

The University of Texas at Austin
GK-12 Teacher 2009-2010 Application Form

Purpose of Program: This program supports fellowships and associated training that will enable graduate students in the Sciences, Mathematics, Engineering, and Technology (STEM) to serve as resources to teachers in K-12 schools, particularly at the middle school (5-8th grade) level. It builds on existing programs involving The University of Texas at Austin and local school systems within Texas. The funded GK-12 project is based at the Environmental Science Institute (ESI) in Austin and at the UT Marine Science Institute (UTMSI) in Port Aransas and specifically targets partnerships with local school districts (see list below). Fifth through eighth grade science teachers from all three districts are especially encouraged to apply. Fellows will serve as resources for teachers in science and mathematics instruction. We expect Fellows to split their time between two teachers for lesson planning, classroom exercises, field trips, and regular meetings and workshops. Expected outcomes include improved communication and teaching skills for the fellows, enriched learning by K-12 students, professional development opportunities for K-12 teachers, and strengthened partnerships between institutions of higher education and local school districts. Stipends of \$4,000/year (paid throughout the year) are available for participating teachers. All teachers and Fellows are expected to attend an early summer training and orientation workshop that precedes the start of the K-12 academic school year. This workshop will be held on both the UTMSI campus from June 3-7, and the U.T. Austin Campus from June 8-11. Housing costs will be provided. For further details on GK-12 program activities, see: <http://www.esi.utexas.edu/gk12/summer.html> (Austin Fellows and Teachers) and <http://gk12.utmsi.utexas.edu> (Port Aransas, Flour Bluff, Aransas Pass, Ingleside, and Aransas County ISD Fellows and Teachers).

Related K-12 Outreach Programs

Marine Science Institute (Port Aransas)

- *Study of Arctic Change*
http://www.utmsi.utexas.edu/outreach/outreach/public_lectures.htm
- *Schweppe Lecture Series*
http://www.utmsi.utexas.edu/outreach/outreach/public_lectures.htm
- *UTMSI Marine Education Services*
<http://www.utmsi.utexas.edu/outreach/index.htm>

Environmental Science Institute (Austin)

- *Outreach Lecture Series*
<http://www.esi.utexas.edu/outreach/lectures.html>
- *The Edwards Aquifer*
<http://www.esi.utexas.edu/outreach/groundwater/index.php>
<http://www.esi.utexas.edu/outreach/caves/index.php>
- *Climate Change:* <http://www.esi.utexas.edu/research/climate.html>
- *Sustainability:* <http://www.esi.utexas.edu/research/sustainability.html>

GK-12 Project Goals

National Science Foundation: To develop partnerships between schools and universities with Science, Technology, Engineering, and Mathematics (STEM) graduate students and upper-level undergraduates working with teacher colleagues to improve STEM education at the K-12 level.

The University of Texas at Austin: To promote the academic and professional development of K-12 and university level participants by building long-term partnerships between K-12 school districts and University of Texas researchers in Sciences, Technology, Engineering, and Mathematics (STEM).

Thematic Focus:

Watersheds & Sustainability - Tracing a Drop of Water Inland to the Coast

Our GK-12 project will use watersheds that extend from central Texas to the mid-Texas Gulf Coast as organizing units for environmental science in teaching the STEM disciplines. We anticipate broad educational opportunities beyond this focus, and expect graduate fellows will come from disciplines as diverse as marine science, geoscience, biology, geography, chemistry, civil engineering, and community/regional planning.

Overall GK-12 Project Goals

- 1) to help teachers adopt diverse and innovative field and inquiry-based teaching strategies to promote student learning, especially with underrepresented groups, within the framework of state and national curriculum standards,
- 2) to build long-lasting partnerships between K-12 teachers and academic researchers and to enhance professional development through direct contact with UT scientists,
- 3) to deliver new content in the classroom that will improve student understanding of science and mathematics while encouraging students to consider careers in STEM disciplines, and
- 4) to develop Fellows into scientists with improved communication and pedagogical skills, an awareness of science education standards, and the desire and ability to transmit scientific methods and knowledge to students, teachers, and the public.

Background for Emphasis on Middle School (5th grade) Focus

We believe we can have a greater impact by focusing on grades 5-8 and on 5th grade in particular. There are several reasons that we will emphasize the 5th grade level: 1) it is the first level where Texas students are given the standardized Texas Assessment of Knowledge and Skills (TAKS) exam in science; 2) it is the first level where science is taught as a separate class; and 3) it is the earliest grade where curriculum closely matches (and requires) the expertise of GK-12 Fellows.

