

Concise Description of the Project

This project will support the preparation and submission of a competitive proposal to the National Science Foundation (NSF) Robert Noyce Teacher Scholarship Program – Capacity Building Track (\$100,000). The Noyce program supports institutions in recruiting and preparing highly effective STEM teachers for high-need school districts.

Lincoln University (LU), as an HBCU with a strong mission of access and excellence, is uniquely positioned to develop a structured 4+1 pathway enabling students to:

- Earn a STEM bachelor's degree within four years
- Complete a Master of Education degree within one additional year
- Obtain Pennsylvania STEM teacher certification

The proposed summer work will focus on building the proposal to request capacity building funding that would support the development of a cross-department alignment between STEM and Education departments, a partnership development with high-need school districts, evaluation planning, and preparation of the NSF proposal.

Grounded in research on teacher recruitment, retention, and culturally responsive STEM education, the proposal will emphasize evidence-based strategies shown to improve persistence in STEM majors and increase teacher effectiveness in high-need schools.

Measurable Goals and Objectives

Primary Goal:

Submit a competitive NSF Noyce Capacity Building proposal by the NSF deadline.

Objectives:

1. Conduct at least five structured planning meetings with STEM faculty, Education faculty, Institutional Research, certification officers, and district partners.
2. Develop a research-informed 4+1 program model supported by a logic framework linking recruitment, preparation, induction, and retention outcomes.
3. Secure at least two formal letters of collaboration from high-need school districts.
4. Develop measurable performance indicators aligned with NSF expectations (e.g., STEM major persistence rates, certification completion rates, teacher placement in high-need districts).
5. Submit a complete NSF proposal package, including narrative, budget, evaluation plan, and sustainability strategy.

Long-Term Objective:

Position Lincoln University to compete for a full Noyce Scholarship Track award (multi-year, multi-million-dollar funding) within 12–18 months

Timeframe

During summer 2026, the following will be accomplished:

- Review NSF Noyce solicitation and funded abstracts
- Conduct needs assessment using LU enrollment, retention, and certification data
- Convene stakeholder planning meetings
- Develop program theory of change and logic model
- Align STEM and Education coursework for 4+1 pathway
- Develop recruitment and advising framework
- Design mentoring and induction model
- Draft evaluation plan with measurable outcomes
- Develop detailed budget and justification
- Complete full proposal narrative
- Secure letters of support
- Obtain institutional approvals
- Submit NSF Noyce Capacity Building proposal

Enhancement of Teaching and Research at Lincoln University

Strengthening STEM-to-Teaching Pathways

The 4+1 model creates a structured pipeline connecting undergraduate STEM programs to graduate teacher preparation. Research indicates that early and integrated pathways increase teacher persistence and certification completion.

Advancing LU's Research Profile

This initiative establishes a foundation for scholarship in:

- STEM teacher recruitment and retention
- Teacher preparation at HBCUs
- Accelerated degree pathways
- Equity-focused STEM education

The project supports interdisciplinary collaboration between STEM and Education faculty, increasing competitiveness for future federal funding.

Addressing Workforce Needs

High-need districts face persistent shortages of qualified STEM teachers. This initiative aligns LU's mission with regional and national workforce demands.

Measurement of Outcomes

Project success will be measured by:

- Submission of a complete NSF proposal
- Development of a documented 4+1 program framework
- Formalized district partnerships
- Completion of logic model and evaluation framework
- NSF reviewer feedback and funding determination

The completed proposal will serve as a strategic blueprint regardless of funding outcome and will be positioned for resubmission if necessary.

Dissemination Plan

Internal:

- Presentation to Education and STEM department faculty (Fall semester)
- Briefing to Academic Affairs leadership
- Integration into strategic enrollment and graduate program planning

External:

- Presentation at regional or national STEM education conferences
- Development of a scholarly manuscript on STEM teacher pipelines at HBCUs
- Ongoing collaboration meetings with partner districts