

2017

UTEACH



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.

“UTeach is really a remarkable phenomenon. University after university has adopted the mission of preparing more mathematics and science teachers. This cause is very important, and that’s why it has spread so well.”

Michael Marder
UTeach Executive Director and
Professor of Physics at The
University of Texas at Austin

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

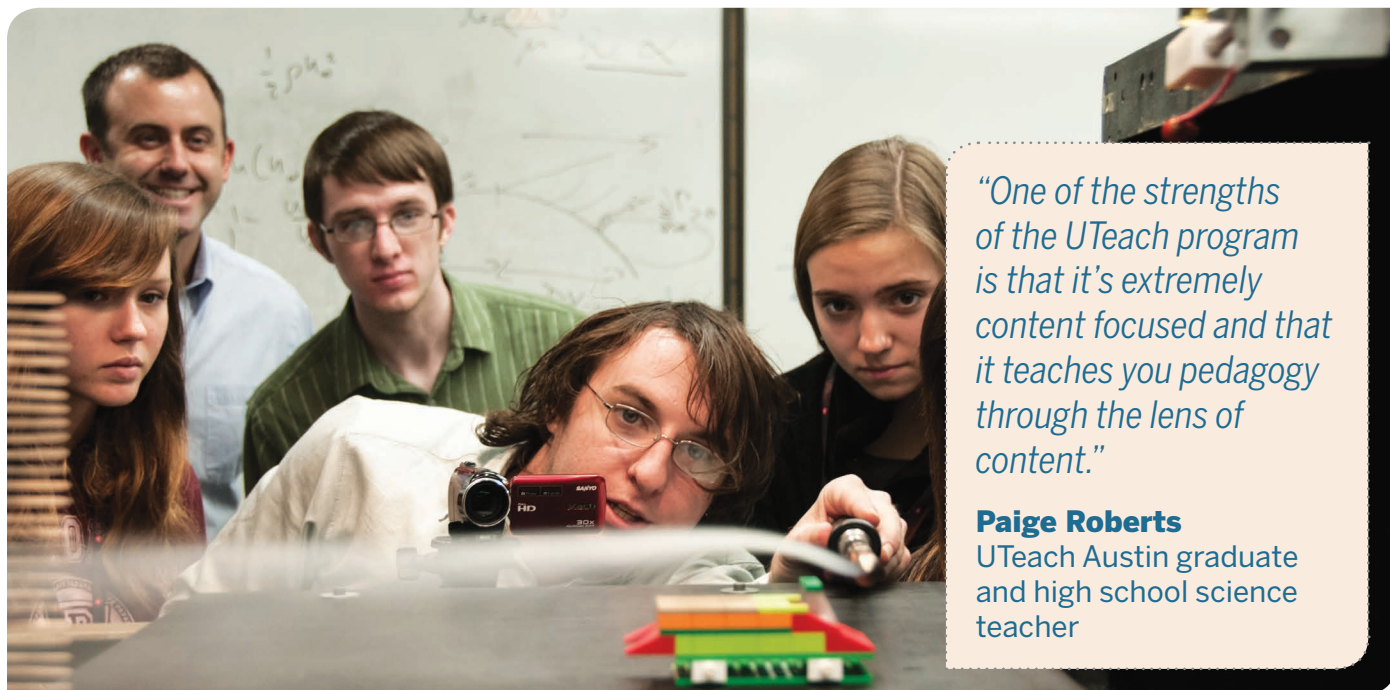
Improving the participation and performance of all of America’s students in science, technology, engineering, and mathematics has to begin with the preparation of qualified STEM teachers for K–12 schools. We do not have enough teachers with strong STEM backgrounds to meet the need. Undergraduate STEM 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.



