UTeach at 20
Celebrating success and envisioning the future

We prepare teachers. They change the world.
UTeach expands access to STEM education and improves STEM learning outcomes for all students by supporting a national network of universities and STEM educators committed to increasing the number of high-quality teachers and expanding access to inquiry-based curriculum.

20 years of innovation
Since 1997, UTeach at The University of Texas at Austin has offered a unique pathway for STEM majors to earn their secondary teaching certification without adding additional time or cost to their degree. This innovative solution allows UTeach to produce secondary teachers with deep content knowledge and inquiry-based pedagogical strategies.

Forty-five other universities in the U.S. have adopted the UTeach model since 2008. Together, we have produced 3,272 graduates.

UTeach programs produce teachers at a lower cost than other leading programs, and our graduates stay in teaching longer, improve student performance in math and science, and influence students to enter STEM fields.

The next 20 years
We envision a future where every student develops an appreciation for the critical role that science, technology, engineering, and mathematics play in our everyday lives and in driving future progress and solving human problems.

We envision a future where scientists, engineers, mathematicians, and computer scientists reflect the diversity of the United States, where STEM fields welcome everyone regardless of background or circumstance, and where all students can see themselves reflected in the larger STEM community.

We envision a future where all students have teachers who can spark inspiration and help them develop a passion for STEM subjects.

We envision a future where teachers are highly regarded as experts and rewarded for excellence, and where every school has well-qualified STEM teachers for every student.

We need great STEM teachers
Improving the participation and performance of all of America’s students in science, technology, engineering, and mathematics has to begin with the preparation of qualified STEM teachers for K–12 schools. We do not have enough teachers with strong STEM backgrounds to meet the need. Undergraduate STEM majors at our nation’s colleges and universities represent the single best source for these future teachers. In a recent survey, more than half of all STEM majors indicated an interest in teaching. There remains a large pool of untapped potential among undergraduate STEM majors.

U.S. universities are home to the world’s top scientific minds and education researchers, whose work is critical to advancing knowledge in the STEM disciplines. These same universities have a critical role to play in recruiting and preparing the nation’s best STEM teachers, who will go on to expand access to STEM education and improve STEM learning outcomes for all students.
Teaching for meaningful learning: The role of inquiry

UTeach students engage in the authentic inquiry done by scientists, mathematicians, engineers, and computer scientists. They also learn to design instruction that similarly engages K–12 students.

UTeach prioritizes the development of inquiry-based instructional methods. At the heart of the UTeach model is the design and implementation of instruction that is student-driven and that requires real-world problem solving.

“I really love how the UKanTeach program focuses on inquiry-based learning. Understanding what it feels like to learn in an inquiry-based classroom gives me a better understanding of what my students now are going through, and how I can anticipate their struggles and help them work through it.”

Sara Hettenbach
UKanTeach graduate and Knowles Fellowship winner

“One of the strengths of the UTeach program is that it’s extremely content focused and that it teaches you pedagogy through the lens of content.”

Paige Roberts
UTeach Austin graduate and high school science teacher
The UTeach Institute’s approach to program expansion ensures that UTeach is scalable—the same high-quality program in every location

As of Spring 2017, nearly 7,000 students are enrolled in UTeach programs across the U.S. Nearly 3,300 UTeach graduates have been produced since 2000, and more than 600 new graduates are produced annually.

**UTeach Institute’s approach to program expansion**

- Clear articulation of program elements and expectations for replication
- Comprehensive planning with qualified sites
- Intensive implementation support
- Ongoing evaluations of progress
- Sustaining the innovation

“Through the UTeach model, we have been able to achieve dramatic results in the teaching and learning of STEM at all levels.”

Steve Case
UKanTeach Co-Director,
University of Kansas
UTeach from 1997 to 2017

1997
The UTeach Austin program launches at the University of Texas at Austin

2000
UTeach Austin produces its first two graduates

2003
UTeach Austin produces its 100th graduate
For the first time, a UTeach graduate serves as a cooperating teacher, allowing UTeach students to teach lessons in his high school classroom

2006
The UTeach Institute launches to support expansion of UTeach to other universities

2008
A cohort of 13 UTeach expansion programs launches

2009
The first graduates are produced from UTeach expansion programs: University of Houston and University of Kansas

2010
Race to the Top funds expansion to first of several universities, first in Tennessee, then in Georgia, Florida, Massachusetts, and Maryland
The President’s Council of Advisors on Science and Technology identifies UTeach as a promising program. President Obama names UTeach as an example of how universities can prepare more STEM teachers
Change the Equation selects UTeach as a proven STEM education program
Seven more UTeach programs launch

2011
Four more UTeach programs launch

2012
2012 Eight more UTeach programs launch
The cumulative number of national UTeach graduates tops 1,000
UTeach joins the 100Kin10 movement to increase the number of STEM teachers nationwide

