

## Teacher Academy Curriculum Projects 2008-2009

### Replication Grants

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The purpose of the Curriculum Projects is to improve the training of new math and science teachers by transforming how and what pre-service teachers learn in college classrooms and the relationship between what they learn in their college course and what they observe and do in their host schools. For the past two years the Teacher Academy, through funding from the Petrie Foundation and a 3-year FIPSE grant, has supported curriculum development work on the campuses. In 2006-07 we supported 10 projects on seven campuses. In year 2, 2007-08, we supported 8 new projects and 5 continuation projects from year one.

In this third year of the curriculum grants, the focus is on the institutionalization of the courses and course sequences developed in the first two years and the replication of these developments at other Teacher Academy campuses. Seven exemplar grants were selected for both institutionalization on and replication. We are offering curriculum grants of up to \$20,000 to replicate one of these seven exemplar projects (listed below). Replication does not mean lockstep duplication. For example, the exemplar project at Brooklyn College redesigned the introductory geology course to move from a survey style course to one that places greater emphasis on science process skills, technology, and discovery. Faculty in the biology department at another campus may submit a proposal to redesign a course or course sequence with the same shift in focus from survey to process skills and discovery. Or a chemistry department may see the value in creating a capstone course for the aspiring teachers on their campus and chose to use City College's creation of a capstone mathematics course as a model.

Collaboration between CUNY faculty and New York City Department of Education (DOE) teachers is integral to establishing and enhancing the connection between college coursework and fieldwork experience. To this end, where applicable, proposed curriculum project should include intensive and extensive collaboration between CUNY faculty and DOE teachers.

The P.I.s from the seven exemplar grants will be available to answer any questions about their projects during the pre-proposal stage. Their emails are listed in the grant descriptions below. In addition, some P.I.s may be available to act as mentors for replication grants during the grant period. Please contact the individual P.I.s directly.

The projects will run from January 2009 through September 2009.

Proposals are due by **January 16, 2009** and P.I.s will receive notification by January 22, 2009. Download proposal guidelines and application [here](#). Please contact Maura Donnelly with any questions. [Maura.Donnelly@mail.cuny.edu](mailto:Maura.Donnelly@mail.cuny.edu) 212 794-5779.

## **The Seven Exemplar Grants**

### **An Investigation of Multiple Factors Leading to Academic Challenges of Early College Seniors in Collegiate Level Mathematics Courses** (*Hunter College*)

Hunter faculty worked collaboratively with secondary mathematics teachers from Manhattan Hunter Science High School to design new syllabi to improve the performance of early college seniors and Teacher Academy students in precalculus and calculus courses at Hunter College. Hunter faculty implemented a new mathematics evaluation test (MAA) to improve assessment and created an experimental skills training workshop to improve preparation for calculus learning. Furthermore, the 16PF Personality Inventory was utilized to improve the predictability of student success to inform admissions criteria for mathematics majors entering the Teacher Academy.

*Project co-P.I.s: Rachael Welder- [rwelder@hunter.cuny.edu](mailto:rwelder@hunter.cuny.edu) & Naomi Nwosu - [Naomi.Nwosu@hunter.cuny.edu](mailto:Naomi.Nwosu@hunter.cuny.edu)*

### **Ways of Knowing: Making the Transition from High School to College** (*Queens College*)

The Ways of Knowing project grew out of a need to examine why students entering college and choosing to major in science and mathematics were failing in such large numbers. Attrition rates were in the neighborhood of 40-45%. The project proposed a series of regular meetings between high school and college teachers to identify the obstacles that were making the transition so difficult. Having identified what we believed were major contributing factors, we developed and implemented an intervention in the form of a summer program aimed at addressing the problems that had been uncovered. *Project P.I.: Paul Longo - [PVL4D@aol.com](mailto:PVL4D@aol.com)*

### **Designing a Capstone Mathematics Course for Undergraduates** (*The City College*)

The goal of the project was to examine existing mathematics courses at CCNY and build a capstone course to enhance teaching and learning of secondary mathematics education and help aspiring teachers understand pre-college mathematics in a deeper way. Additionally, the Capstone course aims to strengthen content knowledge while simultaneously working towards connecting key concepts and underlying themes to enhance student learning. The Capstone course will ultimately help aspiring teachers learn how to leverage their knowledge in order to teach it as a coherent, reasoned activity and communicate its elegance and power. *Project P.I.: Despina Stylianou - [dstylianou@ccny.cuny.edu](mailto:dstylianou@ccny.cuny.edu)*

### **Redesign of the Freshmen GEO1 Foundation Course: An Inquiry and Skills-based Approach for the Teacher Academy** (*Brooklyn College*)

A team of Brooklyn College faculty and New York City Department of Education (DOE) Earth Science Teachers redesigned the foundation geology course, GEO 1, required by all Teacher Academy students. GEO 1 has been taught in a survey-style with broad but shallow content. The redesign team worked together to place greater emphasis on science process skills, technology, and discovery, and chose air quality as an integrating topic for skill and content development throughout the course. While conducting term-long research within New York City, students will apply the scientific method and develop skills necessary for practicing geoscientists including making and giving presentations, online data searches, statistical analysis, graphing, and using GIS and GPS. *Project P.I.: Rebecca Boger - [rboger@brooklyn.cuny.edu](mailto:rboger@brooklyn.cuny.edu)*

