[U]niversities and nonprofit organizations can launch programs like UTeach at UT Austin that allows aspiring teachers to get a math or science degree and teaching certificate at the same time.” President Obama, July 2009

I propose we add an additional five programs at five other Texas universities as a way to produce an additional 2,000 excellent STEM teachers in their first five years of existence. Governor Perry, October 2009
Hallmarks of UTeach

• **Collaboration** between Colleges of Sciences, Education, and Liberal Arts
• **Active recruitment** of science and mathematics majors to take the two initial one-hour UTeach courses free of charge
• Early and intensive **field experiences** throughout the program
• **Compact degree plans** that allow most students to graduate with a degree and certification in four years
• A focus on developing deep-level understanding of the **subject material** and incorporating effective approaches using technology in teaching
• Guidance and inspiration provided by faculty and highly experienced public school teachers who serve as **Master Teachers** in the program
• Courses taught by **faculty** who are actively engaged in research in mathematics and science and in the teaching and learning of mathematics and science
• Integrated **professional development courses** that all focus on teaching both mathematics and science, and are based on recent research in science and mathematics teaching and learning
• An array of **student benefits**, including paid internships that offer opportunities for community outreach in education
• All essential program elements on **permanent budget** or endowment.
UTeach Team

College Administrators
Dean Mary Ann Rankin, College of Natural Sciences
Dean Manuel Justiz, College of Education

Co-Directors
Michael Marder, Physics  Larry Abraham, Curriculum and Instruction

CNS Staff
Mark Tway, Equipment Manager
Brett Westbrook, UTeach Advisor
Annette Hairston, UTeach Advisor
Gary Wene, Executive Asst.
Kate Waldman, Admin Asst.
Marsha Koepp, Admin Asst.
Judy Dean, Admin Asst.
Justin Reneau, IT Support
Amy Chavez, Accounting

Education Faculty
Larry Abraham, Chair of Curriculum and Instruction
Jill Marshall, Science Education
Jennifer Smith, Math Education
Walter Stroup, Math Education
Tony Petrosino, Science Education
Lupita Carmona, Science Education

Master Teachers
Pamela Powell, Math
Mark Daniels, Math
Mary Walker, Biochemistry
Denise Ekberg, Biochemistry
Bill Humphries, Physics
Jason Ermer, CS
Lynn Kirby, Geology
Kelli Allen, Biology
Shelly Rodriguez
Prudence Cain, Everything

CNS Faculty: David Laude, Chemistry; Ruth Buskirk, Sahotra Sarkar, Dan Bolnick, Stan Roux, Dick Richardson, Biology; Martha Smith, Efraim Armendariz, Mathematics; Leon Long, Jay Banner, Geology; Pawan Kumar, Astronomy
We have between 470 and 515 students in UTeach. They range from freshmen trying out teaching for the first time to student teachers.
We have doubled the number of secondary math and science teachers coming from UT Austin. These numbers come from 12th day class enrolment in student teaching.
We have doubled the number of secondary math and science teachers coming from UT Austin. These numbers come from 12th day class enrolment in student teaching.
Our students span all the disciplines of science and mathematics.
We have strong students. UTeach graduates have a Grade Point Average of 3.25, versus 3.14 for graduates from the College of Natural Sciences as a whole.
UTeach students stay in teaching at higher rates than other teachers. 80% of our graduates who begin teaching are still teaching after 4 years, versus 60% for teachers nationally. 70% of our graduates who begin teaching are still teaching after 5 years or more versus 50% for teachers nationally (national data from R. Ingersoll)
We have developed classes specially for future science and math teachers that are based on research into how people learn and involve many carefully structured field experiences. There are many pathways through the program, including pathways for people who are changing careers or already hold degrees.
Fall 2005: Gathering Storm Report
Spring 2006: Mary Ann Rankin hires Tracy LaQuey Parker to start UTeach Institute
Summer 2006: Funds from Texas Education Agency enable first UTeach replication at University of Houston.
Fall 2006: Tom Luce founds NMSI, $125 million gift from ExxonMobil
Spring 2007: Request for Proposals: 52 pre-proposals received
Summer 2007: 26 full proposals received
Fall 2007: 13 replication sites chosen and announced.
Spring 2008: UTeach Institute reaches 11 employees
2009: Added two sites in Texas, two in Tennessee

54 institutions from 26 states submitted preproposals in the spring of 2007 to replicate Uteach. We are announcing 12 winners of the competition this fall.
UTeach Institute Structure

**The UTeach Institute**

**Management**
- Director / PTO
  - John J. Kelliher
- Manager of Program Replication / PE
  - Melissa O'Donnell
- Manager of Program Evaluation / PTE
  - Mary Wallace

**Evaluation Team**
- Director / PTO
  - John J. Kelliher
- Knowledge Development Manager / PTE
  - Kim Hughes
- Knowledge Development Manager / PE
  - Mary Long

**Site Coordination**
- Site Coordinator / PTE
  - Lisa McAdams

**Consultants**
- Site Consultant Team / PTE
  - Kaye Kaye

**Support**
- Data Collection Assistant / PTE
  - TBD
- System Analyst / PTE
  - David Clark
- Administrative Assistant / PTE
  - TBD