The 5th grade TAKS test assesses knowledge that is gained throughout elementary school. A student's mastery of the science curriculum through the 5th grade sets the tone for their learning in later grades and their scores on 8th, 10th, and 11th grade tests. Intervention prior to this initial

test can make a difference in their achievements for years. Our project will focus on 5th grade because lower grades in Texas do not have a dedicated science class where Fellows can have the maximum impact. Additionally, the 5th grade science curriculum units (Mixtures and Solutions, Force, Motion, and Energy, Landforms, Life Cycles and Ecosystems, Climate, and Aquatic Environments) match our integrated emphasis on watersheds and coastal ecosystems.

Some Basic GK-12 Teacher Responsibilities and Expectations

- Understand and appreciate the goals and objectives of this program.
- Work with GK-12 Fellows in your classroom to develop activities related to subject areas in your teaching discipline.
- Hold weekly 30 minute conferences with your GK-12 Fellow to exchange ideas and plan future lesson activities based on your written classroom/subject syllabus.
- Provide periodic verbal and written support/feedback to your Fellow on classroom instruction, management techniques, and teaching effectiveness.
- Attend professional development and/or GK-12 workshops (two/academic year) as directed by the component PI (Dunton or Banner).
- Develop an after school program with other GK-12 teachers and Fellows in your school that features GK-12 classroom activities to parents.
- Participate in short pre-or post evening workshops during the academic school year that are focused on public lectures or presentations delivered by visiting scientists as part of the Schweppe Lecture Series (UTMSI), the Outreach Lecture Series (ESI), or other special activity as directed by the component PI.
- Participate in monthly after-school meetings for planning of activities, communication with PI's, and exchange of ideas and experiences.
- Work with your Fellow to create or significantly modify for Internet dissemination two learning activities and produce written lesson plans associated with each using the 5E learning model designed for this program that is aligned with TEKS and TAKS.
- Assist in the collection of data on student attitudes and performance to evaluate the success of this program.
- Participate in a one-day annual GK-12 colloquium in June (Port Aransas or Austin).
- Attend an early summer symposium and orientation workshop that precedes the start of the K-12 academic year (held in Austin and/or Port Aransas).
- Deliver joint presentations with your Fellow at conferences, workshops or symposia on your GK-12 related activities and experiences (travel expenses are provided for such activities).
- Present GK-12 information to at least one group of colleagues and professionals.

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To apply, you should:

- Submit a completed and signed application form
- Submit a letter of support from your school principal on school letterhead
Note: School principal must state in their letter of reference how the teacher and Fellow selected for the program will be recognized at school meetings and functions.
- Submit a Statement of Purpose (described below).

Statement of Purpose

Please write a one-page statement of interest that summarizes your educational and career objectives and why you should be considered for the GK-12 program. As a guide, please address the questions listed below in your essay.

1. Why do you want to participate in the GK-12 program?
2. Describe ways in which you would engage the GK-12 Fellows in your classroom?
3. What do you see as some of the challenges of effective K-12 science education?
4. What would you want a graduate student to gain by working in your classroom?
5. What qualities do you possess that would make you a good mentor?

FOR QUESTIONS CONCERNING ANY ASPECT OF THE GK-12 PROGRAM, CONTACT:

Port Aransas - Dr. Ken Dunton at 361-749-6744 (ken.dunton@mail.utexas.edu)
Austin - Dr. Jay Banner at 512-471-5016 (banner@mail.utexas.edu)

Send completed application and all supporting documentation to:

Port Aransas area:	Austin area:
Dr. Ken Dunton	Dr. Jay Banner
Marine Science Institute	Environmental Science Institute
The University of Texas at Austin	Mail Code C1100
750 Channel View Drive	The University of Texas at Austin
Port Aransas, TX 78373	Austin, TX 78712
FAX: 361-749-6777	FAX: 512-471-9425

DEADLINE FOR APPLICATIONS IS MONDAY, 2 FEBRUARY 2009 (Port Aransas, Flour Bluff, Ingleside, Aransas Pass, Aransas County, and Austin ISDs).

SELECTED TEACHERS WILL BE NOTIFIED BY 1 APRIL 2009. TEACHERS MUST ATTEND THE GK-12 SUMMER WORKSHOP HELD JUNE 3-7 AND JUNE 8-11, 2009.

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GK-12 Teacher 2009-2010 Application Form (1 of 2)

Please Print Clearly or Type

Contact Information:

Name: _____ Social Security # _____

Mailing Address:

 Street City State Zip

Home Address:

 Street City State Zip

Home Phone # _____

E-mail Address _____

School Information:

District: _____ School: _____

School Address:

 Street City State Zip

School Phone # _____

Ethnic breakdown of school population:

Education:

Educational Background

Institution	Major	Degree	Hours (Est.)	Dates

Post-College Employment and Professional Background (list most recent first)

Employer	Occupation	City, State	Dates