“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

“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



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

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

2008 A cohort of 13 UTeach expansion programs launches

- 2010**
- Race to the Top first in the nation
 - The President's Council on Competitiveness and Innovation as a priority for the White House
 - Changing the way we think about teacher education
 - Seven new UTeach programs launched

2009 The first graduates of the UTeach Institute programs: University of Texas at Austin, University of Texas at Dallas, and University of Texas at San Antonio

- 2007**
- ExxonMobil grants funds for the national expansion of UTeach in partnership with the National Math and Science Initiative
 - UTeach Austin celebrates its 10th anniversary. The National Committee on Science, Engineering, and Public Policy recommends UTeach
 - UTeach Institute receives proposals from 50+ universities interested in adopting UTeach
 - 30+ universities attend the first UTeach proposal conference



11 Four more UTeach programs launch

are produced from UTeach expansion
ty of Houston and University of Kansas

al

on

to the Top funds expansion to first of several universities,
Tennessee, then in Georgia, Florida, Massachusetts, and Maryland

President's Council of Advisors on Science and Technology identifies UTeach
promising program. President Obama names UTeach as an example of how
universities can prepare more STEM teachers

ge the Equation selects UTeach as a proven STEM education program

more UTeach programs launch



2013

- National Business Roundtable recognizes UTeach for its outstanding contributions to K–12 Education
- The UTeach STEM Educators Association (USEA) 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

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

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!**

2014

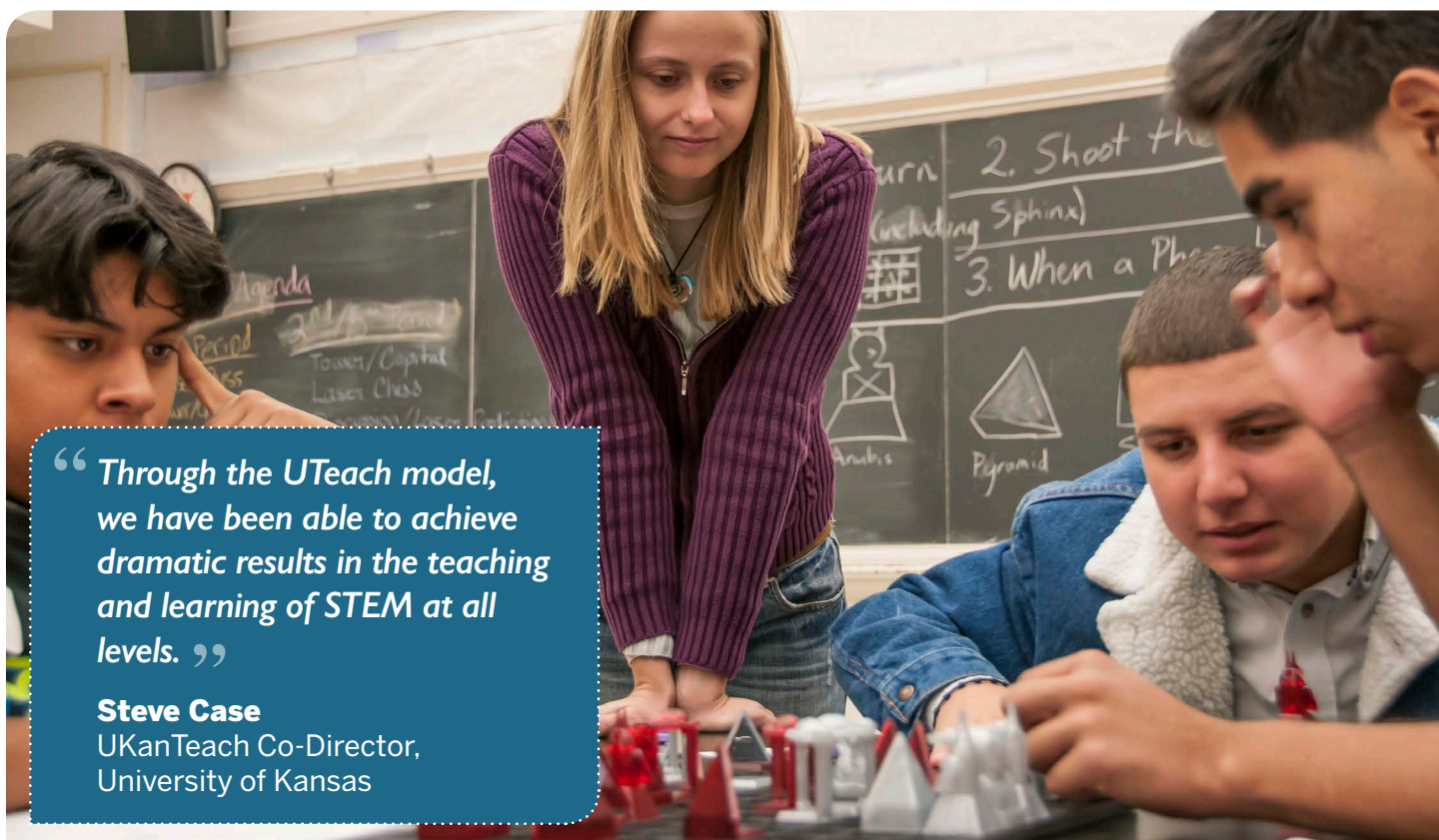
- The cumulative number of national UTeach graduates tops 2,000
- HHMI funds expansion of UTeach to 10 more universities through the National Math and Science Initiative. Five of those programs launch in 2014
- The University of Colorado Boulder is recognized by PhysTEC's 5+ Club for producing more than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

