

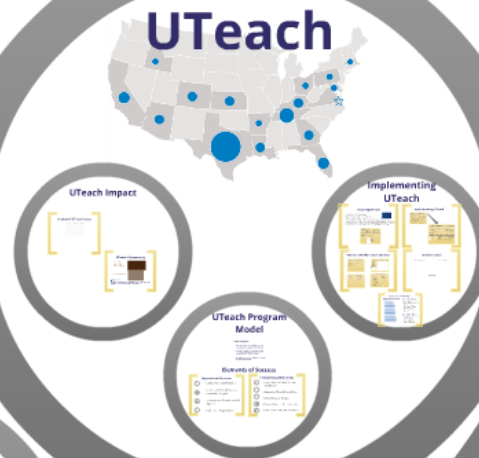
# Excellence in STEM Teacher Preparation

The UTeach Secondary STEM Teacher Preparation Model

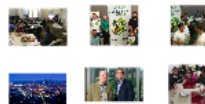
## State & National Context



## UTeach



**UAB Teach**  
University of Alabama,  
Birmingham



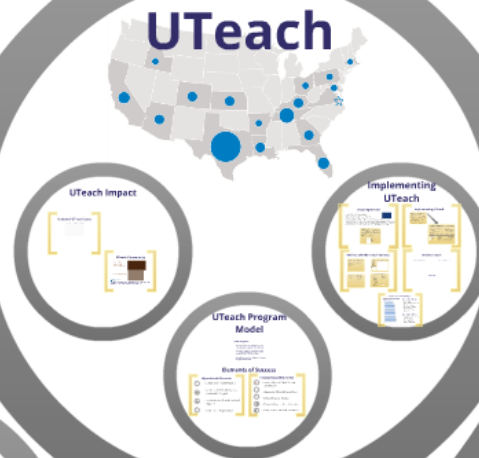
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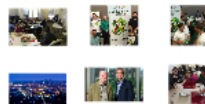
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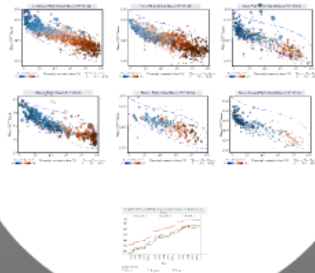
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# State & National Context

## Poverty and Educational Outcomes



## Persistent STEM teacher shortages, declining new teacher production

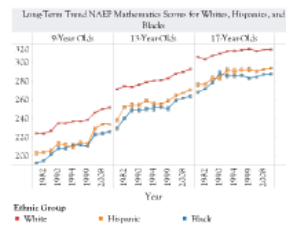
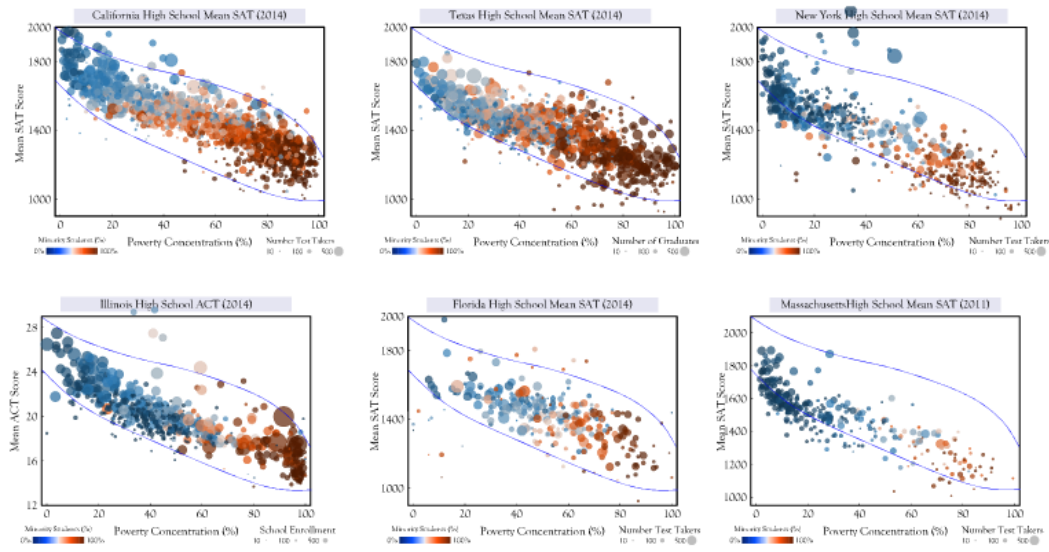
| State       | Number of STEM teachers | Percentage of total teachers |
|-------------|-------------------------|------------------------------|
| Alabama     | 10,000                  | 20%                          |
| Arkansas    | 15,000                  | 25%                          |
| Florida     | 20,000                  | 30%                          |
| Georgia     | 25,000                  | 35%                          |
| Illinois    | 30,000                  | 40%                          |
| Mississippi | 35,000                  | 45%                          |



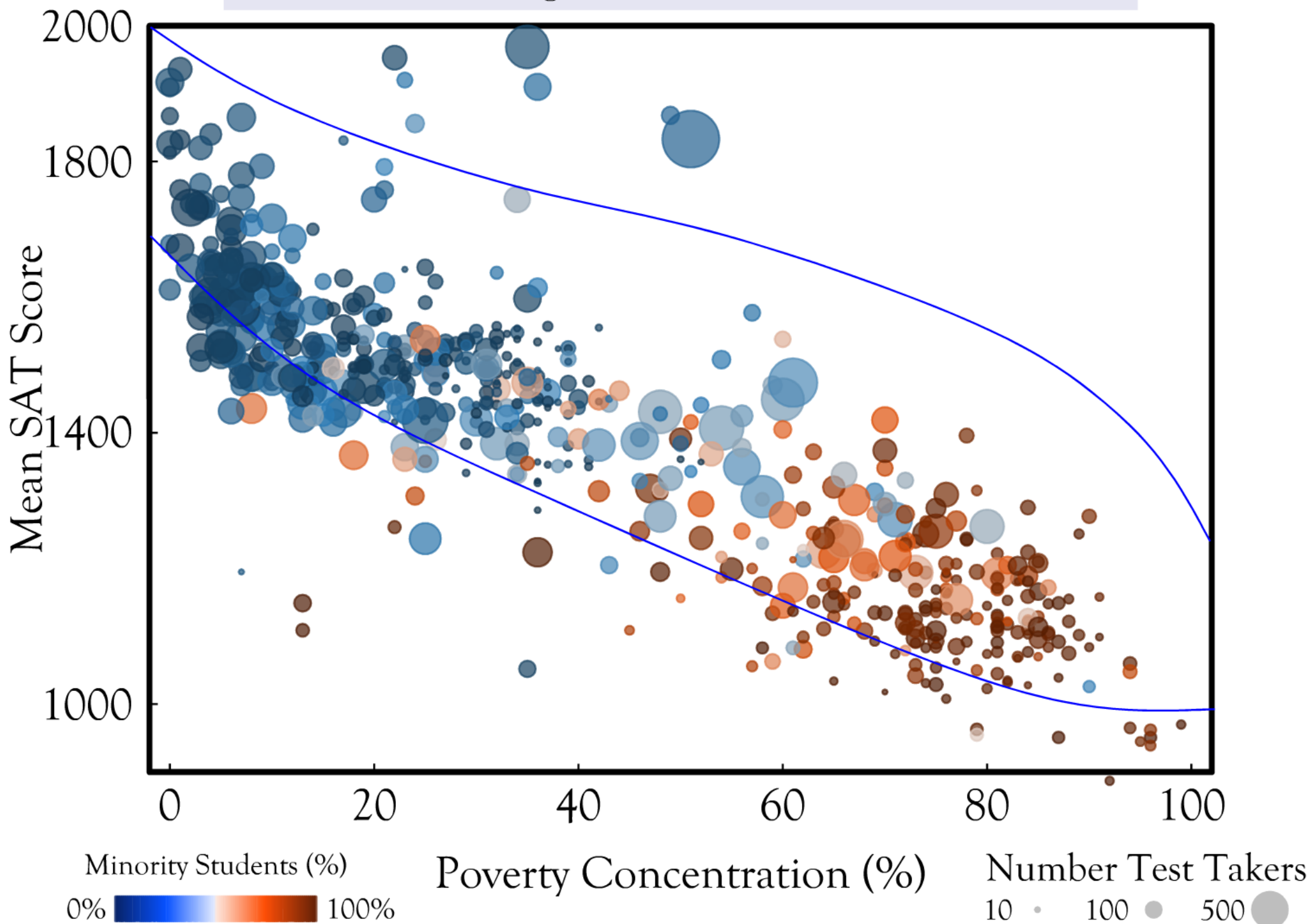
## Recruiting students in high-needs areas to teaching (American Physical Society Panel on Public Affairs)



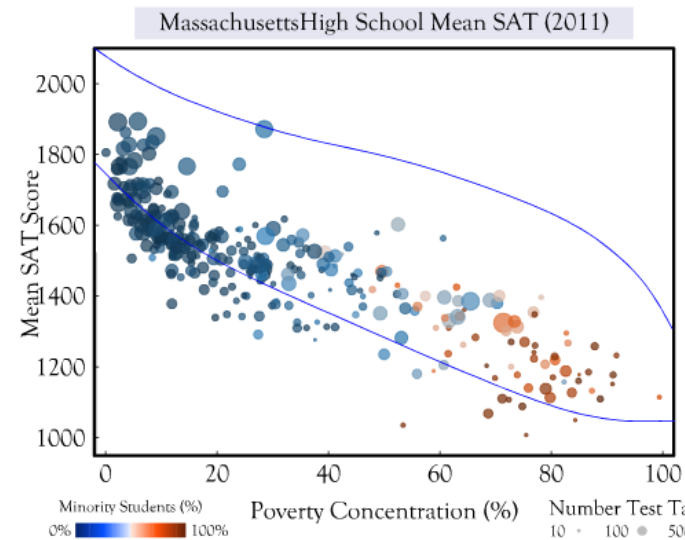
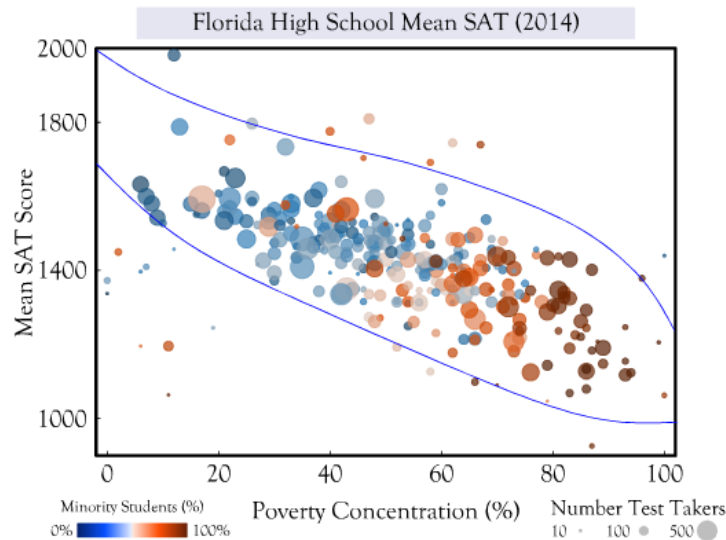
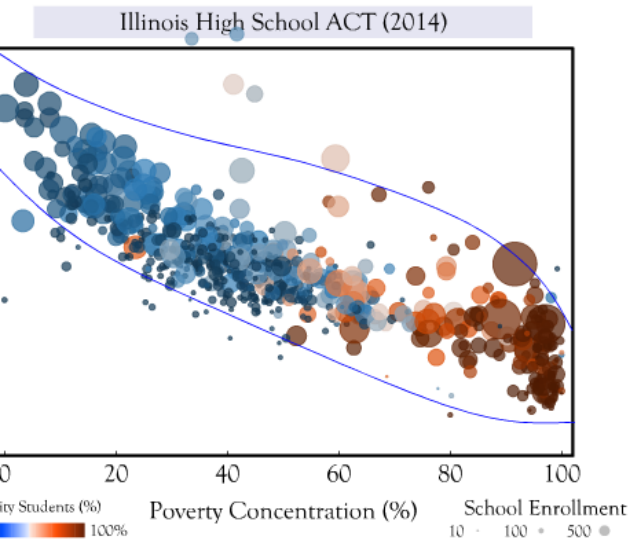
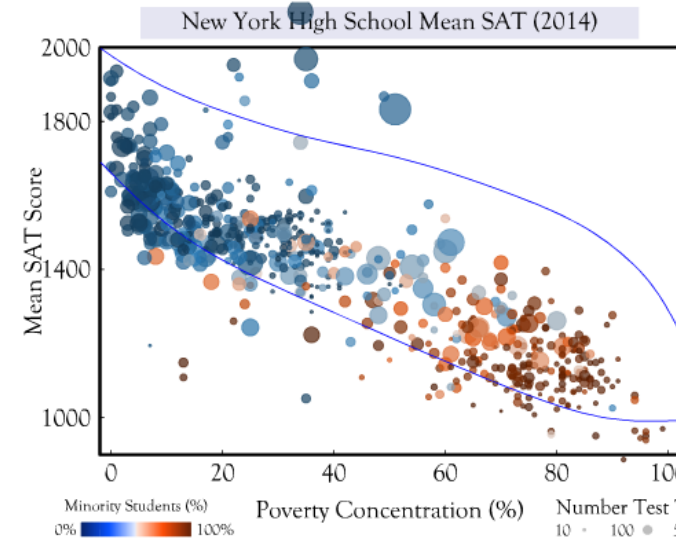
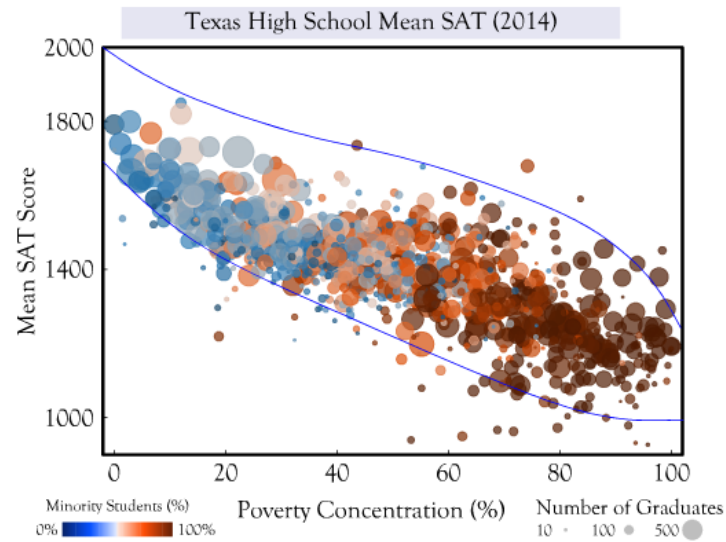
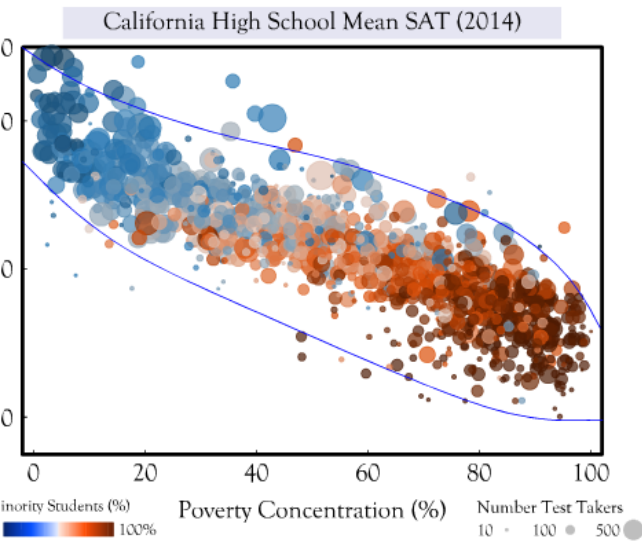
# Poverty and Educational Outcomes