### **Using Formative Assessment Tools in Mathematics Classrooms** *(The City College)*

In this continuing project a CCNY mathematics teacher educator and three mathematics teachers at A. Philip Randolph High School focused on the use of technology to support assessment and improve student learning. The assessment tools used for this project were the eInstruction interactive response system (clickers) and the NYCDoe ACUITY assessment system. Over the course of the year, teachers learned to use this technology to support instruction and assessment in their high school mathematics classrooms. The college faculty observed classrooms and met with the teachers to discuss ways to more effectively utilize these tools. Together they developed teaching modules for pre-service and in-service teacher coursework and professional development on the use of technology to support instruction and assessment. *Project P.I.: Beverly Smith - besmith@ccny.cuny.edu*

### **Increasing the Pool of Chemistry Aspiring Teachers at a Four-Year College** *(Queens College)*

Existing undergraduate program in chemistry took 5 years or more to complete for aspiring NY state chemistry teachers. To manage the course load and graduate in 4 years, we designed a 120-credit Chemical Education track, which will be available from Fall 2009, satisfying the New York State as well as ACS certification requirements for Chemistry. This sequence which was developed for CUNY Teacher Academy students is attracting the attention of several freshman, sophomore, and transfer students at Queens College to consider majoring in Chemical Education. *Project P.I.: Gopal Subramaniam - gopal.subramaniam@qc.cuny.edu*

### **Designing Mathematics Methods Courses for Teaching in Urban Secondary Schools** *(The City College)*

The purpose of this work has been to design a two-semester mathematics methods course. This course sequence aims to address the needs and goals of the Teacher Academy Program and the Partnership for Excellence project, that is, to be a part of the education of a new generation of exceptional teachers who will inspire in middle and high school students enthusiasm for science and mathematics. In particular, the course aims to address the goals of "producing effective new teachers who are able to perform effectively early on in raising student achievement" and "improving teacher retention by providing pre-service teacher education and ongoing in-service professional support" *Project P.I.: Despina Stylianou - dstylianou@ccny.cuny.edu*

## Requirements

- It is strongly recommended that projects be comprised of both CUNY faculty and DOE teachers. For some projects, though, it may be more appropriate for the project team to consist of only CUNY faculty. A project focusing on the collaboration between a community college and a senior college may be an example of a CUNY-only team.
- All Curriculum Projects are expected to participate in the Curriculum Expo in May 2009. The Curriculum Expo provides an opportunity to share the work of the projects with a larger audience, and to obtain feedback on broader relevance within CUNY and New York City.
- All Curriculum Projects will be required to submit an interim report in June 2009 and a final report November 2009
- All Curriculum Projects are required to actively and fully participate in the evaluation of the projects. The evaluation may include
  - Completion by all team members of surveys or evaluation instruments
  - Arranging for the evaluator to attend one or more at project meetings
  - On-going documentation of the project work
  - Participation by team members in a focus group

### **The following criteria will guide decisions on grant awards:**

- The replication of the essential elements of the exemplar grant
- Clarity and reasonableness of work plan, timetable and deliverables
- Reasonable budget
- Extent of collaboration within CUNY and/or between CUNY and DOE
- Likelihood of direct positive effects of curriculum on Aspiring Teachers.

Applications will be reviewed by P.I.s from the seven exemplar grants, Teacher Academy Central Office staff, and representatives of the Teacher Academy Directors. Applications are due January 16, 2009 and applicants will be notified by January 22, 2009.

## Teacher Academy Curriculum Projects 2008-2008

### Replication Grant Application

Return the completed application and budget to Maura Donnelly  
 ([Maura.Donnely@mail.cuny.edu](mailto:Maura.Donnely@mail.cuny.edu)) by January 16, 2009

Type directly into the form below.

#### Project Leader

Name	
Title and Affiliation	
Email Address	
Phone	

#### Project Team

Please include the following information for each member of the project team. **Please include a letter or email from each project member stating that they are project participants.**

Name	
Title and Affiliation	
Email Address	
Phone	
A description of the strengths and assets the member brings to the project	

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***Project***

Project Title:

Title of Exemplar Grant:

The objectives and rationale for your project

List the major steps in the work and a timetable of your project. Please be clear on how much work you plan to complete by 9/30/08. Include what arrangements you have made to ensure the team has time to work together.

The expected product or output of your project

How will your project directly impact the curriculum for the Aspiring Teachers?

## Teacher Academy Curriculum Projects 2008-2008

### Replication Grant Application

*Please attach a budget detailing each major cost area that will be incurred from January 2009 through September 30, 2009. Please use the budget template. All project funds will be in one or more Research Foundation account.*

Description	Rate	Hrs	Total
<b>Salaries</b>			
Leaders			
Participants			
<b>Total Salaries</b>			
<b>Fringe Benefits</b>			
Part time B (less than 19 hours/week) & sabbatical	<b>10%</b>		
Summer Salary	<b>25%</b>		
Released Time Faculty	<b>33%</b>		
Full time	<b>36.5%</b>		
<b>Total Fringe</b>			
<b>Total Personnel</b>			
<b>OTPS</b>			
Supplies			
Meeting Expenses			
<b>Total OTPS</b>			
<b>Total Direct Costs</b>			

## **Budget**

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Faculty members will receive additional compensation in their regular payroll checks and the colleges will be reimbursed. DOE staff will be paid directly by the Research Foundation.

Project leaders will be paid at the adjunct faculty replacement rate appropriate to their positions; participants will be paid at the non-teaching adjunct rate.

Indirect costs do not apply to the Petrie Foundation funds so teams can apply for up to \$20,000 in direct costs