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



“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

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

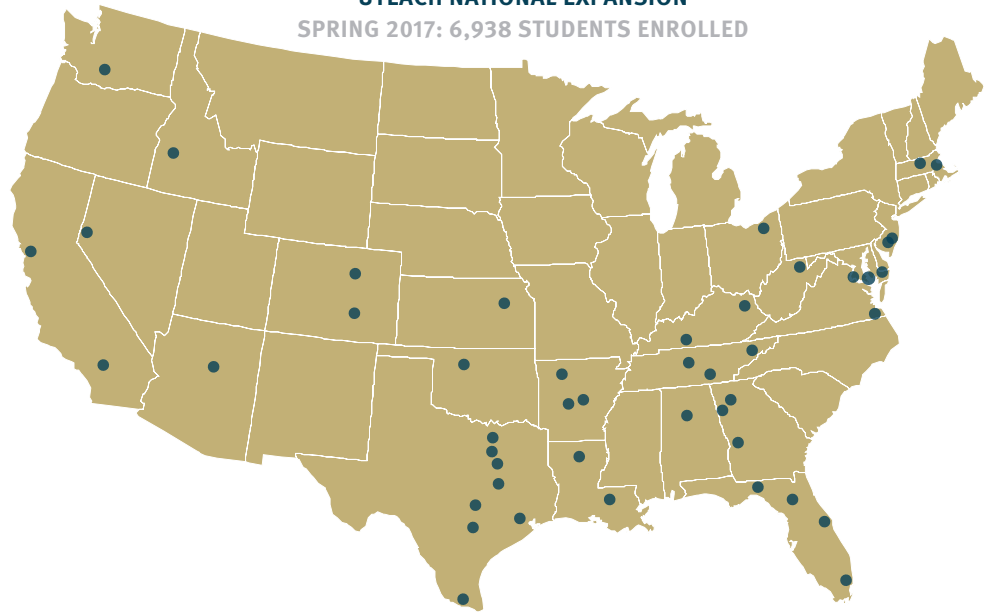
- Clear articulation of program elements and expectations for replication
- Comprehensive planning with qualified sites
- Intensive implementation support
- Ongoing evaluations of progress
- Sustaining the innovation