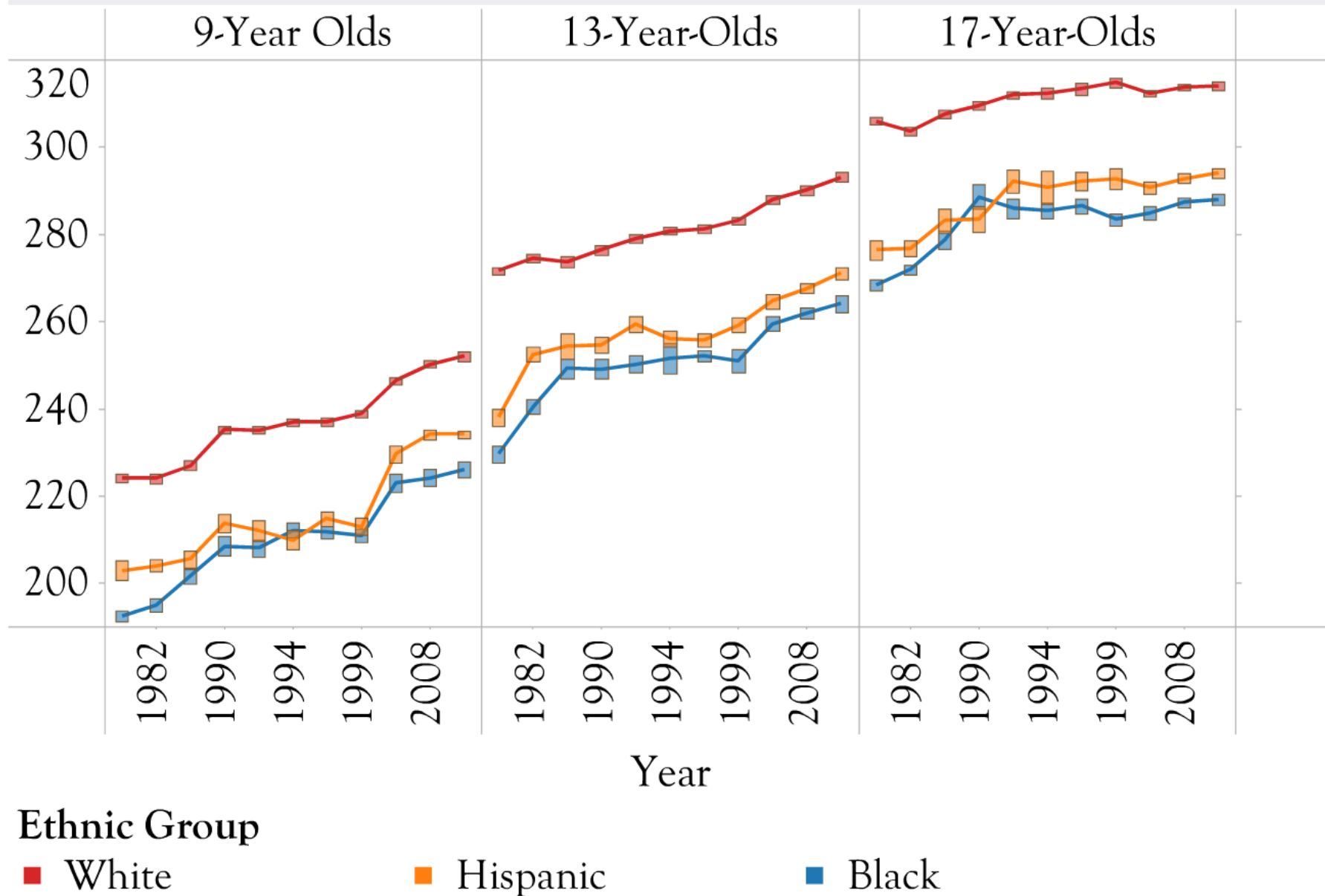
# New York High School Mean SAT (2014)



# Poverty and Educational Outcomes

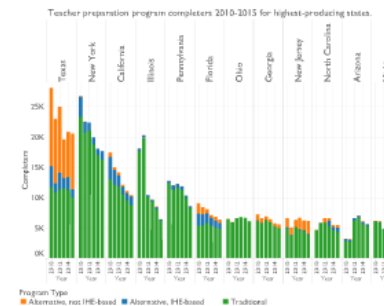


# Long-Term Trend NAEP Mathematics Scores for Whites, Hispanics, and Blacks

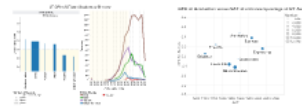


## Persistent STEM teacher shortages, declining new teacher production

| Subject          | Number of Teachers | Percentage with no major in main assignment or not certified |
|------------------|--------------------|--------------------------------------------------------------|
| Mathematics      | 144,800            | 38%                                                          |
| Science          | 126,300            | 27%                                                          |
| Biology          | 51,900             | 35%                                                          |
| Physical Science | 64,600             | 62%                                                          |
| Chemistry        | 24,300             | 66%                                                          |
| Earth Sciences   | 12,400             | 68%                                                          |
| Physics          | 13,300             | 63%                                                          |

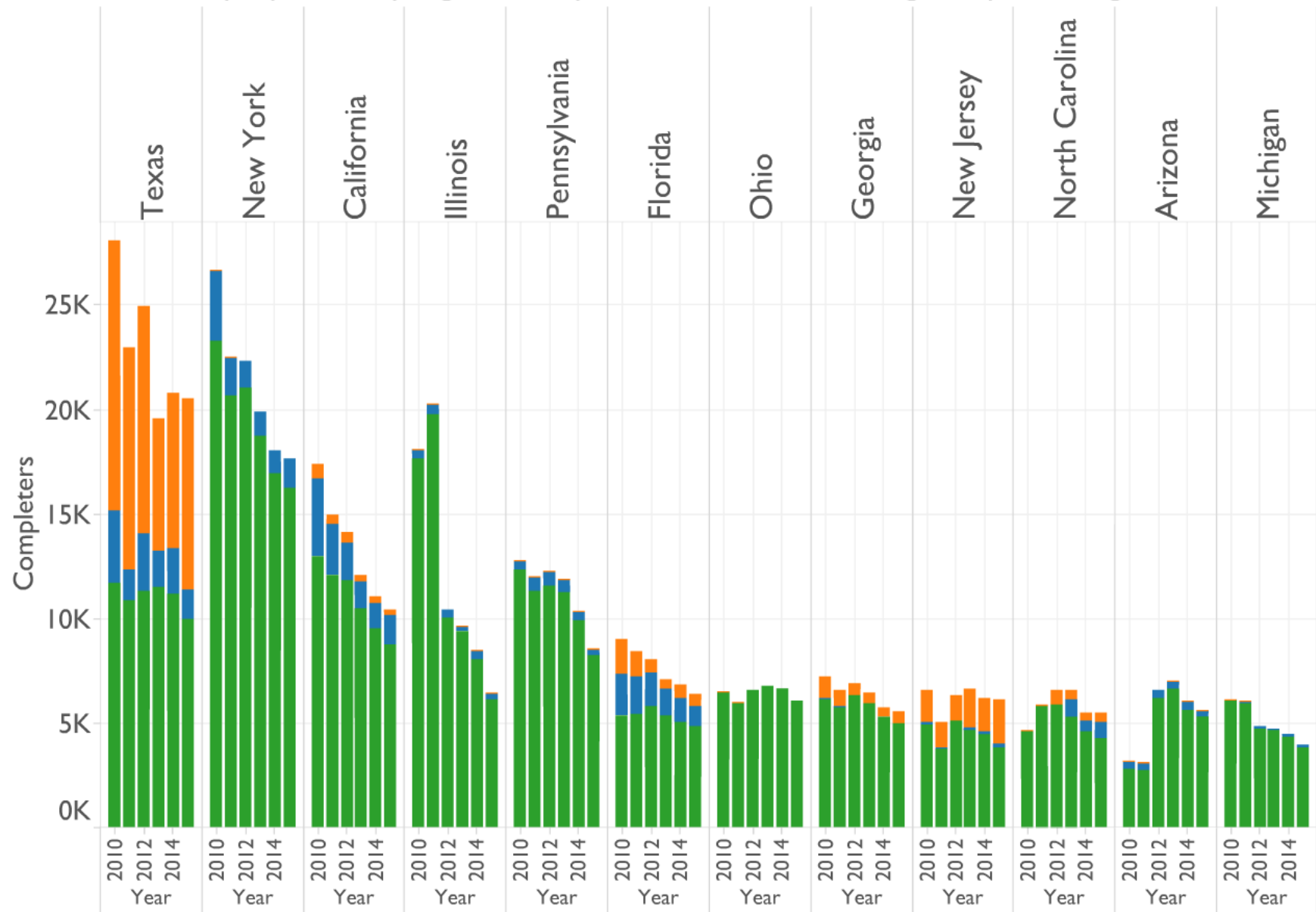


Tension between quality and  
diversity, inequitable context



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Teacher preparation program completers 2010-2015 for highest-producing states.

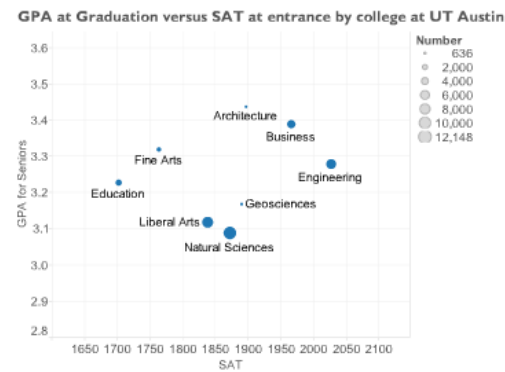
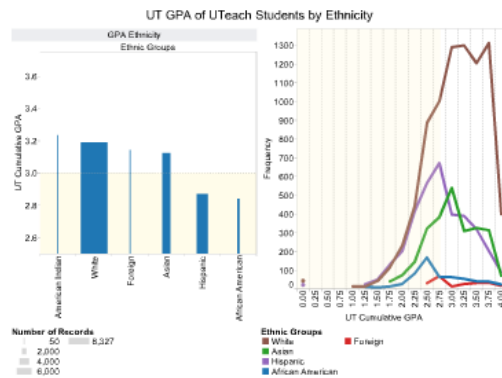


Program Type

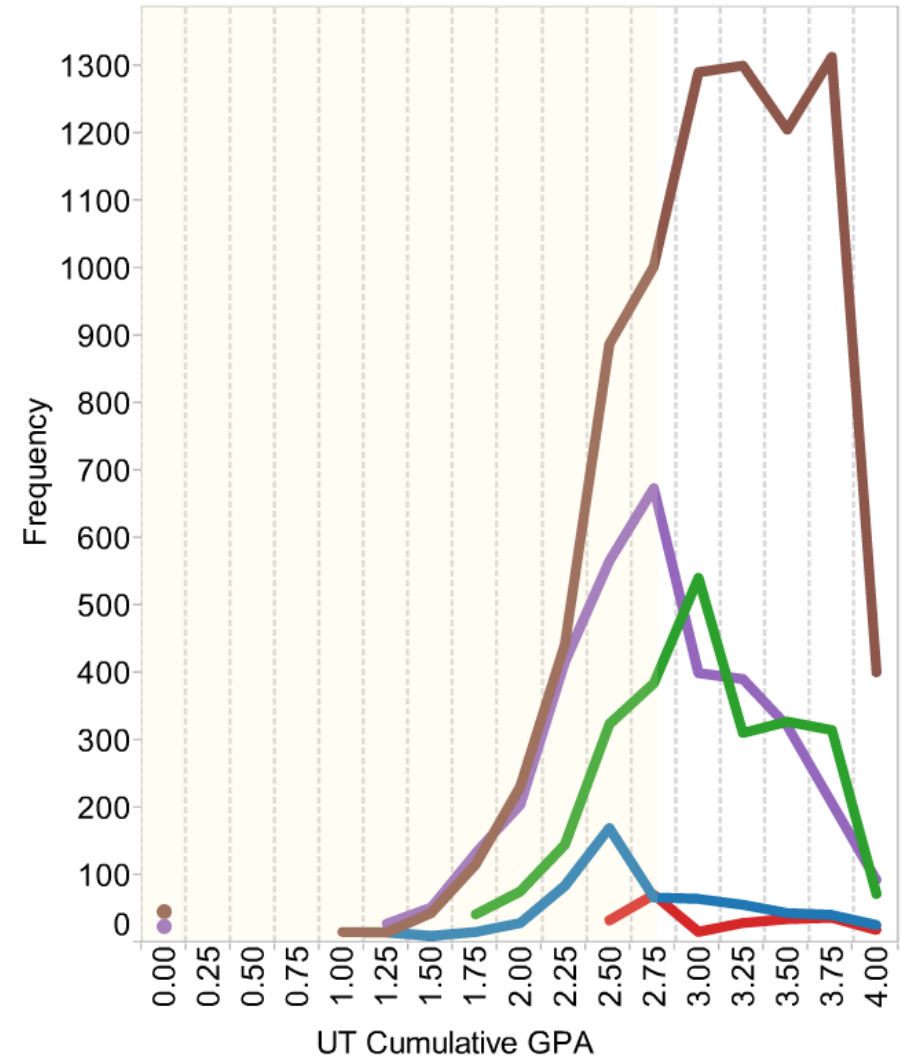
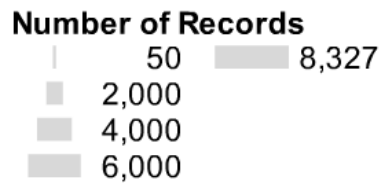
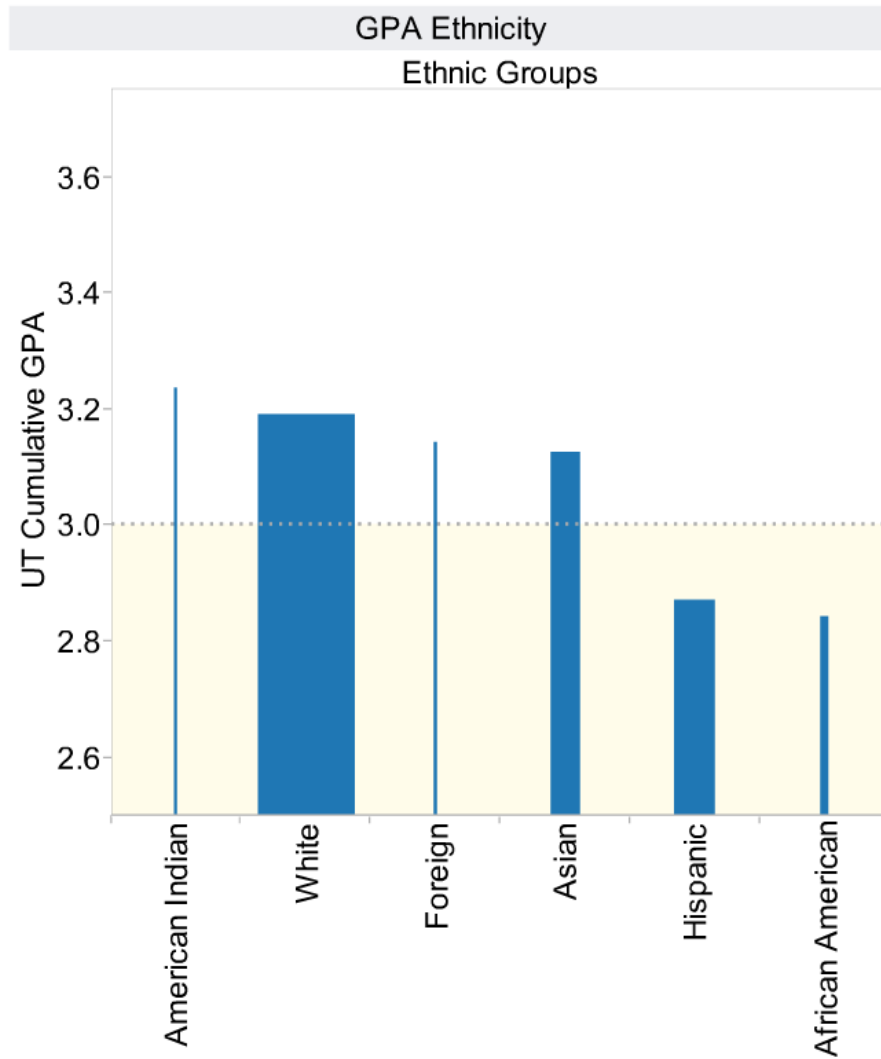
Alternative, not IHE-based Alternative, IHE-based Traditional