2013
National Business Roundtable recognizes UTeach for its “outstanding contributions to K–12 Education.”
The UTeach STEM Educators Association (USA) and the National UTeach Alumni Network are formed
UTeach launches the first national UTeach Alumni Conference
One more UTeach program launches
The University of Texas at Austin is recognized by PhysTEC’s 5+ Club for producing more than five physics teachers in that year

2014
The cumulative number of national UTeach graduates tops 2,000
HHMI funds expansion of UTeach to 10 more universities through the National Math and Science Initiative. Five of those programs launch in 2014
The University of Colorado Boulder is recognized by PhysTEC’s 5+ Club for producing more than five physics teachers

2015
Five more UTeach programs launch with the HHMI funding
National UTeach Computer Science initiative launches
UTeach launches the Academy of Innovative Teaching and Learning to provide professional learning experiences for all educators
The University of Arkansas is recognized by PhysTEC’s 5+ Club for producing more than five physics teachers in that year

2016
The cumulative number of national UTeach graduates tops 3,000
Two more UTeach programs launch
Three universities with UTeach programs are recognized by PhysTEC’s 5+ Club for producing more than five physics teachers in that year: Middle Tennessee State University, Towson University, and University of Arkansas

2017
An independent research study demonstrates that students of UTeach graduates learn more
Two universities with UTeach programs are recognized by PhysTEC’s 5+ Club for producing more than five physics teachers in that year: University of Texas at Austin and University of Colorado Boulder
UTeach celebrates its 20th anniversary!
UTeach is scalable

Since 2006, UTeach has expanded to 46 universities in 21 states and the District of Columbia.

UTeach programs

Boise State University • Cleveland State University • Columbus State University • Drexel University • Florida Institute of Technology • Florida International University • Florida State University • George Washington University • Kennesaw State University • Louisiana State University • Louisiana Tech University • Middle Tennessee State University • Morehead State University • Northern Arizona University • Oklahoma State University • Old Dominion University • Temple University • Towson University • University of Alabama at Birmingham • University of Arkansas, Fayetteville • University of Arkansas at Little Rock • University of California, Berkeley • University of California, Irvine • University of Central Arkansas • University of Central Washington • University of Colorado Boulder • University of Colorado Colorado Springs • University of Florida • University of Houston • University of Kansas • University of Maryland, College Park • University of Massachusetts, Boston • University of Massachusetts Lowell • University of Nevada, Reno • University of North Texas • University of Tennessee, Chattanooga • University of Tennessee, Knoxville • University of Texas at Arlington • University of Texas at Austin • University of Texas at Dallas • University of Texas Rio Grande Valley • University of Texas at San Antonio • University of Texas at Tyler • University of West Georgia • Western Kentucky University • West Virginia University
UTeach has a unique approach to teacher preparation that works

UTeach students acquire deep subject-matter knowledge and STEM pedagogical knowledge. They develop research and analysis skills and design and implement inclusive inquiry-based instruction.

Hallmarks of UTeach programs

- Active cross-college and school district collaboration
- Compact and flexible degree plans
- Active student recruitment and support
- Rigorous, research-based instruction
- Early, continuous, and intensive field experiences
- Course sequence integrating themes important to STEM education
- Continuous support provided by dedicated, experienced, successful teacher leaders
- Comprehensive induction support for graduates

In a period when national teacher production declined by 20%, STEM teacher production at UTeach universities climbed by 20%.

Bringing the UTeach program to UAB has transformed STEM teacher preparation in an amazing way! Enrollment has soared, and excitement about UABTeach has spread across the campus.

Lee Meadows
UTeach Co-Director, University of Alabama, Birmingham
UTeach graduates increase student learning

UTeach uses proven inquiry-based teaching methods to prepare our graduates to be inspiring and effective teachers.

+4 months
additional learning in math

+5.7 months
additional learning in science

An independent research study found that secondary students of UTeach graduates gain an additional 4 months of learning in math and 5.7 months in science.

“ I teach because we’re preparing citizens. This country will be theirs and we need them making the best decisions possible. ”

Michael Ralph
UKanTeach graduate, University of Kansas

+9 months
additional schooling in Algebra I and Biology for Gifted students

+5 months
additional schooling in Biology for Economically Disadvantaged and Hispanic students

A UTeach study found significant advantages for students of UTeach graduates of around 9 months of schooling in both Algebra I and Biology for Gifted students, and 5 months of schooling in Biology for Economically Disadvantaged and Hispanic students.

“ The difference between graduates from UTeach replication sites and non-UTeach teachers in the effectiveness with which they teach high school math and science courses is similar to the difference between novice teachers and teachers with 10+ years of experience. ”

AIR report

Footnotes

Marder, M., & Hamrock, C. (2016, working paper). Math and science outcomes for students of teachers from standard and alternative pathways in Texas. uteach.utexas.edu/uteach-blog/students-uteach-graduates-learn-more
**UTeach graduates are leaders**

UTeach graduates across the country are leaders in their classrooms and local communities, garnering accolades from their students and administrators. They also earn recognition in the form of prestigious fellowships and awards. They’ve won Knowles Fellowships as well as many local and state teaching awards.