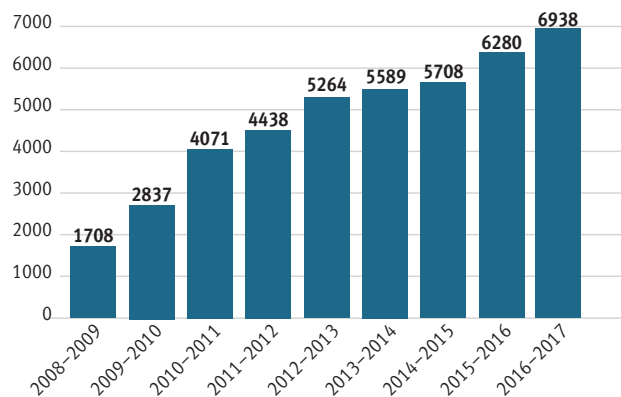
UTeach is scalable

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

UTeach NATIONAL EXPANSION
SPRING 2017: 6,938 STUDENTS ENROLLED



NATIONWIDE ACTIVE ENROLLMENT IN UTEACH PROGRAMS
ACADEMIC YEARS 2008–2009 THROUGH 2016–2017



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

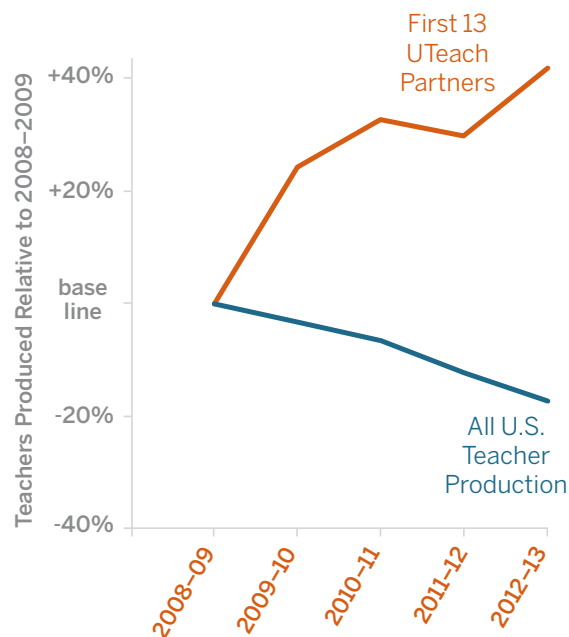
UTeach has a unique approach to teacher preparation that works

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 40%.



2014 National Title II Teacher Preparation Data



UTeach graduates increase student learning

UTeach uses proven inquiry-based teaching methods to prepare STEM majors 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

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.

**+9
months**

additional
schooling in
Algebra I & Biology
for Gifted
students

**+5
months**

additional
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

Backes, B., Goldhaber, D., Cade, W., Sullivan, K., & Dodson, M. (2016, working paper). Can UTeach? Assessing the relative effectiveness of STEM teachers. Washington, DC: American Institutes for Research. www.caldercenter.org/publications/can-uteach-assessing-relative-effectiveness-stem-teachers

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.

“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



“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



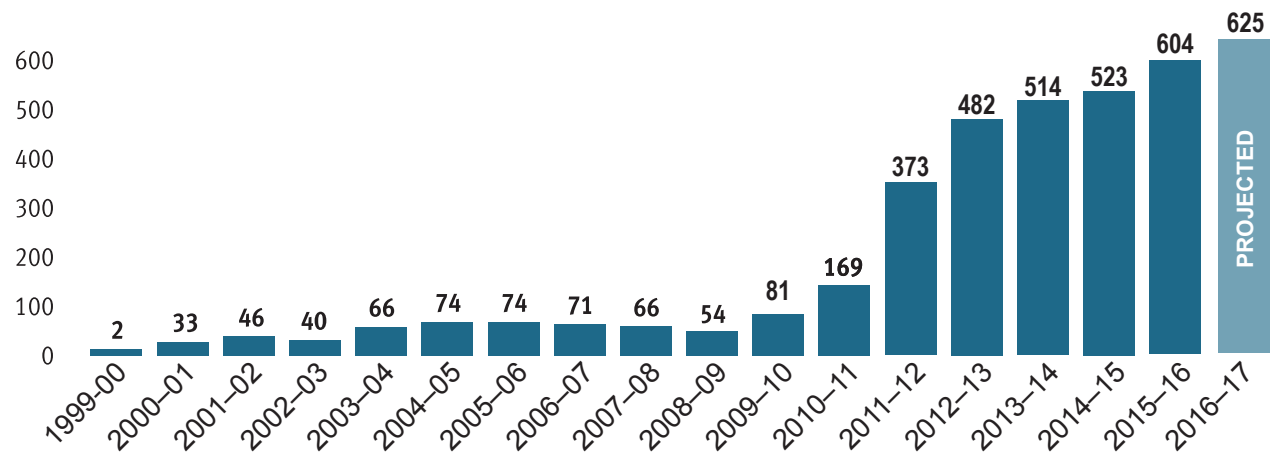
“You engaged us and made us actually look at how things worked and why they worked, not only in problems, but also in practical applications. You really changed my love of science into an understanding of what I want to do for a living.”

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

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.