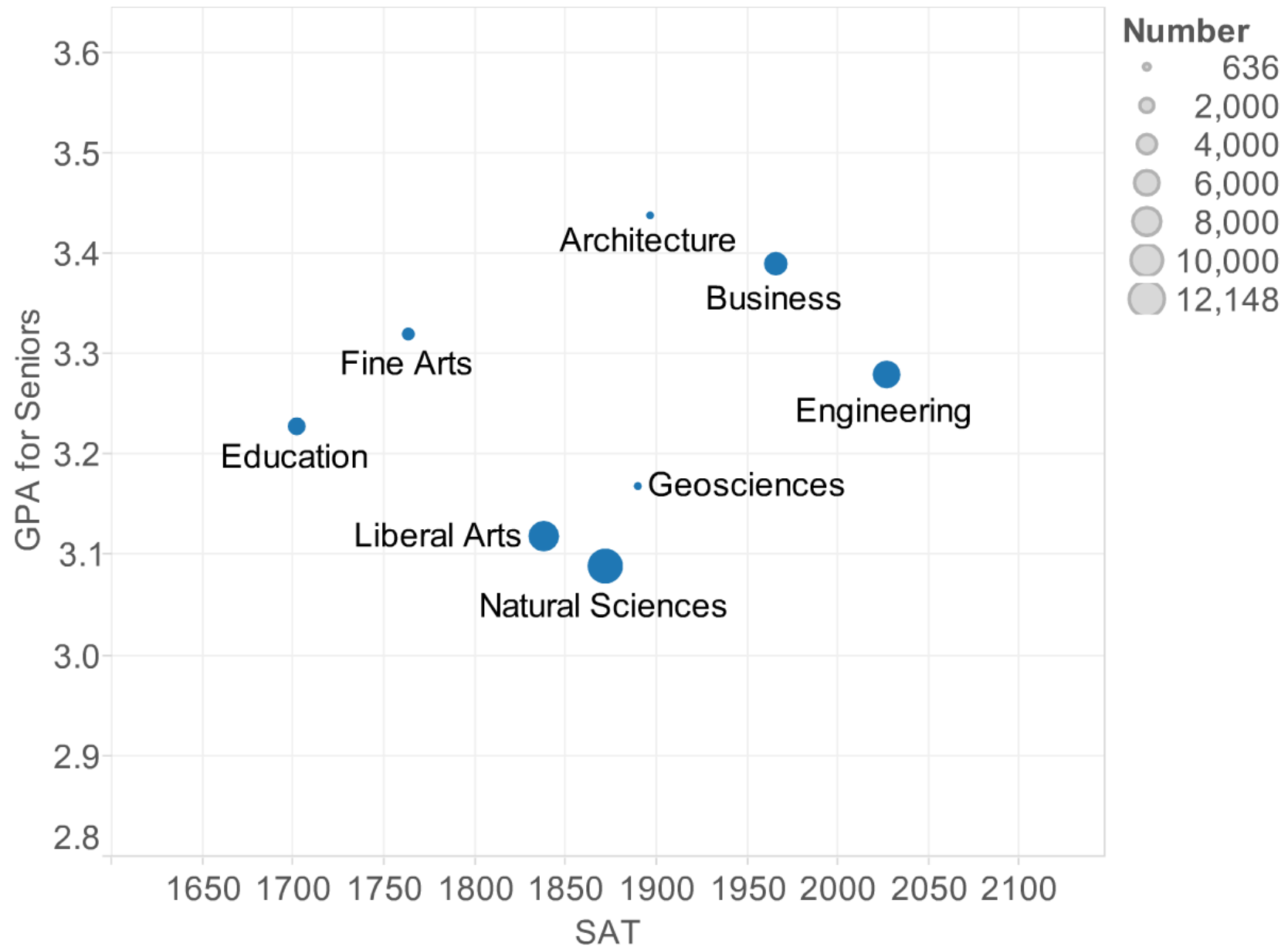
# Tension between quality and diversity, inequitable context



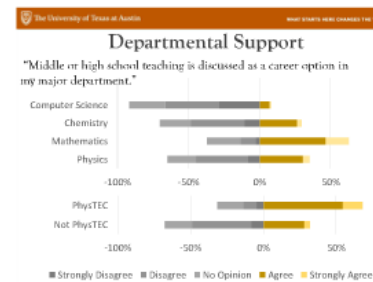
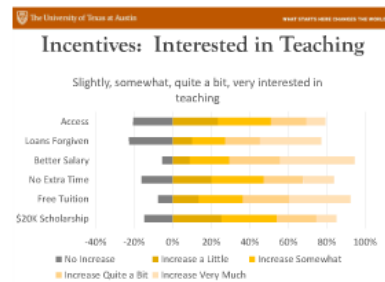
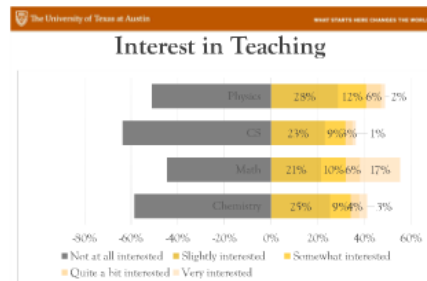
# UT GPA of UTeach Students by Ethnicity



## GPA at Graduation versus SAT at entrance by college at UT Austin

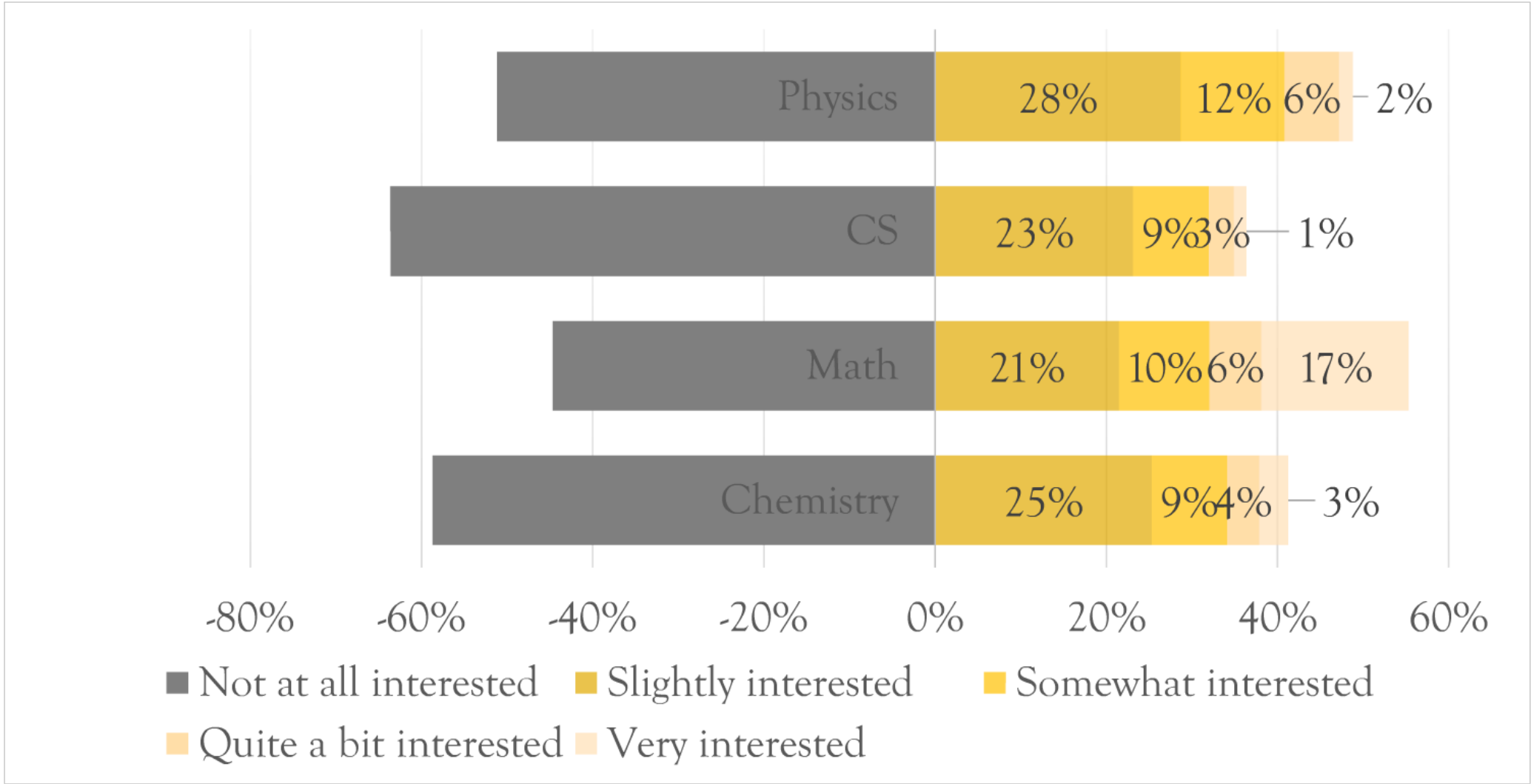


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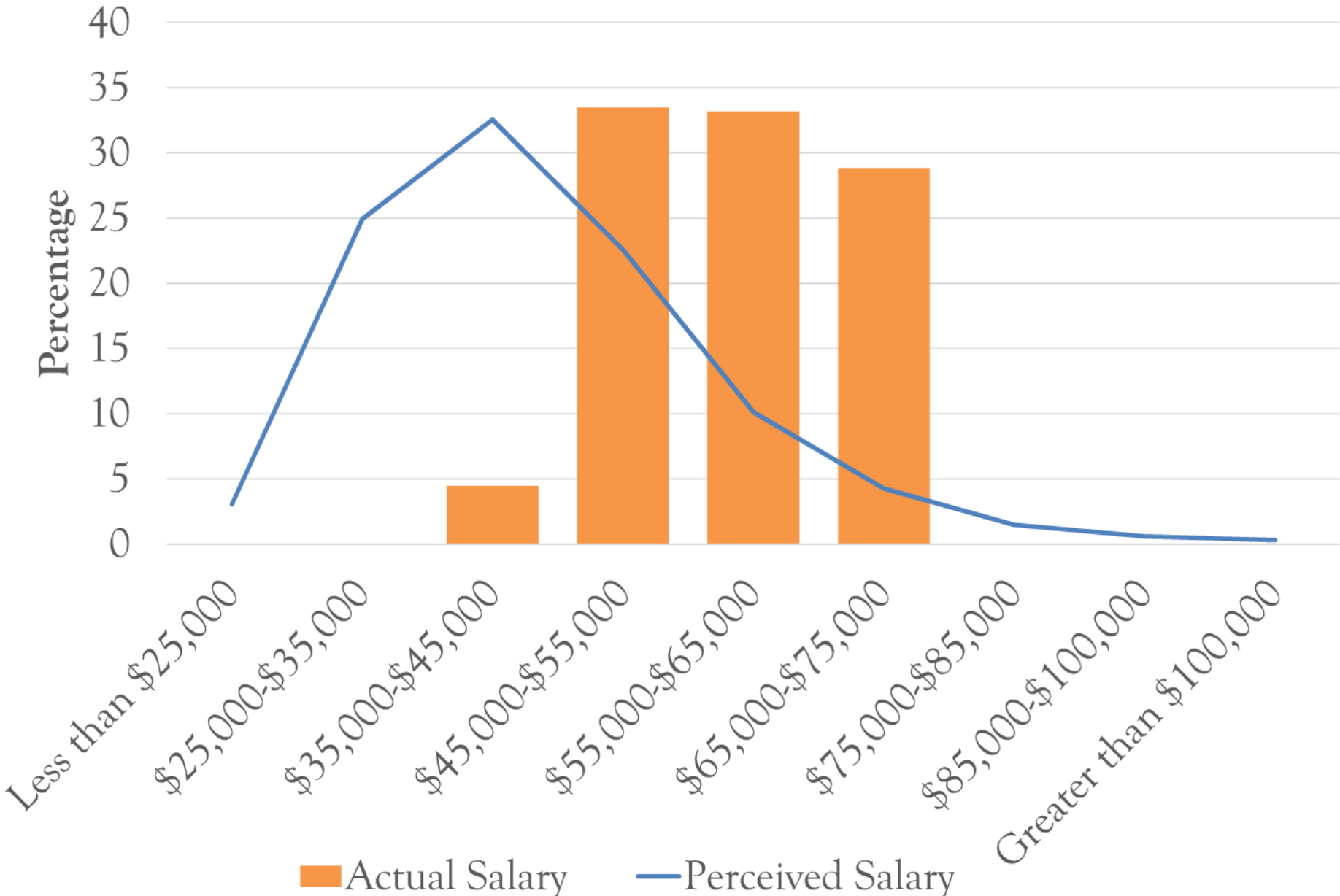


