

Noyce Digitally-Rich Scholarship Program
Developing STEM Teachers to Support Digitally-Rich Learning
Warner Graduate School of Education
University of Rochester

Program Description

Overview

The proposed Noyce Scholarship Program, a National Science Foundation funded scholarship, will focus on preparing a cadre of 26 STEM teachers with specialization in Digitally-Rich Teaching to best serve K-12 high-needs students. This program builds on the experience gained from two prior Noyce Scholarship Grants which were used to fund the training of 57 STEM teachers for high-needs schools. The new program will include components derived from recent collaborations between the Warner School of Education and the College of Arts, Sciences and Engineering at the University of Rochester and two local community schools, East Irondequoit Central School District and East High School.

STEM teachers completing this program will undertake the same rigorous 15-month graduate teacher preparation program that has proven effective for previous Noyce scholars. Participants will also complete the coursework and field experiences required by the New York State Education Department in order to obtain an Advanced Certificate in Digitally-Rich Teaching in K-12 schools. All Noyce Scholars will be required to conduct teaching experiences at both East Irondequoit Central School District and East High School.

Scholars' tuition costs will be fully covered, \$30,000 from grant funds and the remaining in-kind by the Warner School. Noyce Scholar recipients agree to commit to the grant mandated service requirement of teaching for a minimum of 2 years in high-needs schools. Those who do not complete their service requirements within 4 years following program completion will be expected to remit the 50% grant-funded portion of their scholarship (pro-rated based on fractional time spent teaching in high-needs schools).

Warner School Commitments

- Recruit and select Noyce Scholars
- Conduct teacher preparation program and confer Digitally-Rich Teaching Certificate
- Offer in-kind waiver to cover the rest of the tuition (equivalent to about 50%)
- Oversee program and service requirement completion, manage repayment as needed
- Evaluate program and prepare and submit report to the National Science Foundation

College of Arts, Sciences and Engineering Commitments

- Identify faculty members who will act as co-principal investigators for the program, serve on the leadership team and liaison with other STEM faculty in the colleges
- Support active recruitment of potential recipients of a Noyce Scholarship, with a focus on University of Rochester STEM undergraduates
- Contribute to the teacher preparation program by providing expert consulting on STEM content, guest lectures and laboratory experiences for Noyce Scholars
- Provide program evaluation and suggestions for improvement

East Irondequoit Central School District Commitments

- Assign each Noyce Scholar to a Digitally-Rich Teaching experience
- Enable additional field experiences as required for completion of the Digitally-Rich Teaching practicum
- Provide program feedback and information for program evaluation and reporting
- Interview Noyce Scholarship graduates who apply for STEM teaching positions in the district

East High School Commitments

- Assign each Noyce Scholar to a Digitally-Rich Teaching experience
- Ensure that the teaching experience will allow Noyce Scholars to complete all requirements for certification
- Provide program feedback and information for program evaluation and reporting
- Interview Noyce Scholarship graduates who apply for STEM teaching positions at East High School

Noyce Scholar Commitments

- Complete all requirements of the Warner teacher preparation program and the new certification program in Digitally-Rich Teaching in K-12 schools
- Provide all information required by the grantor and as specified in the evaluation plan until program completion
- Complete the service requirement of teaching full-time for two years post-graduation in high-needs schools

Additional Program Information

The teacher preparation program all Noyce scholars will take will be characterized by:

- *Focus on STEM-specific methods courses*: includes three math or science teaching and learning courses

- *Focus on technology-rich teaching*: includes two courses on leveraging technology to enhance student learning
- *Teaching high-needs students*: includes courses on diversity, youth culture, teaching students with disabilities and English language learners
- *Internships supplementing coursework*: includes a minimum of one hundred hours of field experiences concurrent with associated courses; two teaching experiences in two contexts (twelve weeks total) and a specialized Digitally-Rich Teaching Practicum

Program Schedule

**Indicates requirements specific to the Advanced Certificate in Digitally-Rich Teaching; all courses are 3 credits unless otherwise specified*

Summer 1:

- Disability & School
- Integrating Science & Literacy (*science specialists only*)
- *Integrating Science/Math & Technology
- Race, Class, Gender & Disability in American Education

Fall:

- Topics in Teaching & Schooling 1 (1 credit)
- Literacy Learning as Social Practice
- First Math/Science Methods Course
- *Digitally-Rich Teaching & Learning in K-12 Schools
- *Digitally-Rich Teaching & Learning Practicum 1 (1 credit)
- Field experiences (2 credits)

Spring:

- Topics in Teaching & Schooling 2 (2 credits)
- Second Math/Science Methods Course
- *Digitally-Rich Teaching & Learning Practicum 2 (2 credits)
- First Student Teaching (3 credits)
- Second Student Teaching (4 credits)

Summer 2:

- Adolescent Development and Youth Culture
- Teaching English Language Learners in Content Classrooms