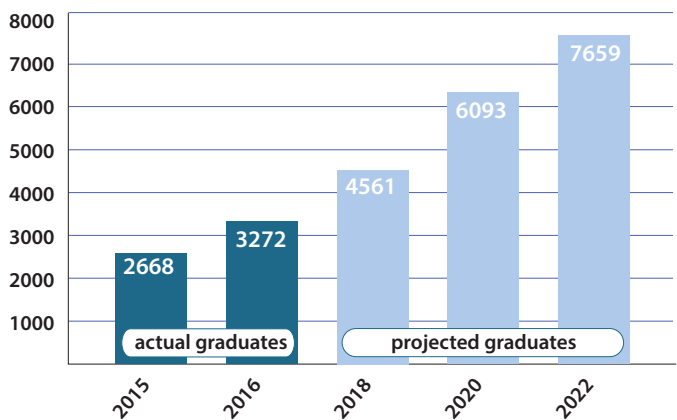
ANNUAL UTEACH GRADUATE PRODUCTION



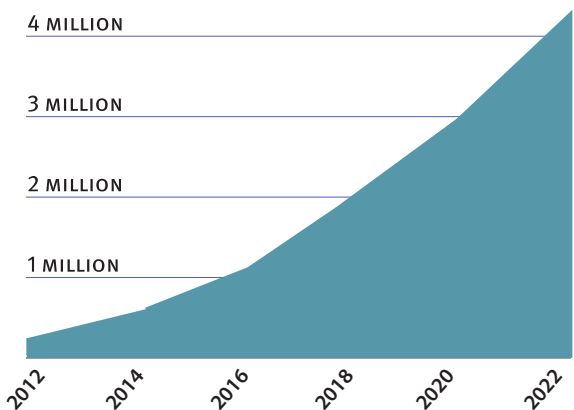
Cumulative national UTeach graduates **3,272**
Graduates identified as underrepresented minorities **26%**
Graduates entering teaching **86%**
Graduates currently teaching **85%**
Graduates currently teaching in K–12 schools with a majority low-income population **67%**

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.

CUMULATIVE NATIONAL UTEACH GRADUATES



PROJECTED NUMBER OF SECONDARY STEM STUDENTS TAUGHT BY UTEACH GRADUATES



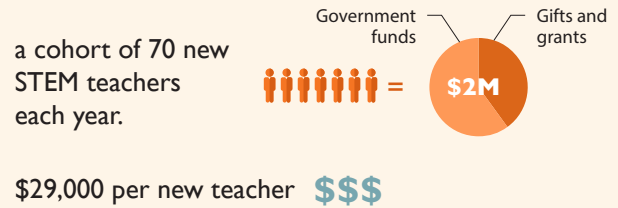
UTeach programs prepare STEM teachers for less

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

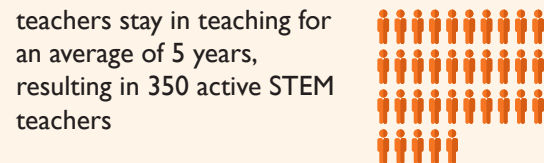
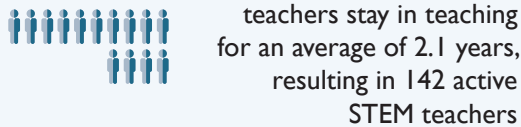
Leading national post-baccalaureate model



UTeach model



UTeach graduates stay in schools longer.



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

Leading national
post-baccalaureate model

VS.