# Interest in Teaching





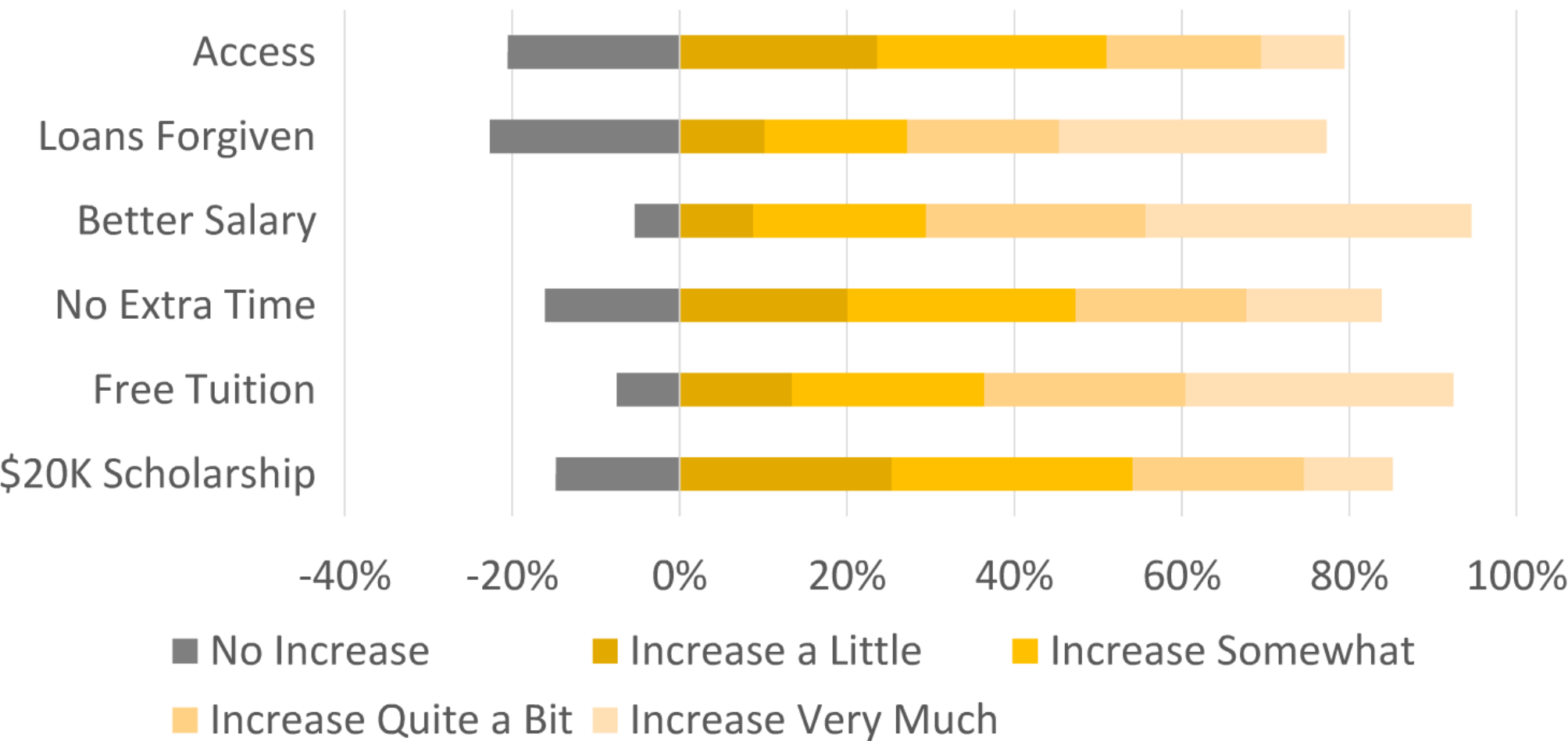
# Perceived and Actual Salary





# Incentives: Interested in Teaching

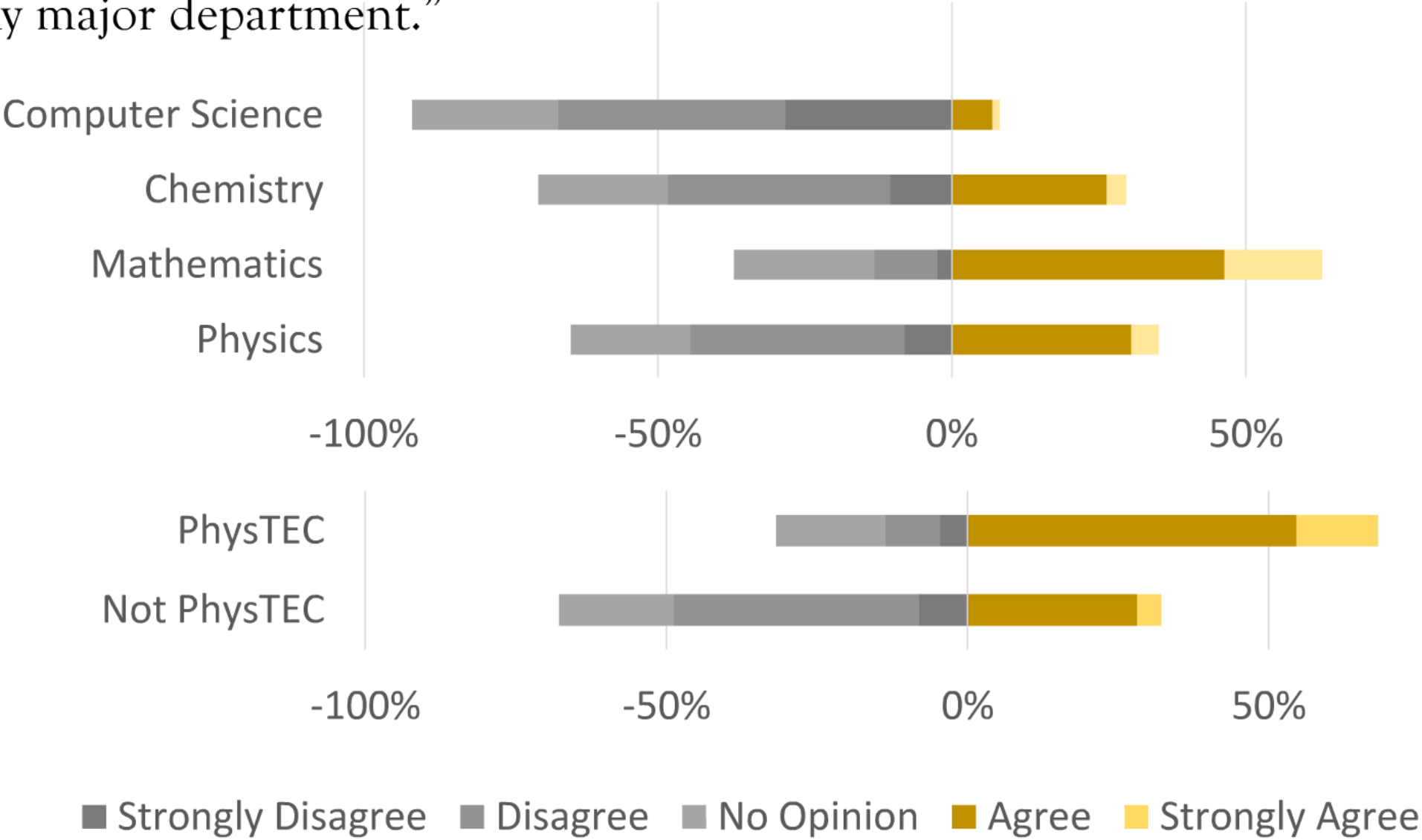
Slightly, somewhat, quite a bit, very interested in teaching





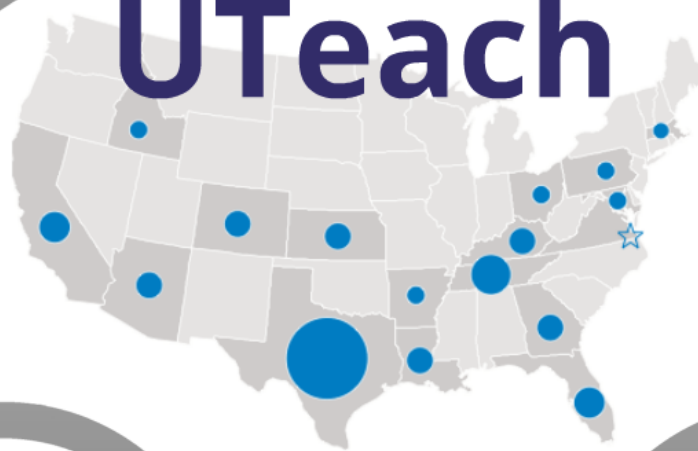
# Departmental Support

“Middle or high school teaching is discussed as a career option in my major department.”





# UTeach



## UTeach Impact



## Implementing UTeach



## UTeach Program Model

What UTeach Does:  
 Accelerates recruitment and preparation of science teachers  
 Provides pre-service and in-service training  
 Provides high-quality, health-related instruction

### Elements of Success



# UTeach Impact

## National UTeach Data

45 Universities, 27 States, 7000 Students, 8000 Graduates



## UTeach Community

700+ faculty  
affiliated with  
UTeach programs



3300 UTeach Alumni

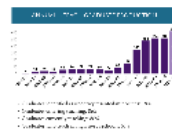
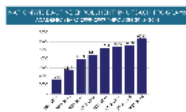


USEA UTeach STEM

Developing STEM literacy for all students through innovation and excellence in university-based teacher education.

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**USEA** UTeach STEM  
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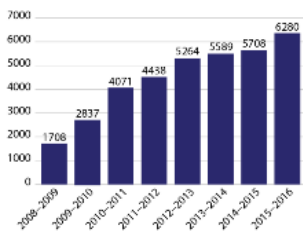
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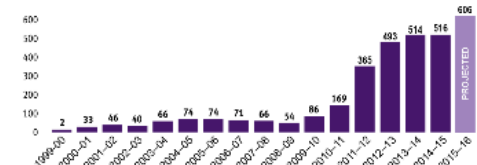
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NATIONWIDE ACTIVE ENROLLMENT IN UTEACH PROGRAMS  
ACADEMIC YEARS 2008–2009 THROUGH 2015–2016

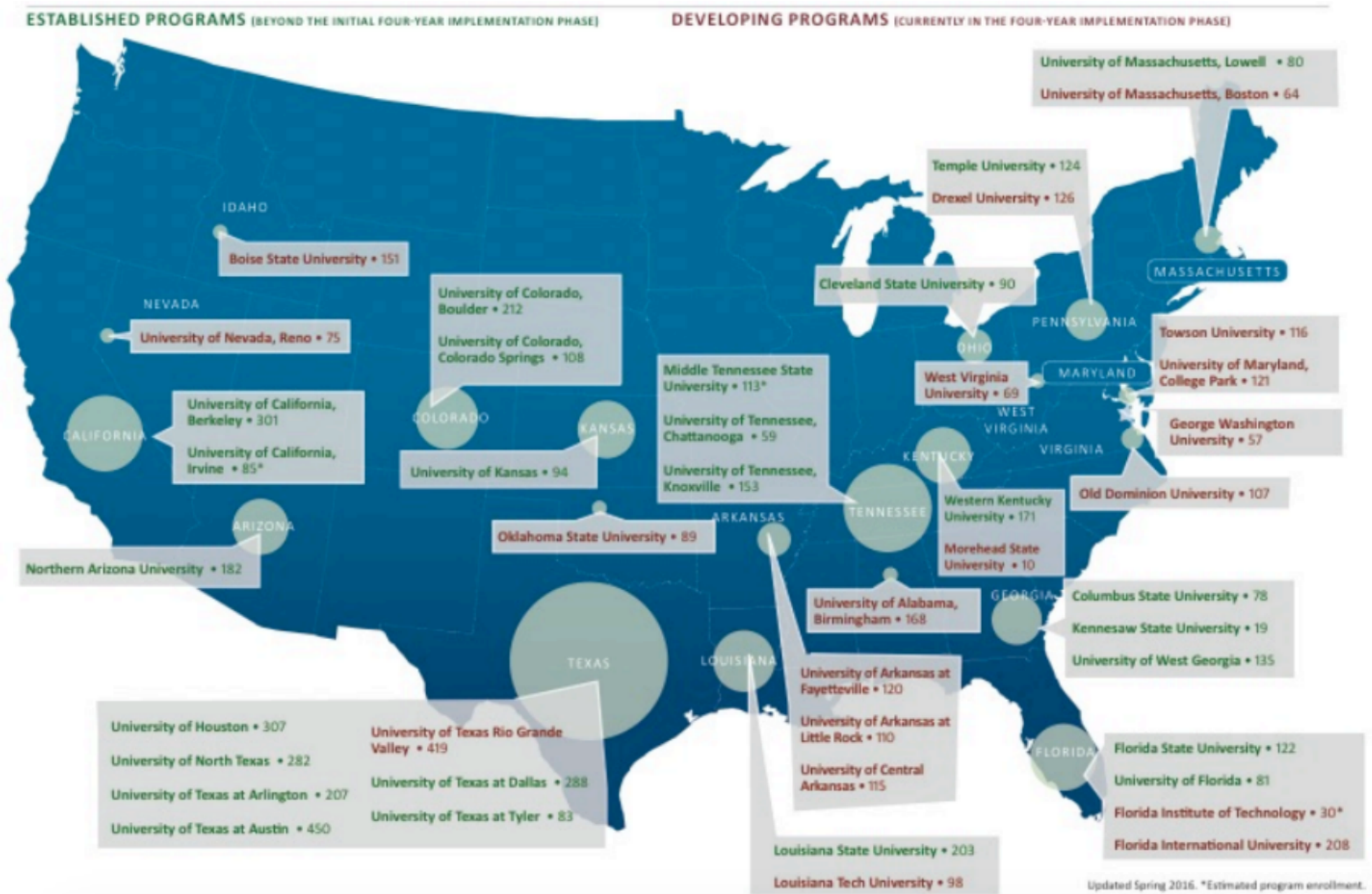


ANNUAL UTEACH GRADUATE PRODUCTION



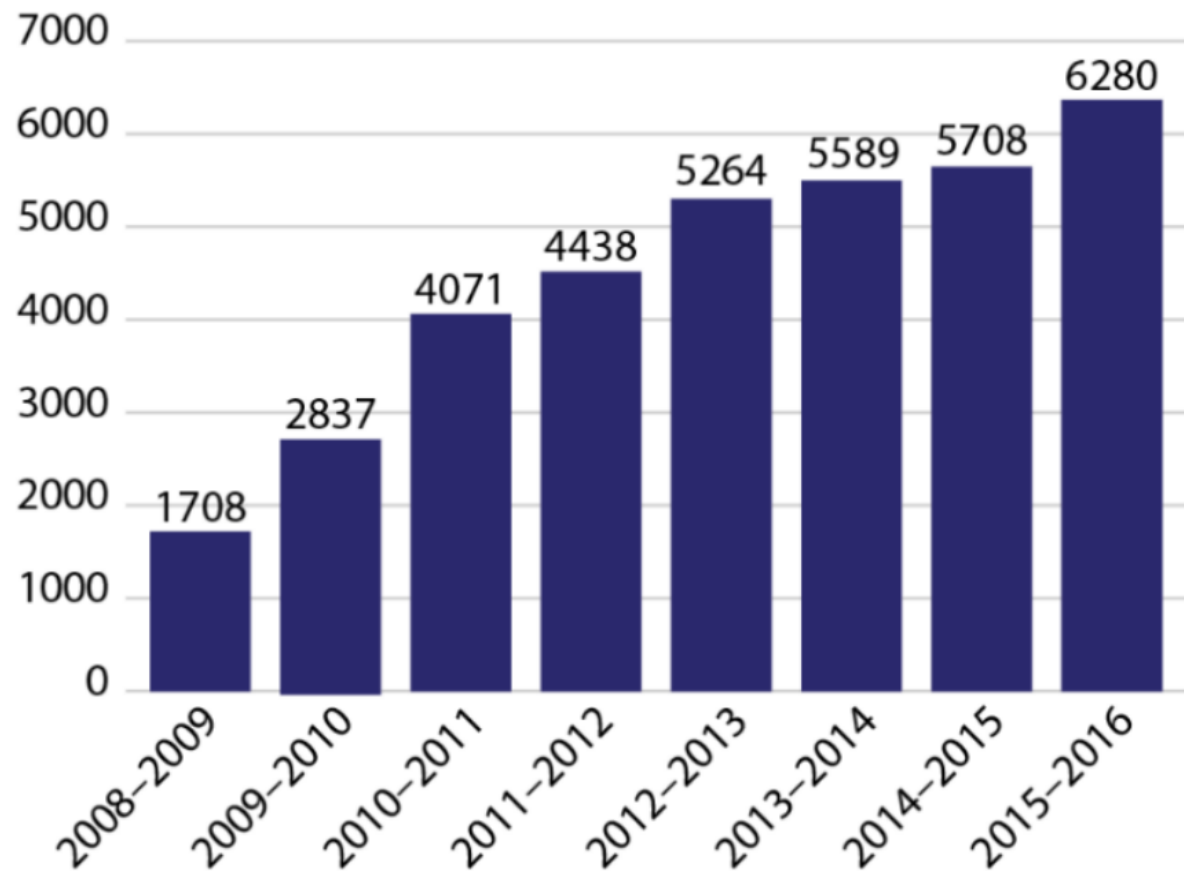
- Graduates identified as underrepresented minorities: 18%
- Graduates entering teaching: 86%
- Graduates currently teaching: 86%
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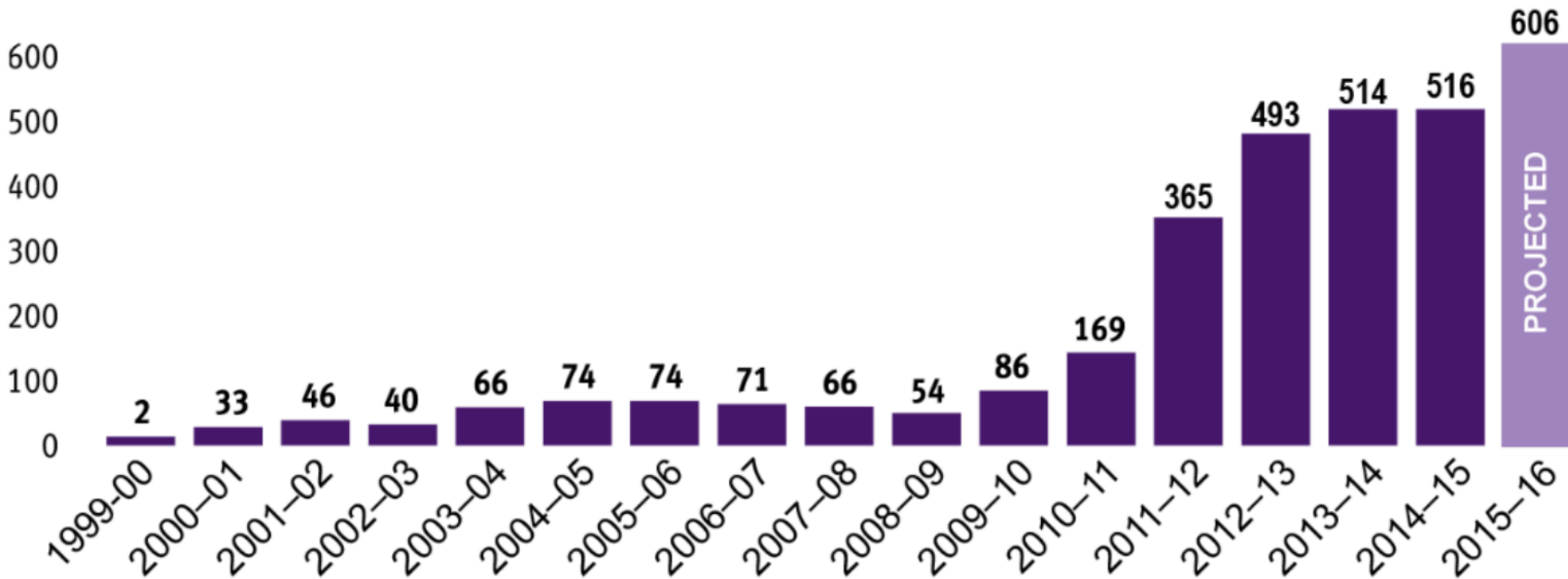
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# UTeach Program Model

## UTeach Designed To:

- Remove barriers to participation and expand degree options for STEM majors
- Provide preparation tailored to meet needs of future STEM teachers
- Provide high quality, clinically-intensive preparation to teach

## Elements of Success

### Operational Elements

-  • Distinctive Program Identity
-  • Long-Term Institutional and Community Support
-  • Active Student Recruitment and Support
-  • Continuous Improvement

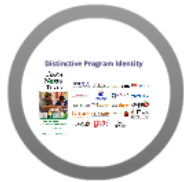
### Instructional Elements

-  • Cross-College and School District Collaboration
-  • Compact and Flexible Degree Plans
-  • Dedicated Master Teachers
-  • Rigorous, Research-Based Instruction
-  • Early and Intensive Field Experiences

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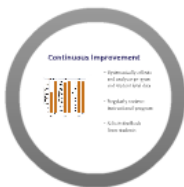
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- Long-Term Institutional and Community Support



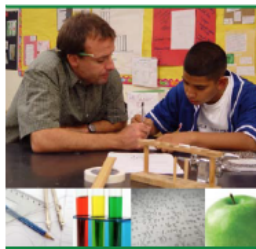
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- Continuous Improvement

# Distinctive Program Identity

TEACH  
NORTH  
TEXAS



Come see if Teaching  
Math, Science, or Computer Science  
Is Right for You...  
**Tuition-Free!**