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54 institutions from 26 states submitted preproposals in the spring of 2007 to replicate UTeach. We announced 13 winners of the competition this fall.
54 institutions from 26 states submitted preproposals in the spring of 2007 to replicate Uteach.
From 26 full proposals we selected 13 replication sites
Replication Sites

- UKanTeach
- CU Teach
- Cal Teach
- UTeach Houston
- Teach Houston
- UTeach Temple University
- Florida State University
- Sky Teach
- Teach North Texas
- UTeach Dallas
- UTeach
- GeauxTeach

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Professional Support

UTeach Curriculum

Overview of the Curriculum | Take a Tour | FAQs | Discussion Board

News & Announcements

Webinar with Dr. Anthony Petrosino
Tuesday, March 5th
Join Dr. Petrosino for a lively discussion of instructional topics in the Knowing & Learning course.
Click here to register

National Panel on Teacher Preparation
Nominate yourself or your colleagues to serve on a national panel charged with...
(more)

A dynamic professional learning community where knowledge about best practices in the preparation of science and mathematics teachers is continually developed and shared.
Professional Support

- Detailed and explicit description of program
  - UTeach Elements of Success
  - UTeach Operations Manual
  - UTeach Curriculum

Hallmarks of the UTeach Program
UTeach/University of Texas, financial support, mathematics, and computer science teachers. The program includes the 18 technology training courses, which 16 undergraduate engineers, mathematics, science, and computer science degree candidates attending will be part of their degree. There is an improvement in how to teach the use of UTeach.

- Hallmarks of the UTeach Program
  - Collaboration between College of Education, Engineering, and Laboratory
  - Course work in the use of technology and the incorporation of technology into the existing curriculum
  - Continued involvement in the UTeach Program
  - Extensive support for teachers who adopt UTeach in their classroom
  - Extensive support for teachers who use UTeach in their classroom
  - Extensive support for teachers who have adopted UTeach in their classroom

UTeach Components
The following components of the UTeach program: computer science, mathematics, science, and engineering, are part of the course of study.

Details
- UTeach is a remediation program that focuses on an explicit and in-depth content for the pre-service teachers, science, and engineering teachers.

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Professional Support

- Planning and start-up time
  - Planning period and roll-out of courses over five years
  - Orderly sequence of training, implementation, and support activities focused on no more than two cohorts of replication sites at a time
Professional Support

- Data and analysis tools
  - Student surveys administered across all sites
  - Standard data gathering and reporting
## Funding

<table>
<thead>
<tr>
<th>Institute Funds</th>
<th>Funding Periods</th>
<th>% of Budget</th>
<th>Potential Amounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grant Awards</td>
<td>Planning Period</td>
<td>50%</td>
<td>Up to $100,000</td>
</tr>
<tr>
<td></td>
<td>Year 1 operation</td>
<td>60%</td>
<td>Up to $250,000</td>
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<tr>
<td></td>
<td>Year 2 operation</td>
<td>50%</td>
<td>Up to $350,000</td>
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<td></td>
<td>Year 3 operation</td>
<td>40%</td>
<td>Up to $350,000</td>
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<tr>
<td></td>
<td>Year 4 operation</td>
<td>30%</td>
<td>Up to $350,000</td>
</tr>
<tr>
<td>Endowment</td>
<td>End of grant</td>
<td>Matching Funds up to $1,000,000</td>
<td></td>
</tr>
</tbody>
</table>

**Memorandum of Understanding signed at preproposal stage**
Expanding UTeach through the states

What can we do? We can obtain substantial permanent increases in mathematics and science teachers from universities currently producing few.

Why UTeach? We create high-quality teacher preparation programs in secondary mathematics and science with the support you need to get results as fast as possible. We don’t bypass your universities. We help them work better.

How much will it cost? Marginal costs at UT Austin are $15,000/teacher. For 70 teachers, plan to spend $1,000,000 internally per year per university. The UTeach Institute will require annual support expenses of $75,000-$100,000/year/institution served.

What is a possible state funding model? Here’s what the Texas Education Agency is doing. Universities compete for state funds, competition managed by UTeach Institute at cost. Winners get a grant of $1.5M/university for 5 years. Balance of funds must come from permanent internal university budgets. Once a few state institutions are familiar with UTeach, they may take over responsibility for further state expansion, ultimately removing much of the burden from the UTeach Institute in Austin.

The cost of $15,000/teacher is the marginal cost for instruction and administration per year per graduate. It includes services for students who ultimately decide not to teach. It does not include the full range of student scholarships that are passed through to students. For example, we have Noyce scholarships, and those are not included. The costs of our internship program are also not included (we pay students $12/hour to work with nonprofits and get the money from grants and endowment). If they were included, the cost per graduate would increase to $18,000.
If 286 universities prepare an additional 35 math and science teachers per year by implementing UTeach programs, we will be preparing the **10 thousand teachers for 10 million minds** our country needs to thrive in the 21st century.

We are responding to the most urgent recommendation in the National Academy report *Rising Above the Gathering Storm*.

UTeach is the best national model available to universities in the US to enable them to increase the number of students with strong math and science content knowledge who become secondary math and science teachers.