UTeach
model

\$25,000

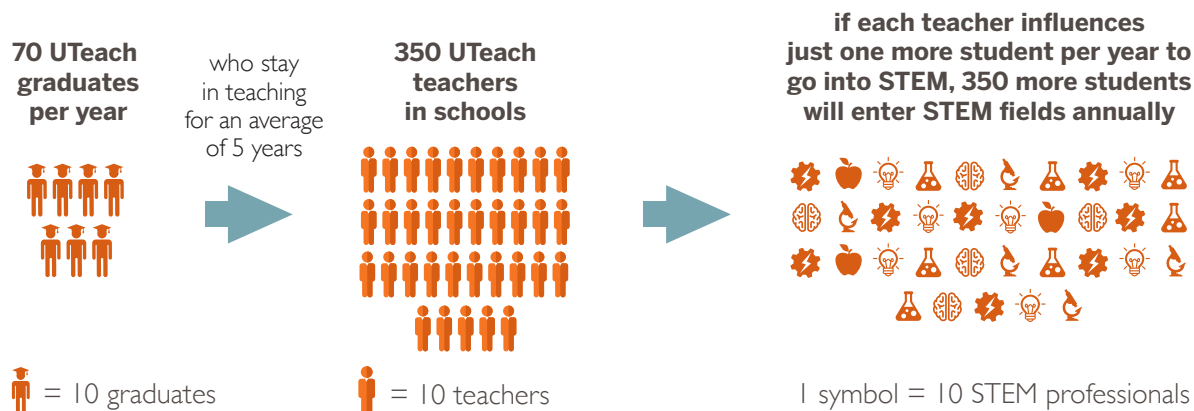
Cost per year of teaching

\$5,700

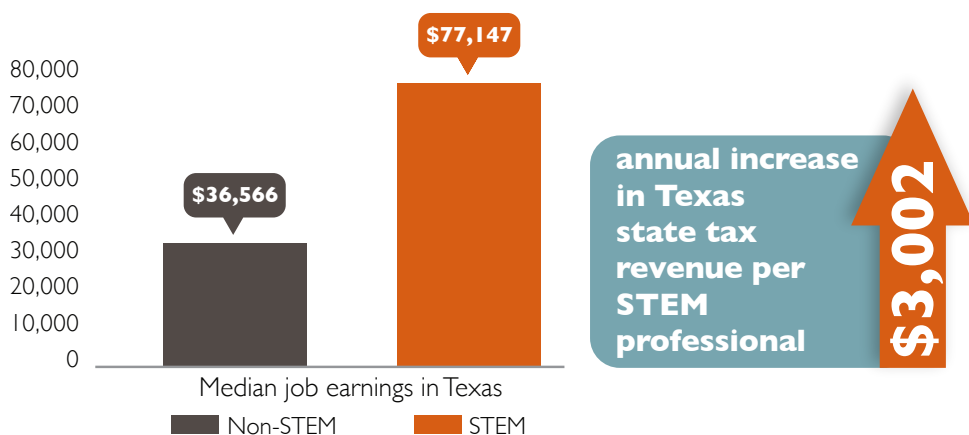


UTeach provides a high return on investment

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



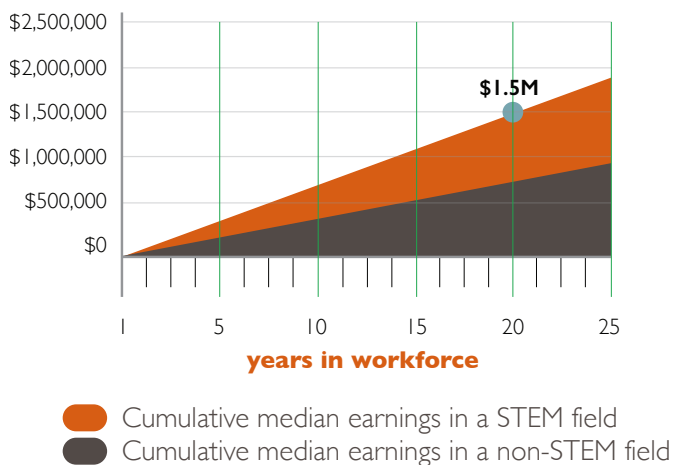
Median STEM vs. non-STEM annual earnings in Texas



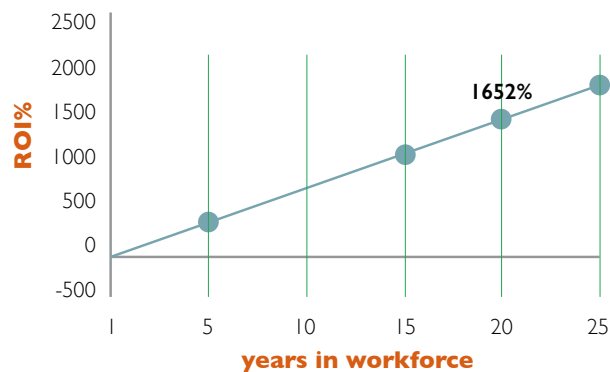
“ Her love of science helped me discover my own and influenced my decision to go for a science major in college. ”

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

Cumulative lifetime earnings



Minimum ROI to the state of Texas



+350 additional STEM professionals created
+\$1M increased government revenue

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.



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UTeach Institute

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