UNIVERSITY OF NORTH TEXAS



CU Teach  
Science & Mathematics

UCCS Teach

UF Teach  
Developing the Next Generation of Florida Math and Science Teachers

teachHOUSTON



UMASS Lowell  
uTeach

THE UNIVERSITY OF  
MEMPHIS  
Tigers Teach

TEACH NORTH TEXAS

UTeaChattanooga  
Supporting Teachers of Math and Science

Vols Teach

UTeach  
Arlington  
THE UNIVERSITY OF TEXAS AT ARLINGTON

UTeach  
THE UNIVERSITY OF TEXAS AT AUSTIN

UTeach  
The University of Texas at Brownsville

UTeachDallas  
The University of Texas at Dallas

UTeach  
THE UNIVERSITY OF TEXAS  
PAN AMERICAN

UTeach  
THE UNIVERSITY OF TEXAS AT TYLER

UTeach  
West Georgia

skyteach

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TEACH  
NORTH  
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UNIVERSITY OF NORTH TEXAS

## Long-Term Institutional and Community Support



VoisTeach gets a new building

- University provides space and instructional budget



SPSU receives a gift from AT&T

- Development a priority - dedicated task force raises funds for endowment



UT Dallas funds student internships with gifts

- Student support elements require gift funds



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NORTH  
TEXAS



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UNIVERSITY OF NORTH TEXAS

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- paid internships are valuable
- induction support is critical



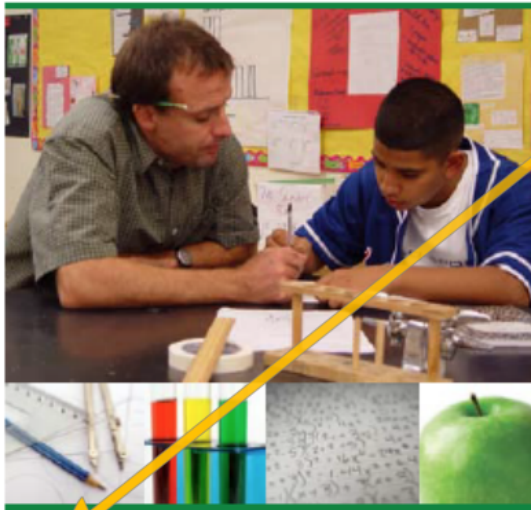


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TEACH  
NORTH  
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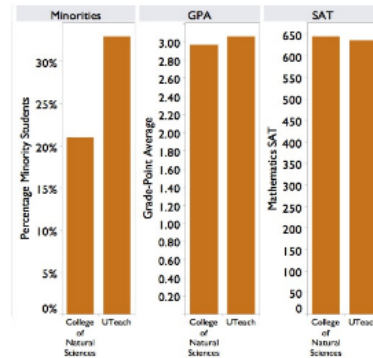


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UNIVERSITY OF NORTH TEXAS\*

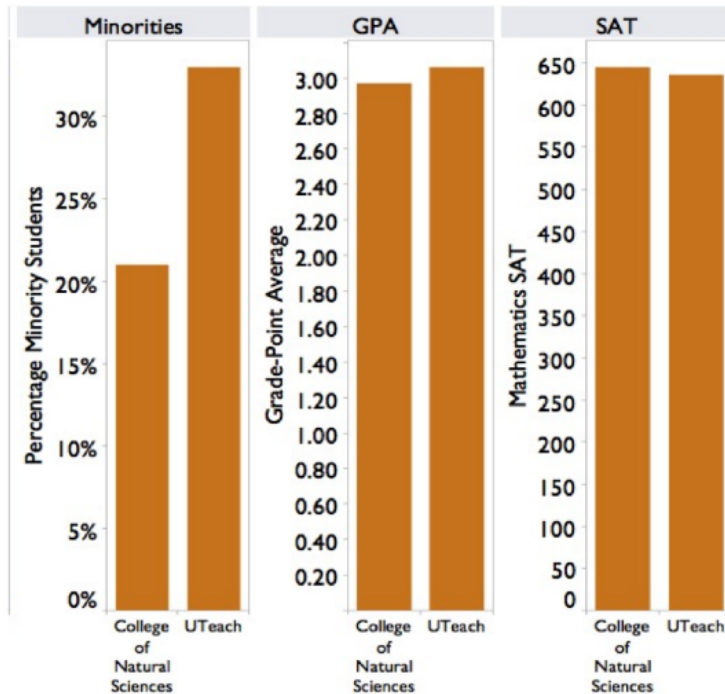


## Continuous Improvement



- Systematically collects and analyzes program and student level data
- Regularly reviews instructional program
- Solicits feedback from students

# Continuous Improvement

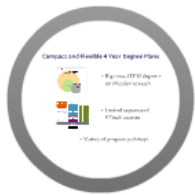


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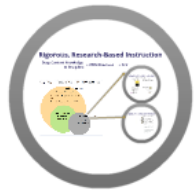
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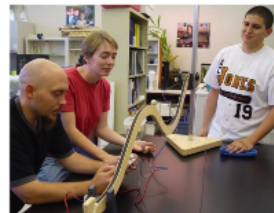
## Cross-College and School District Collaboration



- Program Co-Directors represent STEM disciplines and STEM Education



- Clinical and research faculty from colleges of science, education, and liberal arts collaborate on course development and instruction



- K-12 mentor teachers ensure high quality field experiences



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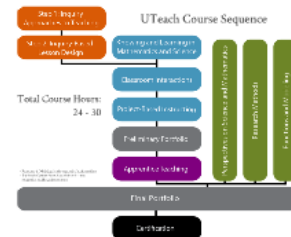
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## Compact and Flexible 4 Year Degree Plans

Major Degree + Teaching Option: 128 - 129 Credit Hours



- Rigorous STEM degree + certification to teach



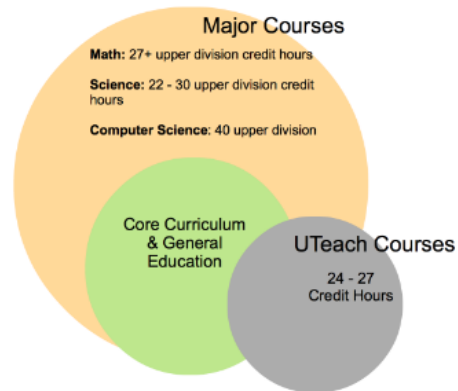
- Limited sequence of UTeach courses

- Variety of program pathways

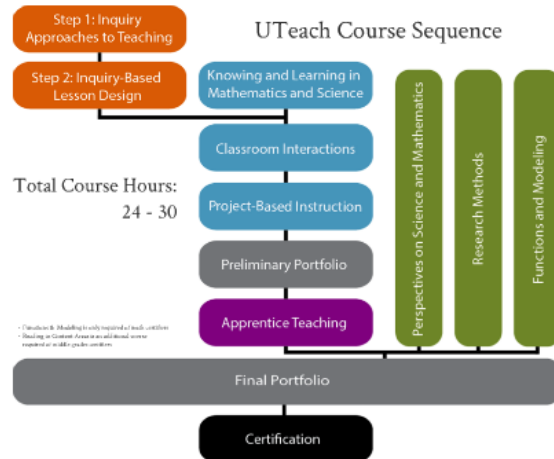


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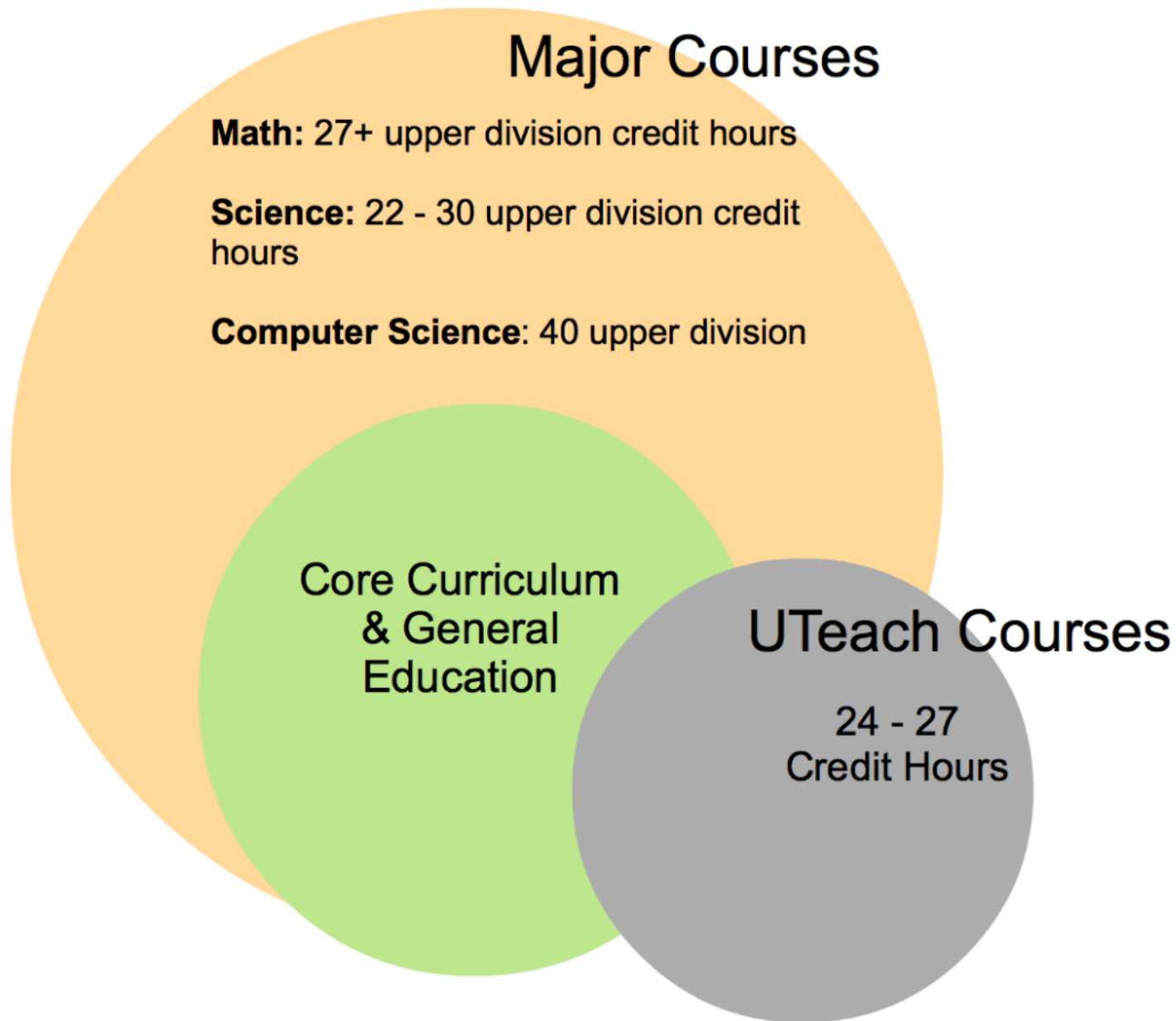
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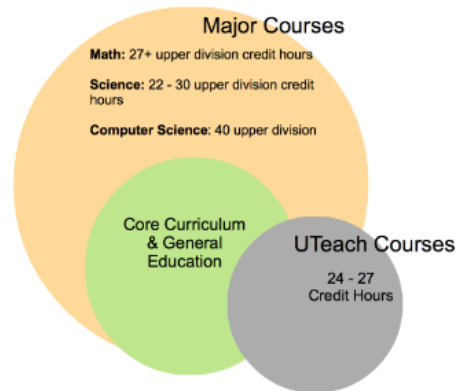
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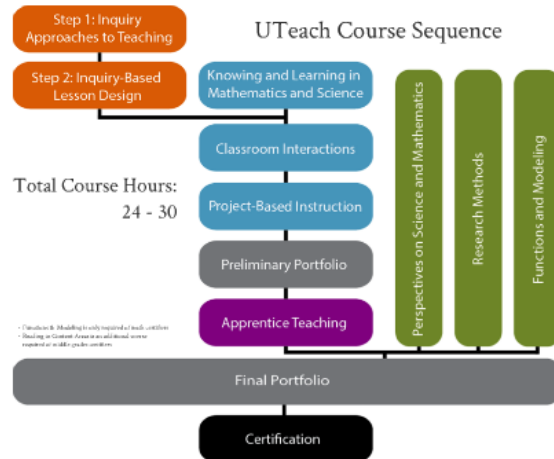


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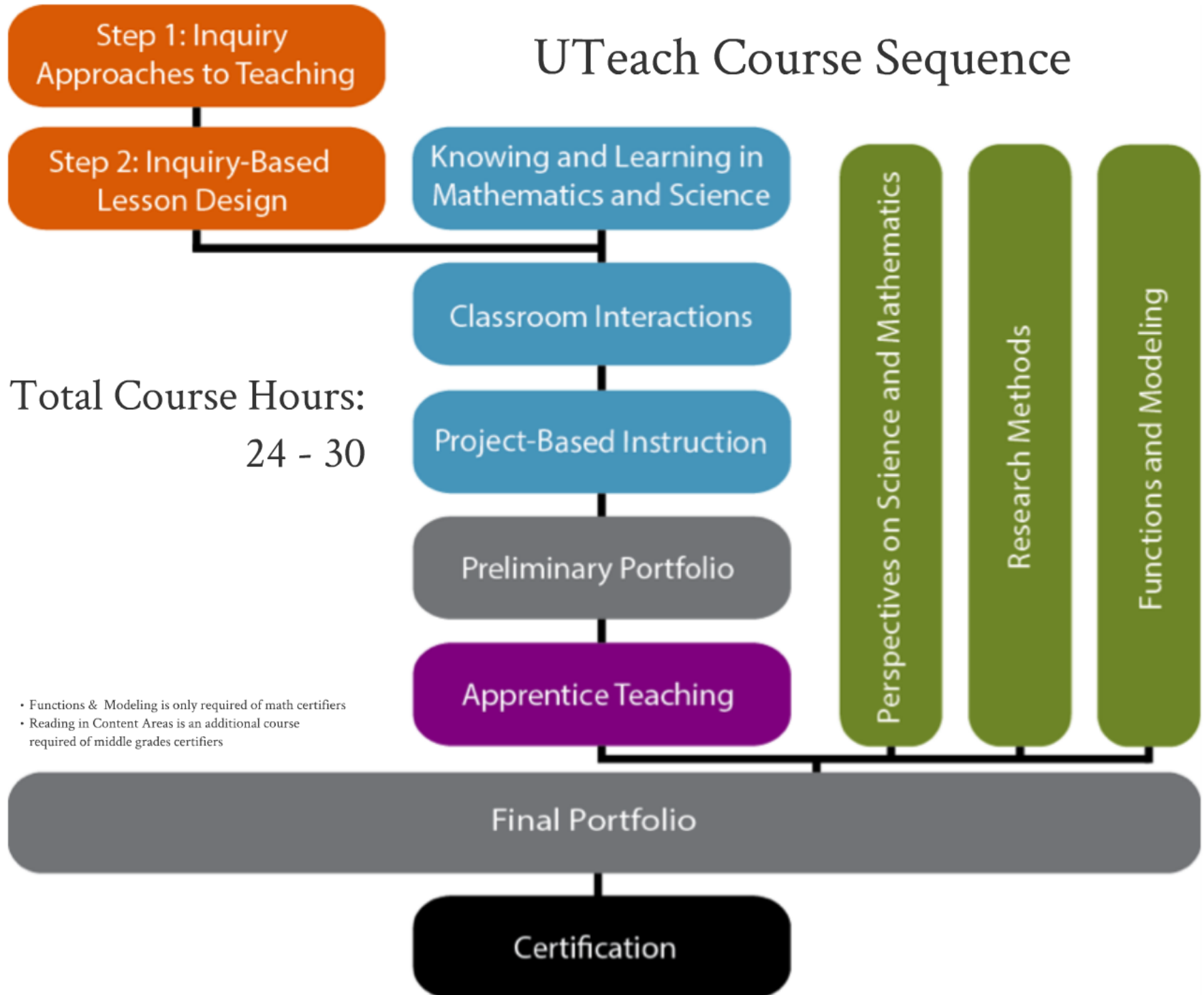
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# UTeach Course Sequence



## Dedicated Master Teachers



- Employed as full time clinical faculty
- Teach/co-teach all field-based courses



- Perform variety of program duties - recruitment, managing internships, etc.
- Nurture and support students throughout the program

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**Rigorous, Research-Based Instruction**

Deep Content Knowledge in Discipline + STEM Practices + PCK

Major Degree + Teaching Option: 120 - 128 Credit Hours

**Major Courses**

- Math:** 27+ upper division credit hours
- Science:** 22 - 30 upper division credit hours
- Computer Science:** 40 upper division