UTeach graduates have led teams of students to participate in (and win) everything from pumpkin-growing contests to International Space Station design competitions.

A generation of UTeach leaders has emerged, as more graduates move into formal leadership roles, becoming principals, instructional leaders, counselors, and curriculum developers.

“Partnering with the UTeach program has had huge benefits, first and foremost because I get the best of the best.”

**Steve Zipkes**
Founding Principal,
Manor New Tech High School

“You engaged us and made us actually look at how things worked and why they worked, not only in problems, but also in practical applications. You really changed my love of science into an understanding of what I want to do for a living.”

Student of a UTeach teacher from The University of Texas at Austin

“She is a leader on our campus. It’s just her third year here and she has taken a lot of leadership positions.”

**Jessica Bennett**
Principal, Bradshaw Mountain Middle School, Dewey, AZ, about a UTeach teacher from Northern Arizona University
**UTeach graduate production**

UTeach at UT Austin began producing graduates in 2000 and now produces approximately 70 graduates annually. UTeach partner programs produced their first graduates in 2009. During the 2015–2016 academic year, UTeach programs produced a total of 604 graduates.

**ANNUAL UTEACH GRADUATE PRODUCTION**

![Bar chart showing annual UTeach graduate production from 1999-2000 to 2016-2017.]

**Cumulative national UTeach graduates:** 3,272

**Graduates identified as underrepresented minorities:** 26%

**Graduates entering teaching:** 86%

**Graduates currently teaching:** 85%

**Graduates currently teaching in K–12 schools with a majority low-income population:** 67%

Cumulatively, UTeach programs across the nation have produced 3,272 graduates, most of whom enter teaching and stay in teaching for five years or more.
UTeach programs prepare STEM teachers for less

UTeach programs produce teachers at a lower cost than other leading programs.

**Leading national post-baccalaureate model**

- A cohort of 67 new STEM teachers each year
- $3.57M
- $53,000 per new teacher

**UTeach model**

- A cohort of 70 new STEM teachers each year
- $2M
- $29,000 per new teacher

UTeach graduates stay in schools longer.

- Teachers stay in teaching for an average of 2.1 years, resulting in 142 active STEM teachers
- $3.57M
- $2M =

Since UTeach graduates stay in teaching longer, the average cost per year of teaching is much lower.

<table>
<thead>
<tr>
<th>Leading national post-baccalaureate model</th>
<th>VS.</th>
<th>UTeach model</th>
</tr>
</thead>
<tbody>
<tr>
<td>$25,000</td>
<td>Cost per year of teaching</td>
<td>$5,700</td>
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$25,000 - Cost per year of teaching
UTeach provides a high return on investment

UTeach graduates inspire their students and influence them to go into STEM fields.

70 UTeach graduates per year

350 UTeach teachers in schools

if each teacher influences just one more student per year to go into STEM, 350 more students will enter STEM fields annually

1 symbol = 10 STEM professionals

Median STEM vs. non-STEM annual earnings in Texas

Annual increase in Texas state tax revenue per STEM professional

$3,002

Cumulative lifetime earnings

Minimum ROI to the state of Texas

Her love of science helped me discover my own and influenced my decision to go for a science major in college.

Student of a UTeach teacher from The University of Texas at Austin
National STEM education leadership

UTeach leads a variety of national STEM education initiatives.

**UTeach STEM Educators Association (USEA)**

The UTeach STEM Educators Association (USEA) brings together UTeach programs, UTeach alumni, K–12 school districts and teachers, and STEM education supporters around the common goal of developing STEM literacy for all students through innovation and excellence in university-based teacher education.

**UTeach Academy of Innovative Teaching and Learning**

The UTeach Academy of Innovative Teaching and Learning provides K–12 educators access to high-quality online professional learning courses. All of the courses in the academy have been developed by UTeach faculty and reviewed by university faculty and practicing teachers. Courses address some of the most requested professional learning needs of in-service teachers.

**UTeach Computer Science**

UTeach Computer Science offers professional development and support for the implementation of UTeach CS Principles. This is a complete high school curriculum—designed by University of Texas at Austin computer scientists and experienced high school computer science teachers—that introduces students to the big ideas in the field of computer science through inquiry- and project-based learning approaches.
Partners and Supporters: 100Kin10 • Arkansas Governor’s Workforce Cabinet • Arkansas Science and Technology Authority • Boise State University • Educate Texas • Exxon Mobil Corporation • Florida Department of Education • Georgia Governor’s Office • Greater Texas Foundation • Howard Hughes Medical Institute (HHMI) • Maryland State Department of Education • Massachusetts Department of Elementary and Secondary Education • Michael and Susan Dell Foundation • National Math and Science Initiative • Tennessee Department of Education • Tennessee Higher Education Commission • Texas Education Agency • Texas Instruments Foundation • Texas Regional Collaboratives • The University of Texas at Austin • The University of Texas System

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