arts-education-sciences/school-of-education/graduate-programs/>)

## Related Programs

- Teaching (M.A.T.) (<http://catalog.rider.edu/graduate/colleges-schools/education/programs-certificates/ma-teaching/>)

## Science Certificate in Biological Science, Chemistry, Earth Science, Physical Science, and/or Physics (K-12) Requirements

(21 credits)

Code	Title	Credits
CURR 700	Educational Foundations for Inclusive Practices	3
CURR 703	Inclusive Literacy Practices Across Content Areas	3
CURR 706	Inclusive Methods for Teaching Science	3
CURR 720	Inclusive Curriculum Design & Instruction	3
CURR 770 or CURR 771	Clinical Experience and Seminar in Teaching Supervised Clinical Experience in Teaching	9
<b>Total Credits</b>		<b>21</b>

## Additional requirements for completion

- Completion of all courses before the clinical experience (student teaching) with a "C+" or better in each course and with a 3.0 grade point average.
- Completion of CURR 770 with a "C+" grade or better.

## Courses and Descriptions

### CURR 700 Educational Foundations for Inclusive Practices 3 Credits

This course provides psychological and interdisciplinary perspectives on teaching and learning. Within the theme of optimal development of creative intelligence, and in concordance with important NJ and national professional standards, candidates will use these perspectives to begin their career-long processes of reflective professional development. More specifically, the course develops knowledge, skills, and dispositions pertinent to (a) child and adolescent development, (b) learning theories, (c) learner diversity, (d) classroom management, (e) career readiness skills, (f) philosophical and historical perspectives on education, (g) sociocontextual and interdisciplinary influences on education, and (h) higher-order, creative and critical thinking. The emphases on student development and learner diversity entail in-depth investigation of the following subtopics: the philosophical, legal, and historical foundations of special education; the characteristics of students with disabilities and learning strengths; inclusive practices; professional partnerships for support of diverse learners; and strategies for modification of curriculum content and materials aligned to NJ Student Learning Standards, learning environments and processes.

### CURR 703 Inclusive Literacy Practices Across Content Areas 3 Credits

This course addresses varied literacy strategies for teaching diverse adolescents across content areas in secondary schools. Professional educators use a variety of instructional methods, curriculum unit/lesson planning, and assessment strategies to help diverse students actively construct their own learning as well as critically access and assess new information. Through in-class workshops and discussions, reading, group and individual work, the course uses various methods, models, and strategies for integrating literacy for diverse adolescent learners across settings and subject matters aligned with NJ Student Learning Standards. The course also provides candidates with the pedagogical literacy proficiency necessary for the development of their students' career readiness skills (employability skills, employment readiness through enhanced literacy capacities). Field experiences include observation and interaction in classes focusing on various literacy strategies in inclusive classrooms.

**Prerequisite:** CURR 700.

**CURR 706 Inclusive Methods for Teaching Science 3 Credits**

Classroom interaction analysis systems are used in the study of the instructional processes that support inquiry-based science learning. Candidates develop their own repertoires of teaching strategies, classroom management strategies, and awareness of career requirements in STEM fields. Emphases are on the investigation and interpretation of recent curriculum developments in NGSS and NJ Student Learning Standards in Science as well as the use of lab-based processes in science learning. The course also examines the characteristics of secondary students with disabilities as well as strategies for modifying science curriculum planning, learning environments, and instructional materials to address diverse learning needs. The clinical, field-based component of the course requires candidates provide instructional support for diverse learners.

**CURR 720 Inclusive Curriculum Design & Instruction 3 Credits**

This course offers an overview of curriculum designs and their relation to teaching, learning, assessment, and providing curriculum access for all students. The course assumes that professional educators use a variety of instructional methods, curriculum unit/lesson planning and assessment strategies to help a variety of diverse students, especially adolescents, actively construct their own learning and enjoy access to the general curriculum. Using NJ Student Learning Standards, candidates acquire skills in instructional planning, classroom management, and the development of career readiness skills along with required field-based observations and experiences.

**Prerequisite(s):** CURR 700, CURR 703.

**CURR 770 Clinical Experience and Seminar in Teaching 9 Credits**

This course, designed for those seeking teacher initial certification, requires full-time supervised daily participation in a school setting with diverse students including students with disabilities. These experiences test and strengthen the translation of educational theory and research into meaningful teaching practice. On-campus or site-based seminar accompany the clinical experience and emphasize the reflective development toward professionalism through sharing and analyses of how to support the learning needs of diverse students and connecting clinical experiences with content knowledge and pedagogical knowledge from prior course work. The clinical experience is augmented with a series of additional seminars that include the following: introductory/ orientation seminars prior to the beginning of the semester; strategies for designing inclusive education practices and positive behavioral supports, assistive technology for diverse learners, transition planning; classroom management strategies; awareness of methods for strengthening student achievement and career readiness.

**CURR 771 Supervised Clinical Experience in Teaching 9 Credits**

The Supervised Clinical Experience in Teaching is available only to candidates seeking initial teacher certification and who currently work full-time teaching. Candidates may apply to the program for Supervised Clinical Experience in Teaching by providing evidence of successful, full-time teaching experience, planning, and evaluation. Once approved, candidates continue teaching within the appropriate certification area and under university supervision for a semester. On-campus or site-based seminar accompany the clinical experience and emphasize the reflective development toward professionalism through sharing and analyses of how to support the learning needs of diverse students and connecting clinical experiences with content knowledge and pedagogical knowledge from prior course work. The clinical experience is augmented with a series of additional seminars that include the following: introductory/ orientation seminars prior to the beginning of the semester; strategies for designing inclusive education practices and positive behavioral supports, assistive technology for diverse learners, transition planning; classroom management strategies; awareness of methods for strengthening student achievement and career readiness.