**Core Curriculum & General Education**

**UTeach Courses**

24 - 27 Credit Hours

**Pedagogical Content Knowledge**

UTeach Program Emphasis

- Address the content, form, and function of science and technology in the classroom
- Develop subject-specific pedagogical practices
- Develop subject-specific pedagogical practices
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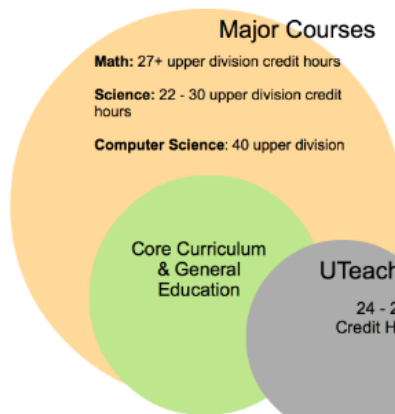
**Habits of Mind and STEM Practices**

UTeach Program Emphasis

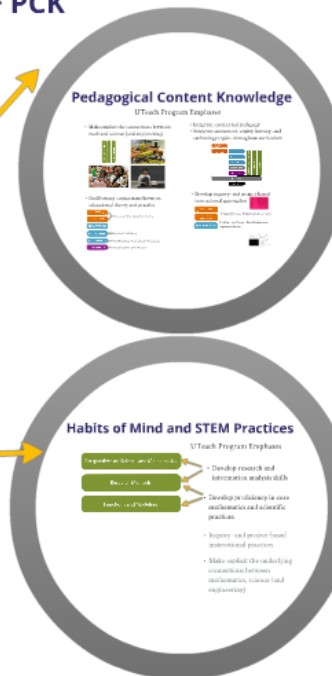
- Develop research and interpretation skills
- Develop proficiency in using mathematical and scientific practices
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Core Curriculum  
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24 - 27  
Credit Hours

## Pedagogical Content Knowledge

UTeach Program Emphases

- Make explicit the connections between math and science (and engineering)
- Integrate content and pedagogy
- Integrate assessment, equity, literacy, and technology topics throughout curriculum
- Build strong connections between educational theory and practice
- Develop inquiry- and project-based instructional approaches

## Habits of Mind and STEM Practices

UTeach Program Emphases

- Perspectives on Science and Mathematics
- Research Methods
- Functions and Modeling
- Develop research and information analysis skills
- Develop proficiency in core mathematics and scientific practices
- Inquiry- and project-based instructional practices
- Make explicit the underlying connections between mathematics, science (and engineering)

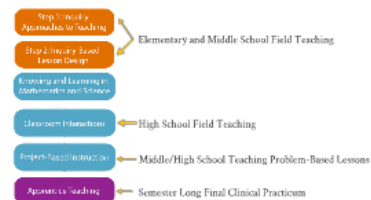
# Pedagogical Content Knowledge

## UTeach Program Emphases

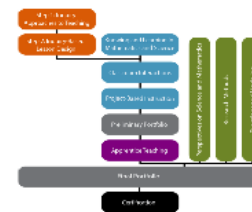
- Make explicit the connections between math and science (and engineering)



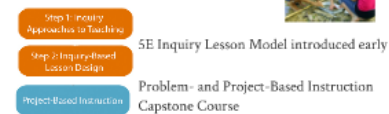
- Build strong connections between educational theory and practice



- Integrate content and pedagogy
- Integrate assessment, equity, literacy, and technology topics throughout curriculum



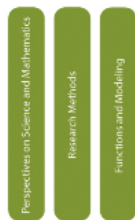
- Develop inquiry- and project-based instructional approaches



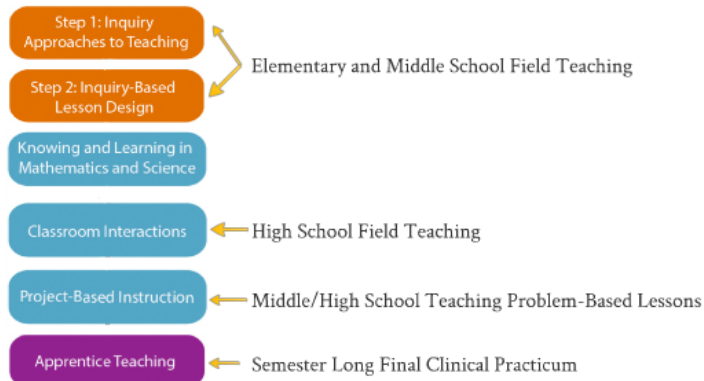
# Pedagogical Content Knowledge

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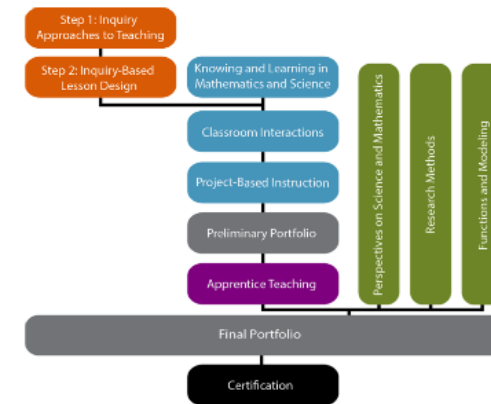
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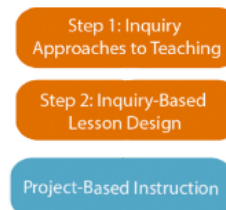
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- Integrate content and pedagogy
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- Develop inquiry- and project-based instructional approaches



5E Inquiry Lesson Model introduced early

Problem- and Project-Based Instruction  
Capstone Course

Manor New Tech High School

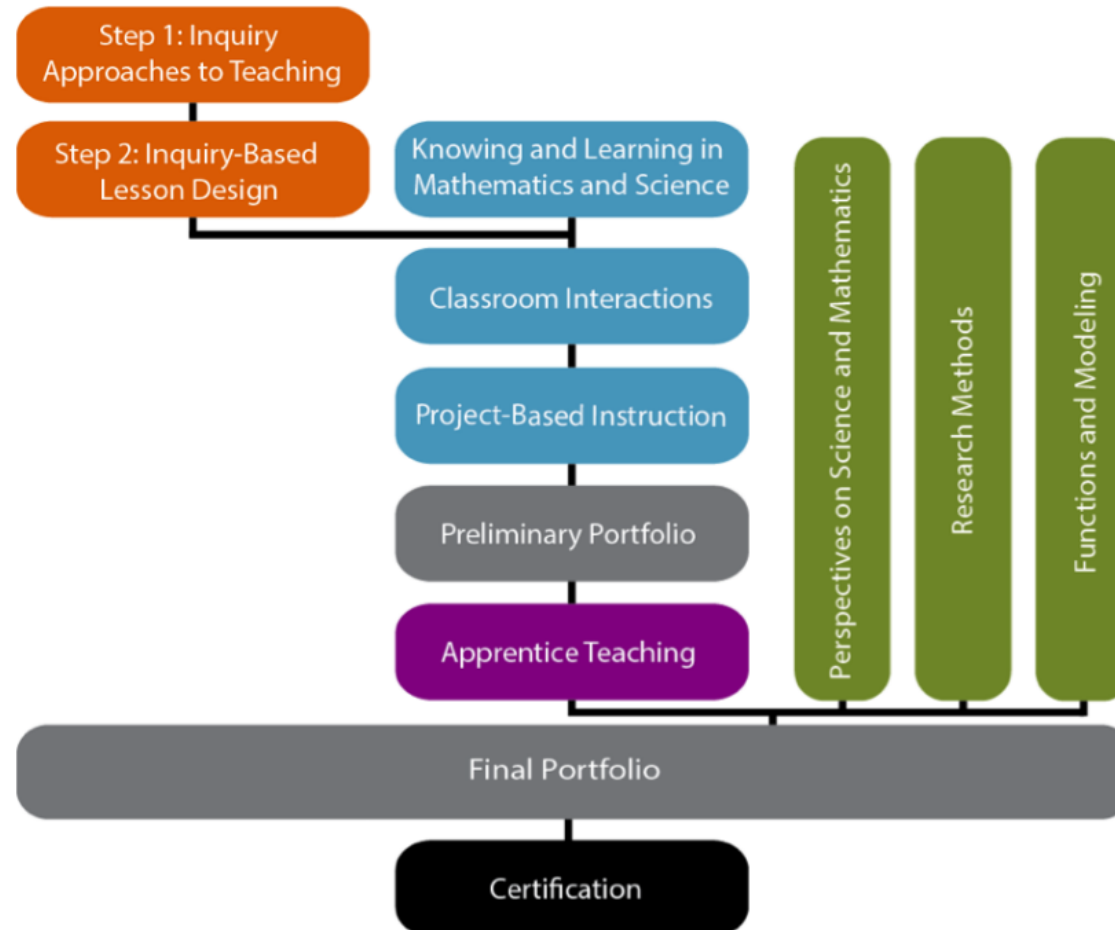
• Nationally Recognized High School by US News and Report  
• #1 in STEM teachers and UTeach graduates  
• 100% of the students are Hispanic or African American  
• 100% economically disadvantaged  
• In 2011, 80% of graduates went on college



- Make explicit the connections between math and science (and engineering)

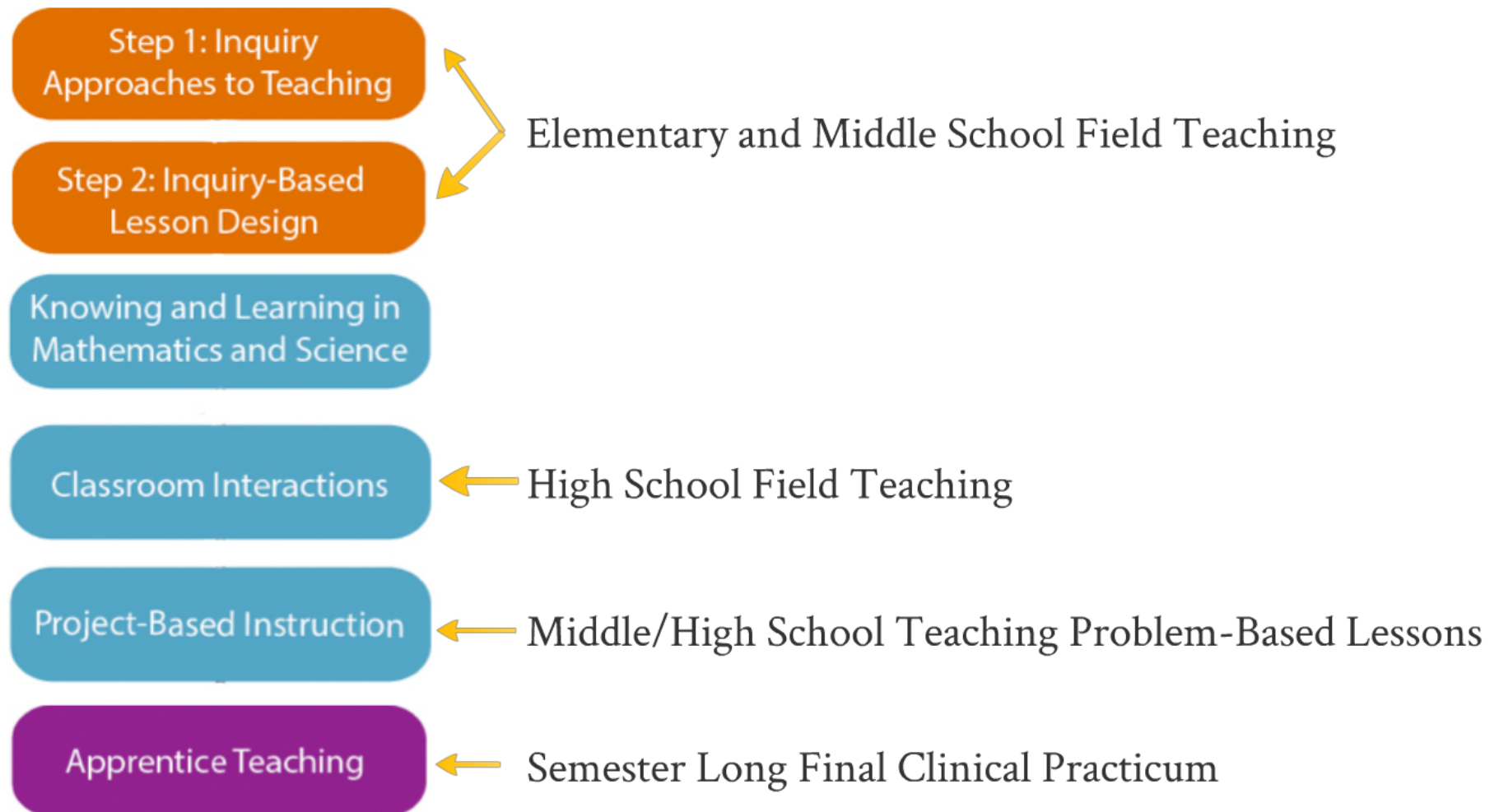


- Integrate content and pedagogy
- Integrate assessment, equity, literacy, and technology topics throughout curriculum





- Build strong connections between educational theory and practice



- Develop inquiry- and project-based instructional approaches



Step 1: Inquiry  
Approaches to Teaching

Step 2: Inquiry-Based  
Lesson Design

Project-Based Instruction

5E Inquiry Lesson Model introduced early

Problem- and Project-Based Instruction  
Capstone Course

#### Manor New Tech High School

- Nationally Recognized High School by US News and Report
- 9 of 11 STEM teachers are UTeach graduates



- 60% of the students are Hispanic or African American
- 52% are economically disadvantaged
- In 2011, 84% of graduates went to college



# Habits of Mind and STEM Practices

## UTeach Program Emphases

Perspectives on Science and Mathematics

Research Methods

Functions and Modeling

- Develop research and information analysis skills

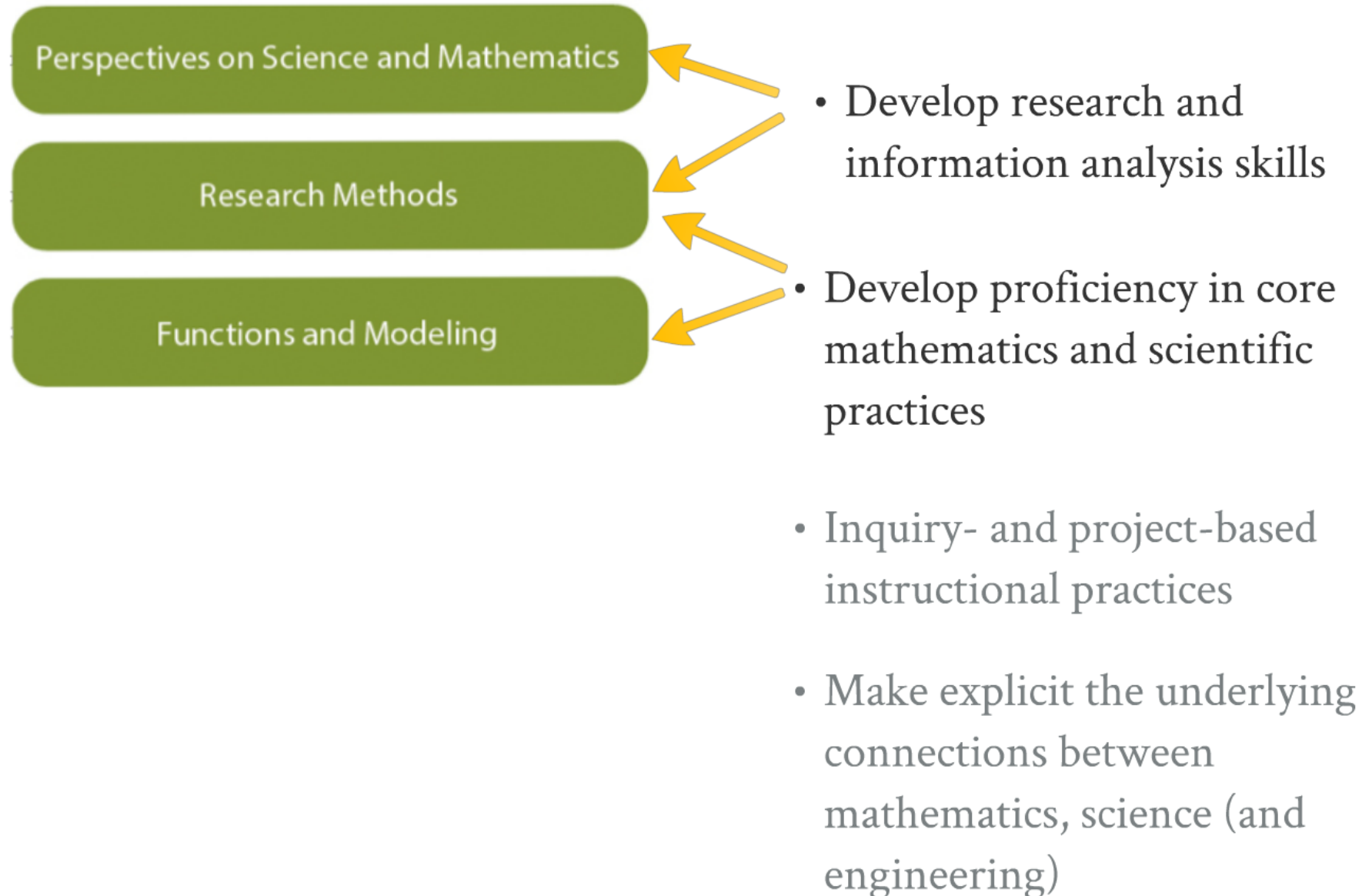
- Develop proficiency in core mathematics and scientific practices

- Inquiry- and project-based instructional practices

- Make explicit the underlying connections between mathematics, science (and engineering)

# Habits of Mind and STEM Practices

## UTeach Program Emphases



## Early and Intensive Field Experiences



- Students teach from their first semester and throughout the program
- Students receive intensive coaching and feedback on lesson development and teaching
- Field experiences tightly coupled with courses

# Early and Intensive Field Experiences



- Students teach from their first semester and throughout the program
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- Field experiences tightly coupled with courses



# Implementing UTeach

## Choosing UTeach

- clear need for the program
- Institutional support at all levels
- Cross-college collaboration at leadership and faculty level
- Commitment to phase out competing undergraduate pathways
- Commitment to implement all program elements with.....



### fidelity?

Adoption initially, Adaptation ultimately



## Implementing UTeach

### Elements of Success

- Distinctive Program Identity
- Cross-college and School District Collaboration
- Long-Term Institutional and Community Support
- Compact and Flexible Degree Plan
- Active Student Recruitment and Support
- Dedicated Master Teachers
- Rigorous, Student-Ready Curriculum
- Early and Intensive Field Experiences
- Graduate Program Supervisors



### Implementation Activities

- Organizational Development
- Staffing
- Student Recruitment
- Student Support
- Course Implementation
- Institutional Support



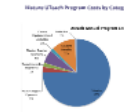
## Working with the UTeach Institute



## Funding UTeach

UTeach Program Costs - Don't Fear Start-Up

| Category     | Year 1         | Year 2         | Year 3         | Year 4         |
|--------------|----------------|----------------|----------------|----------------|
| Personnel    | 100,000        | 100,000        | 100,000        | 100,000        |
| Travel       | 10,000         | 10,000         | 10,000         | 10,000         |
| Materials    | 5,000          | 5,000          | 5,000          | 5,000          |
| Equipment    | 5,000          | 5,000          | 5,000          | 5,000          |
| Other        | 5,000          | 5,000          | 5,000          | 5,000          |
| <b>Total</b> | <b>125,000</b> | <b>125,000</b> | <b>125,000</b> | <b>125,000</b> |



## Implementation Highlights

Alignment to UTeach Elements of Success  
UTeach Cohorts 1-3



### More Uniform Elements:

- Program Identity
- Cross-College and School District Collaboration
- Active Student Recruitment
- Dedicated Master Teachers
- Curriculum Adoption
- Nature of Student Field Experience

### More Variable Elements:

- Degree Plan Elements/Courses
- Student Support
- Induction Support
- Course Instructors
- Number of Field Hours

# Choosing UTeach

- clear need for the program
- Institutional support at all levels
- Cross-college collaboration at leadership and faculty level
- Commitment to phase out competing undergraduate pathways
- Commitment to implement all program elements with.....



**fidelity?** ...to program principles and elements of success

Adoption initially, Adaptation ultimately

Example: Course Fidelity

Evidence of core course components and student outcomes  
Measured by materials review



## Step 1: Inquiry Approaches to Teaching

**Materials Review:**

- 7 sets paired student reflections
- 2 examples of student lesson plans
- 2 examples of master teacher feedback on classroom teaching
- 2 examples of novice teacher feedback on classroom teaching

**Course Fidelity:**

- 7 sets paired student reflections
- 2 examples of student lesson plans
- 2 examples of master teacher feedback on classroom teaching
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# fidelity?

...to program principles and elements of success

## Adoption initially, Adaptation ultimately

Example: Course Fidelity

Evidence of core course components and student outcomes

Measured by materials review



### Step 1: Inquiry Approaches to Teaching

#### Course Core Components

- The course is taught by master teachers—experienced, successful classroom teachers who have joined the university faculty.
- Students observe exemplary teachers and obtain field experience planning and teaching three mathematics or science lessons in local elementary schools with diverse student populations.
- Students receive mentoring from high-quality classroom teachers, as well as instructor feedback based on field observations.
- The course emphasizes using the 5E Instructional Model.
- Key Instructional approaches include classroom discussion, lesson demonstration, student reflection, collaboration, and peer coaching.

#### Course Objectives

Students will be able to . . .

- demonstrate science or mathematics content knowledge in the planning and teaching of three upper-elementary-grade lessons.
- utilize exemplary sources of inquiry-based science or mathematics lessons.
- write performance objectives aligned with national and state standards and assessments of those objectives for each lesson.
- design and teach inquiry-based lessons using the 5E Instructional Model.
- demonstrate awareness of personality and learning differences and discuss the implications for teaching and learning.
- use probing questions to elicit feedback to determine students' acquisition of knowledge.
- discuss strategies for achieving instructional equity.
- demonstrate proficiency in the use of technology for professional productivity purposes.
- plan for and implement safe classroom practices.
- reflect on personal interest in teaching.

### Materials Review:

- 2 sets paired student reflections
- 2 examples of student lesson plans
- 2 examples of master teacher feedback on classroom teaching
- 2 examples of mentor teacher feedback on classroom teaching

# Choosing UTeach

- clear need for the program
- Institutional support at all levels
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- Long-Term Institutional and Community Support
- Compact and Flexible Degree Plans
- Active Student Recruitment and Support
- Dedicated Master Teachers
- Rigorous, Research-Based Instruction
- Early and Intensive Field Experiences
- Continuous Program Improvement



## Implementation Activities

- Organizational Development
- Staffing
- Student Recruitment
- Student Support
- Course Implementation
- Institutional Support

### Planning Period

Year 1

Year 2

Year 3

Year 4



- Hire master teachers
- Hire office staff & advisor
- Identify faculty instructors
- Regularly convene steering committee
- Recruit students

- Plan & implement courses
- Offer student internships
- Support student organization
- Finalize degree plans
- Fundraise
- Participate in Institute events

# Working with the UTeach Institute

## Technical Assistance & Implementation Support

- Dedicated Site Coordinators provide on-demand technical assistance
- Face-to-face Workshops
- Faculty Consultants
- Site Visits



## Operational and Instructional Support Resources

### Institute Publications

UTeach Operations Manual  
Complete UTeach Course Curriculum  
UTeach Development Handbook

### Shared Resources

Recruitment Materials  
Development Resources  
Degree Plans  
Course Syllabi  
Job Descriptions

### Contributed Course Content

Course Activities developed by  
UTeach programs nationwide

### Playing This with Different Equations

Research on the effectiveness of the UTeach program in preparing teachers to teach science, technology, engineering, and mathematics (STEM) subjects is ongoing. The UTeach program is a national network of programs that prepare teachers to teach STEM subjects. The UTeach program is a national network of programs that prepare teachers to teach STEM subjects. The UTeach program is a national network of programs that prepare teachers to teach STEM subjects.



## Networking and Knowledge Sharing

### Members Website and Media

Email Lists  
Discussion Forums  
Shared Resources  
Shared Course Content

### Events and Special Interest Groups

Annual Conference  
Master Teacher Retreats  
Co-Director Summit  
Course Retreats  
National Alumni Organization  
UTeach Professional Association



## Data Collection and Reporting

### Data Collection

#### Regular Site Visits

Interviews and focus groups  
Data sharing team meetings

#### Online Surveys

Entrant, Leaver  
Mid-Term Course Satisfaction  
End of Program  
Alumni

#### Program Data Submission

University demographics  
Program demographics  
Course enrollment  
Student demographics

#### Instructional Program Review

Course observations  
Instructor interviews  
Course materials review

### Reporting

Individual Progress Reports  
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Survey Summary Reports  
State-level Reports  
Cross-Site Summary Reports



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### Playing Darts with Differential Equations

Steven Obenhaus  
UKanTeach, University of Kansas  
July 15, 2012

#### Abstract

Students explore a stochastic process consisting of pixels being randomly filled in on the screen of a TI-84 calculator. In attempting to answer the questions of how many pixels will fill up the screen and the time this will take, they first discover that the built-in regression models in the calculator are insufficient. Students then shift gears and develop a differential equation model for the rate at which pixels are added as a function of the number of pixels already filled in. Rate data is generated using symmetric difference quotients and plotted. A linear regression is calculated as a model for the differential equation and then solved analytically. This integrated equation is used as a model for the original process and compared with the original data and used to answer the guiding questions. Finally, analogies to other real-world processes are made and discussed.



HELLO, KIM HUGHES

THE UTEACH INSTITUTE MEMBERS WEBSITE

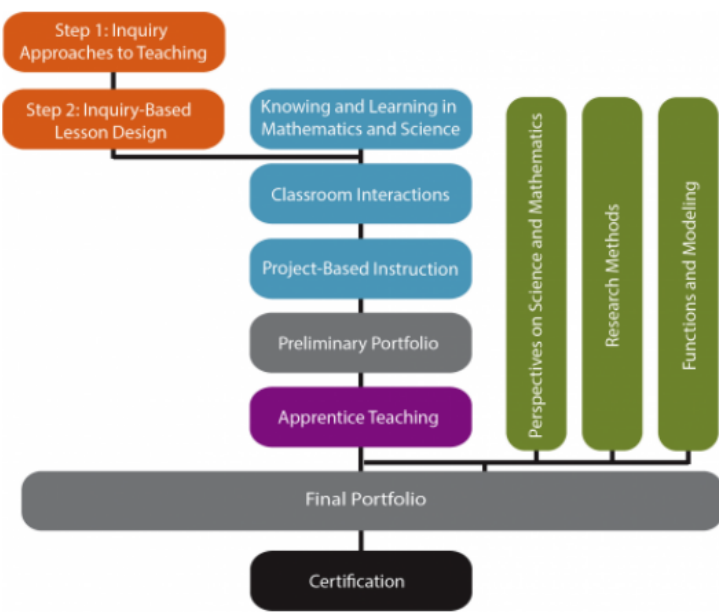
HOME ABOUT ANNOUNCEMENTS UTEACH COURSES INSTITUTE PUBLICATIONS SHARED RESOURCES CALENDAR DISCUSSION FORUMS PEARS CONTACT US

### Curriculum Overview

- Step 1: Inquiry Approaches to Teaching
- Step 2: Inquiry-Based Lesson Design
- Knowing and Learning in Mathematics and Science
- Classroom Interactions
- Project-Based Instruction
- Apprentice Teaching
- Functions and Modeling
- Research Methods
- Perspectives on Science and Mathematics
- Upload Course Resource
- Search Course Resources

### UTeach Curriculum Overview

UTeach offers a streamlined, field-intensive curriculum that is firmly situated within the domains of math and science.



```
graph TD; S1[Step 1: Inquiry Approaches to Teaching] --> S2[Step 2: Inquiry-Based Lesson Design]; S2 --> KLS[Knowing and Learning in Mathematics and Science]; S2 --> CI[Classroom Interactions]; S2 --> PBI[Project-Based Instruction]; S2 --> PP[Preliminary Portfolio]; S2 --> AT[Apprentice Teaching]; KLS --> FP[Final Portfolio]; CI --> FP; PBI --> FP; PP --> FP; AT --> FP; FP --> C[Certification];
```

Curriculum Overview Resources

- [UTeach Curriculum Snapshot](#)
- [Overview of the UTeach Curriculum](#)

Support Schedule

View the instructional support events schedule by cohort [here](#). Find specific dates as they are scheduled on our [Calendar](#).

Induction

After completing the UTeach program, new teachers will need support in their first years in the classroom. The UTeach Institute has developed the [Induction Guide for UTeach Master Teachers](#) to help increase the retention rates of new STEM teachers, and to accelerate their growth from novice to expert.

### Media Gallery



[\(visit gallery\)](#)

### Instructional Program Elements

#### Compact and Flexible Degree Plans

UTeach offers four-year degree plans that fully integrate students' content major



# Networking and Knowledge Sharing

## Members Website and Media

- Email Lists
- Discussion Forums
- Shared Resources
- Shared Course Content

## Events and Special Interest Groups

- Annual Conference
- Master Teacher Retreats
- Co-Director Summit
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# Data Collection and Reporting

## Data Collection

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Data sharing team meetings

### Online Surveys

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Mid-Term Course Satisfaction  
End of Program  
Alumni

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Program demographics  
Course enrollment  
Student demographics

### Instructional Program Review

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Instructor interviews  
Course materials review

## Reporting

Individual Progress Reports  
Site Visit Summaries  
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Cross-Site Summary Reports



60% of Graduates were unsure they would teach upon entry.



Net Promoter Score: 63 - 71%

New Graduates and Alumni are overwhelmingly satisfied with the program.



| DCP        | Detractors | Neutral | Supporters | Total | Net Promoter |
|------------|------------|---------|------------|-------|--------------|
| DCP-P13    | 18         | 25      | 117        | 160   | 60%          |
| DCP-P13    | 12         | 43      | 182        | 237   | 69%          |
| DCP-P13    | 13         | 34      | 113        | 160   | 64%          |
| DCP-P13    | 31         | 66      | 206        | 303   | 68%          |
| Aggregate  | 74         | 169     | 624        | 867   | 62%          |
| Alumni     |            |         |            |       |              |
| Alumni-P14 | 81         | 140     | 718        | 939   | 69%          |
| Alumni-P14 | 30         | 124     | 845        | 999   | 75%          |
| Aggregate  | 116        | 264     | 1463       | 1843  | 71%          |

# Working with the UTeach Institute

## Technical Assistance & Implementation Support

- Dedicated Site Coordinators provide on-demand technical assistance
- Face-to-face Workshops
- Faculty Consultants
- Site Visits



## Operational and Instructional Support Resources

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Course Syllabi  
Job Descriptions

### Contributed Course Content

Course Activities developed by  
UTeach programs nationwide

### Playing This with Different Equations

Research on the effectiveness of the UTeach program has shown that the program is highly effective in preparing teachers to work with diverse students. The program's focus on content knowledge, pedagogical skills, and cultural competency has been shown to lead to improved student outcomes. The program's emphasis on research-based practices and ongoing professional development has been shown to lead to sustained improvements in teacher quality and student achievement.



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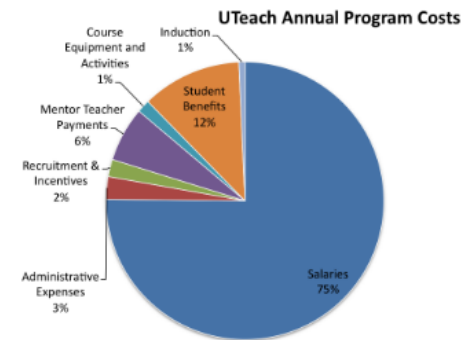


# Funding UTeach

UTeach Program Costs Over 5 Year Start Up

|                                 | PY               | YR 1             | YR 2             | YR 3               | YR 4               | YR 5               |
|---------------------------------|------------------|------------------|------------------|--------------------|--------------------|--------------------|
| <b>Income</b>                   | \$250,000        | \$480,000        | \$865,000        | \$1,150,000        | \$1,565,000        | \$1,800,000        |
| <b>Students Enrolled</b>        | 0                | 70               | 159              | 233                | 300                | 323                |
| <b>Program Expenses</b>         |                  |                  |                  |                    |                    |                    |
| Salaries                        | 153,125          | 306,908          | 625,636          | 849,905            | 1,144,502          | 1,350,273          |
| Administrative Expenses         | 31,667           | 41,390           | 53,997           | 44,257             | 50,956             | 47,500             |
| Tuition Reimbursements          | 0                | 15,000           | 26,500           | 28,000             | 28,000             | 28,000             |
| Mentor Teachers                 | 0                | 15,000           | 29,875           | 39,138             | 73,228             | 114,325            |
| Course Equipment and Activities | 51,000           | 48,000           | 14,000           | 20,000             | 69,000             | 27,000             |
| Student Benefits                |                  |                  |                  |                    |                    |                    |
| Activities                      | 0                | 4,000            | 4,000            | 6,000              | 6,000              | 6,000              |
| Internships                     | 0                | 27,000           | 60,000           | 88,500             | 112,500            | 121,500            |
| Scholarships                    | 0                | 18,000           | 40,000           | 59,000             | 75,000             | 81,000             |
| Recruitment                     | 10,000           | 8,000            | 8,000            | 8,000              | 8,000              | 8,000              |
| Induction                       | 0                | 0                | 0                | 0                  | 5,375              | 12,900             |
| Indirect Costs                  | 0                | 0                | 0                | 0                  | 0                  | 0                  |
| <b>Total Program Expenses</b>   | <b>\$245,792</b> | <b>\$483,299</b> | <b>\$862,009</b> | <b>\$1,142,800</b> | <b>\$1,572,560</b> | <b>\$1,796,498</b> |

Mature UTeach Program Costs by Category

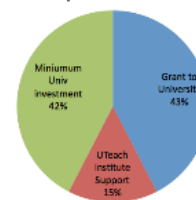


## Funding Schedule

|                                                          |                     |
|----------------------------------------------------------|---------------------|
| <b>UTeach Replication: 5 Year Total Costs</b>            |                     |
| Grant to University                                      | \$ 1,400,000        |
| UTeach Institute Support                                 | \$ 500,000          |
| Minimum Univ Investment                                  | \$ 1,400,000        |
|                                                          | \$ 3,300,000        |
| <b>Total Grant Funding needed for 5-Year Replication</b> |                     |
| Grant to University                                      | \$ 1,400,000        |
| UTeach Institute Support*                                | \$ 500,000          |
|                                                          | <b>\$ 1,900,000</b> |

\* Additional administrative costs may be required

UTeach Replication: 5 Year Costs

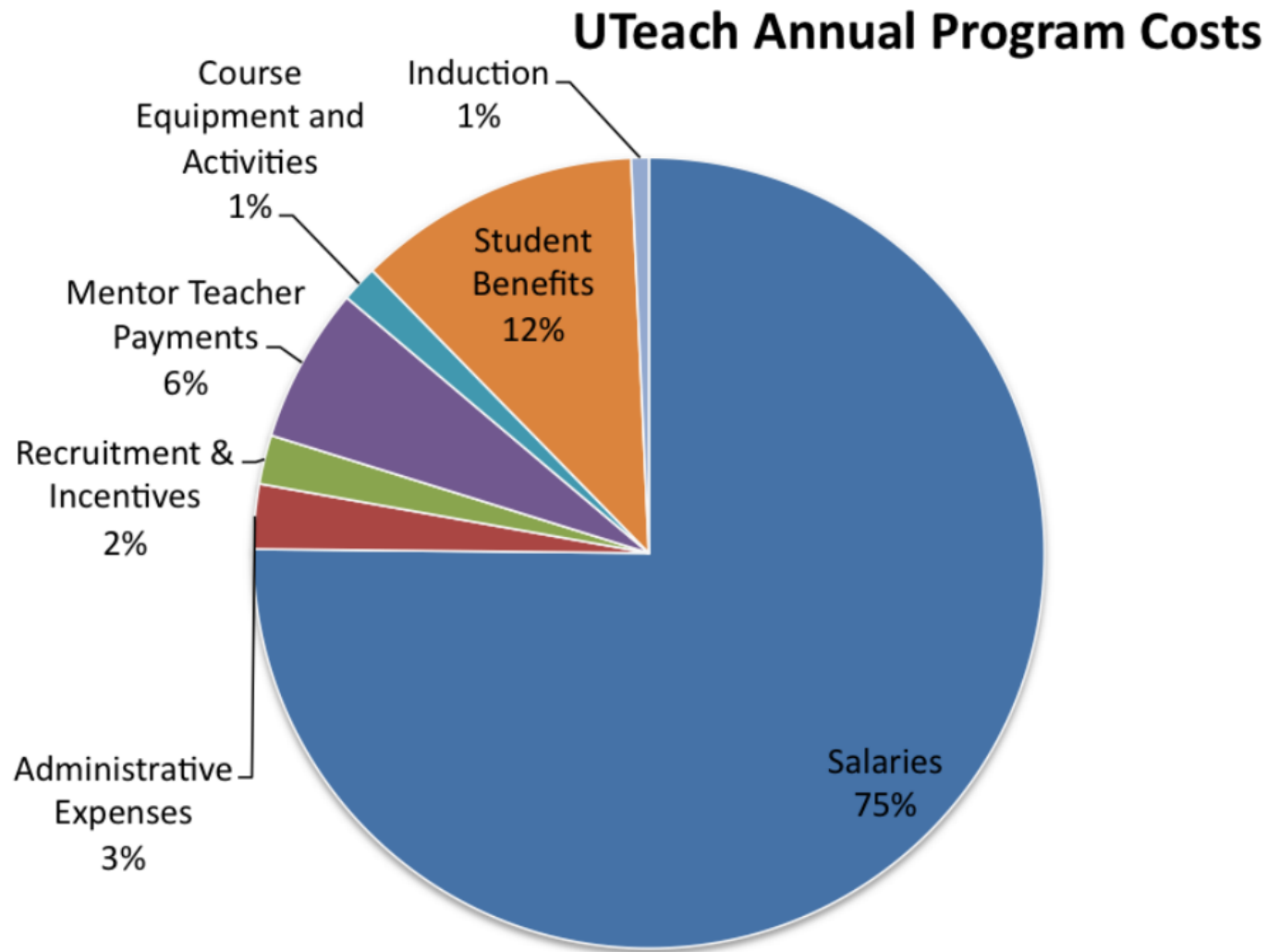


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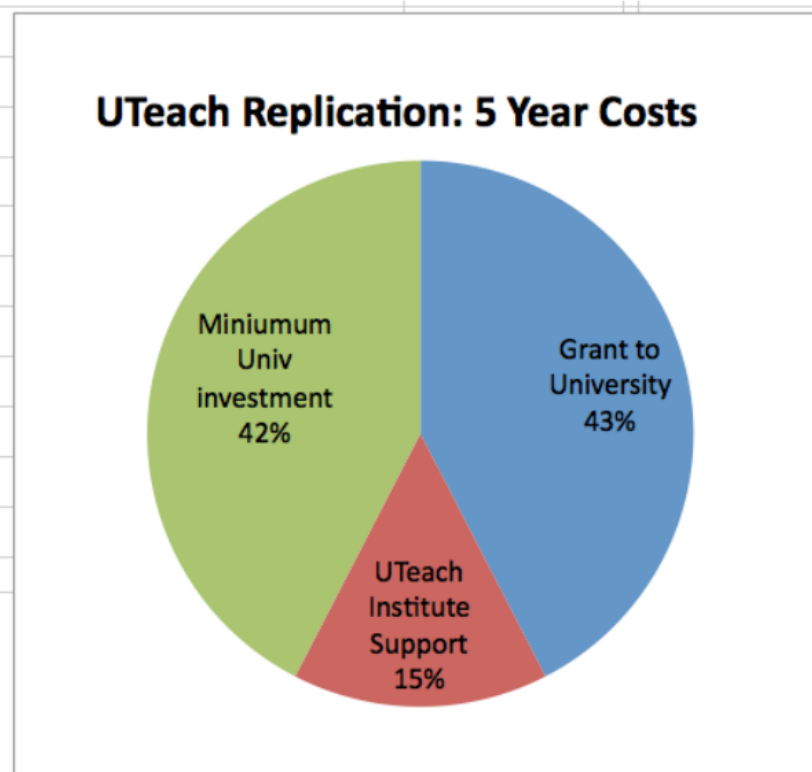
# Mature UTeach Program Costs by Category





# Funding Schedule

| UTeach Replication: 5 Year Total Costs                   |                     |
|----------------------------------------------------------|---------------------|
| Grant to University                                      | \$ 1,400,000        |
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|                                                          | \$ 3,300,000        |
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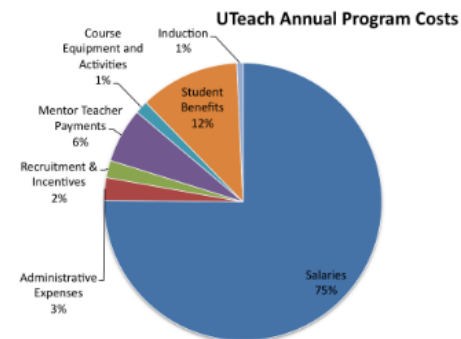


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| Administrative Expenses         | 31,667           | 41,390           | 53,997           | 44,257             | 50,956             | 47,500             |
| Tuition Reimbursements          | 0                | 15,000           | 26,500           | 28,000             | 28,000             | 28,000             |
| Mentor Teachers                 | 0                | 15,000           | 29,875           | 39,138             | 73,228             | 114,325            |
| Course Equipment and Activities | 51,000           | 48,000           | 14,000           | 20,000             | 69,000             | 27,000             |
| Student Benefits                |                  |                  |                  |                    |                    |                    |
| Activities                      | 0                | 4,000            | 4,000            | 6,000              | 6,000              | 6,000              |
| Internships                     | 0                | 27,000           | 60,000           | 88,500             | 112,500            | 121,500            |
| Scholarships                    | 0                | 18,000           | 40,000           | 59,000             | 75,000             | 81,000             |
| Recruitment                     | 10,000           | 8,000            | 8,000            | 8,000              | 8,000              | 8,000              |
| Induction                       | 0                | 0                | 0                | 0                  | 5,375              | 12,900             |
| Indirect Costs                  | 0                | 0                | 0                | 0                  | 0                  | 0                  |
| <b>Total Program Expenses</b>   | <b>\$245,792</b> | <b>\$483,299</b> | <b>\$862,009</b> | <b>\$1,142,800</b> | <b>\$1,572,560</b> | <b>\$1,796,498</b> |

Mature UTeach Program Costs by Category

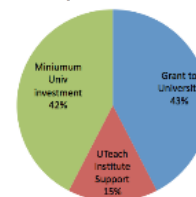


## Funding Schedule

|                                                          |                     |
|----------------------------------------------------------|---------------------|
| <b>UTeach Replication: 5 Year Total Costs</b>            |                     |
| Grant to University                                      | \$ 1,400,000        |
| UTeach Institute Support                                 | \$ 500,000          |
| Minimum Univ Investment                                  | \$ 1,400,000        |
|                                                          | \$ 3,300,000        |
| <b>Total Grant Funding needed for 5-Year Replication</b> |                     |
| Grant to University                                      | \$ 1,400,000        |
| UTeach Institute Support*                                | \$ 500,000          |
|                                                          | <b>\$ 1,900,000</b> |

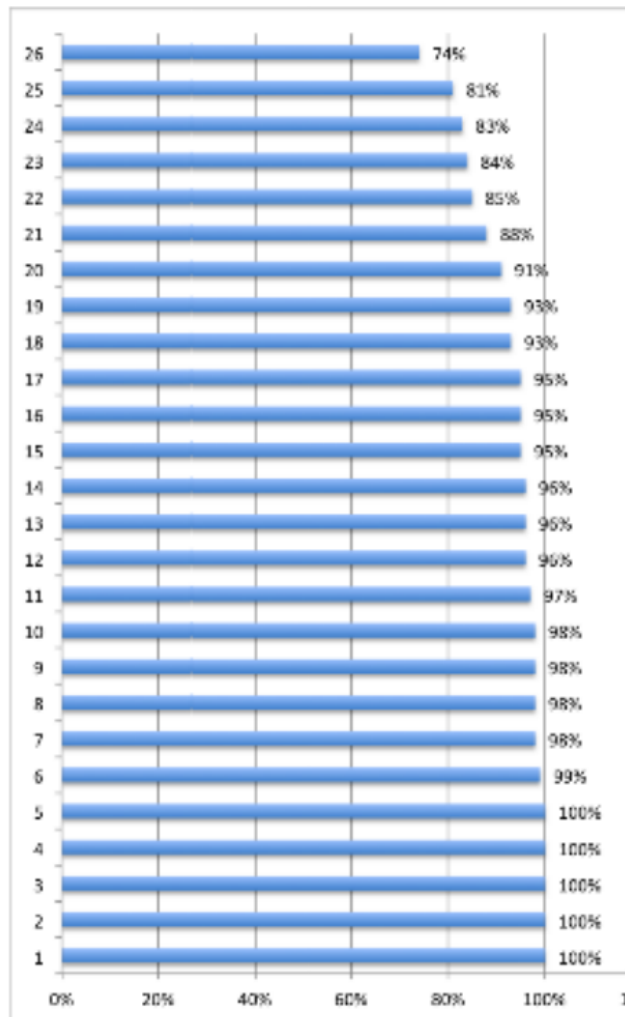
\* Additional administrative costs may be required

UTeach Replication: 5 Year Costs



# Implementation Highlights

## Alignment to UTeach Elements of Success UTeach Cohorts 1 - 3



## More Uniform Elements:

- Program Identity
- Cross-College and School District Collaboration
- Active Student Recruitment
- Dedicated Master Teachers
- Curriculum Adoption
- Nature of Student Field Experience

## More Variable Elements:

- Degree Plan Elements/Courses
- Student Support
- Induction Support
- Course Instructors
- Number of Field Hours

# UAB Teach

University of Alabama,  
Birmingham









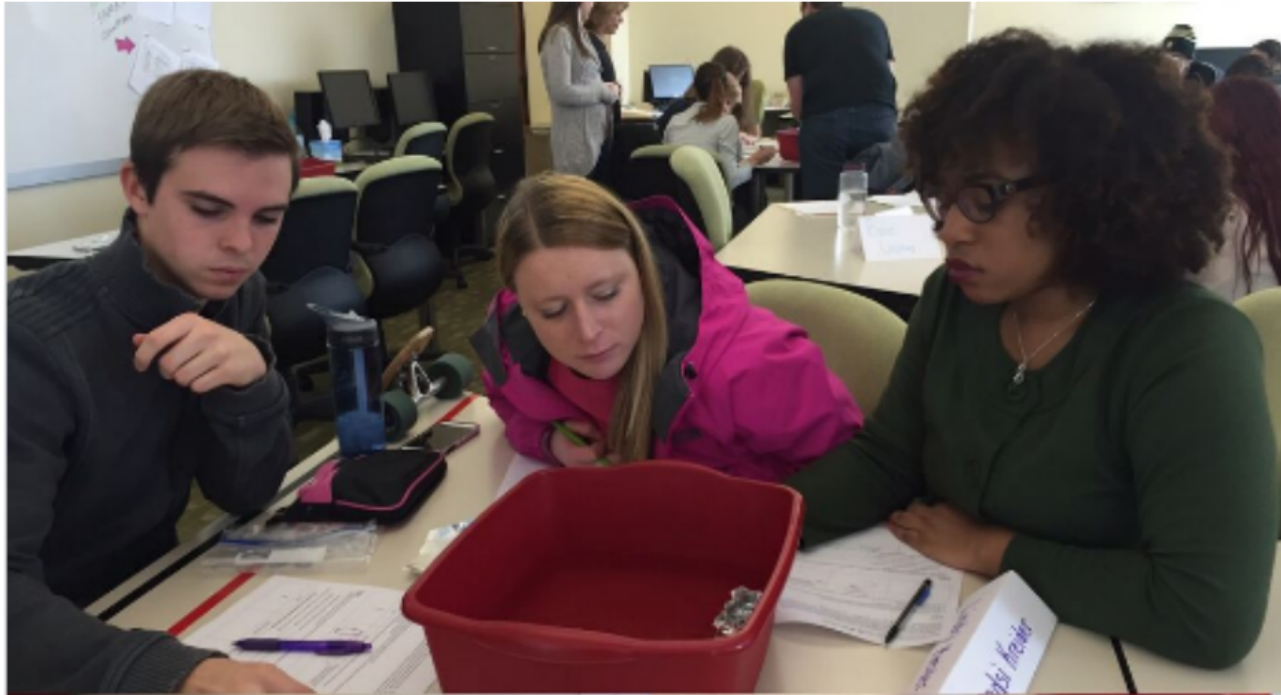












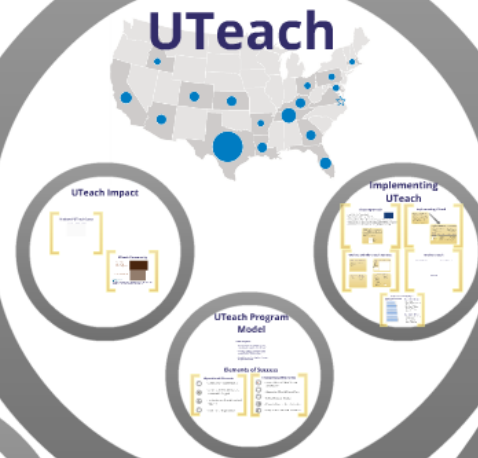
# Excellence in STEM Teacher Preparation

The UTeach Secondary STEM Teacher Preparation Model

## State & National Context



## UTeach



**UAB Teach**  
University of Alabama,  
Birmingham

