NATIONAL MATH + SCIENCE INITIATIVE

THE UTEACH INSTITUTE

HHMI HOWARD HUGHES MEDICAL INSTITUTE

NATIONAL REQUEST FOR PROPOSAL FOR UTEACH REPLICATION

Issue Date: March 18, 2013

Overview of Grant Opportunity

With funding generously provided by the Howard Hughes Medical Institute, the National Math and Science Initiative (NMSI), in partnership with the UTeach Institute (Institute) is currently accepting proposals from research universities interested in implementing the UTeach Secondary STEM Teacher Preparation Program Model. Up to ten universities will be awarded.

Eligibility to Apply

Proposals will be accepted from fully accredited, four-year, tax-exempt institutions of higher education with a current Carnegie classification of Research High or Research Very High.

The Application Process

The process of applying for UTeach Replication grants includes the completion of four steps.

1. A letter of intent is requested from interested universities by **June 3, 2013**. The letter of intent should state a university's intention to respond to the request for proposal (RFP) with a full proposal on September 19, 2013. The letter should include signatures from key leaders, principal investigators and/or potential co-directors representing STEM and STEM education entities committed to assembling a writing team and preparing a proposal. Failure to submit a letter of intent does not disqualify a university from submitting a proposal. Letters of intent should be sent electronically or by mail to:

   rfp-questions@utlists.utexas.edu -or- The UTeach Institute
   UT Austin, College of Natural Sciences
   120 Inner Campus Drive Stop G2550
   Austin, TX 78712-1255

2. University teams are encouraged to attend the UTeach Institute Conference on May 21-23, 2013 in Austin, TX to learn more about UTeach, UTeach replication and the proposal process. Conference details can be found at: http://uteach-institute.org/conference.
3. Universities will complete and submit a full proposal that provides information and statistics about the need for a UTeach program at their institutions as well as descriptions of the proposed implementation team.
4. Select universities may be invited to participate in an individual conference call to respond to questions raised by the Proposal Review Team.

Resources

The UTeach Institute RFP webpage: http://uteach-institute.org/rfp

1. UTeach Staffing
2. UTeach Program Planning
3. Budgeting for a UTeach Program
4. Interactive Budget Planning Tool

5. UTeach Degree Plans
6. The UTeach Instructional Program
7. RFP Template and Forms

Request for Proposal Timeline

Task/Milestone	Date
Request for Proposals (RFP) Issued	March 18, 2013
Webinar – Review RFP and Proposal Requirements Details for participating will be published here: http://uteach-institute.org/rfp.	April 9, 2013 1:00pm CDT
UTeach Institute Conference in Austin, TX	May 21-23, 2013
Letter of Intent Due	June 3, 2013
Regularly scheduled conference calls with universities that intend to submit a proposal. All calls will be from 2:00pm – 3:00pm CDT.	June 11, June 25, July 9, July 23, August 6, August 20
Proposal Due	September 19, 2013
Awards Announced	December 2, 2013
Selected universities begin planning period	January 3, 2014

Grant Amounts:

Up to $1,450,000 will be awarded to each grantee. Based on available funding, recipient universities will be awarded up to $1,450,000 over five-years to implement the UTeach secondary STEM teacher preparation program. A five-year content licensing fee of $50,000 will be paid to the UTeach Institute from grant funds received.

Grant Year	Period	% of Total Program Budget	Award Amounts
5 Year Content License Fee	**Spring 2014 – Aug 2018**	NA	$50,000
Planning Period	**Spring 2014**	50%	Up to $100,000
Year 1 Operations	**2014 - 2015**	62%	Up to $250,000
Year 2 Operations	**2015 - 2016**	58%	Up to $350,000
Year 3 Operations	**2016 - 2017**	48%	Up to $350,000
Year 4 Operations	**2017 - 2018**	40%	Up to $350,000
Total Award			**Up to $1,450,000**

Grant awards will be reviewed and awarded annually, and are dependent on successful implementation of the *UTeach Elements of Success* (Appendix A) and the commitment and ability to become self-supporting over the course of the five-year grant period.

Allowable Grant-Funded Expenses

Funds are intended to be used toward startup costs to enable the creation of the new program and successful implementation of the *UTeach Elements of Success* (Appendix A), including (but not limited to) the hiring of master teachers, tuition stipends to recruit students, faculty release time, providing

student internships, and offering mentor teachers financial compensation. While such costs are considered crucial to the start-up of programs based on the UTeach model, many of them are not typically funded through budgets at institutions of higher education. The grantees will be responsible for implementing all program elements and allocating funds appropriately. Furthermore, each grantee will need to work closely with its development office to create and implement a strategy that ensures sustainability of these program elements after grant funding ends. Grant awards cannot be used toward facilities, facilities rehabilitation or large instructional technologies with costs over $25,000.

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INTRODUCTION OF PARTNERS

The Howard Hughes Medical Institute has partnered with the National Math and Science Initiative and the UTeach Institute to fund up to ten research[1] universities to replicate the UTeach Program for preparing a new generation of highly qualified secondary science, technology and mathematics teachers. This model recruits STEM majors to enroll in a four year integrated baccalaureate degree program in their major that also provides teaching certification.

The Howard Hughes Medical Institute

The Howard Hughes Medical Institute (HHMI) is a nonprofit medical research organization that ranks as one of the nation's largest philanthropies. HHMI plays a prominent role in advancing biomedical research and science education in the United States. Founded in 1953 by aviator and industrialist Howard R. Hughes, HHMI is headquartered in Chevy Chase, Maryland, and employs more than 3,000 individuals across the U.S. HHMI has an endowment of $16.1 billion of which HHMI spent $825 million for research and distributed $80 million in grant support for science education in fiscal year 2011. The HHMI's grants fuse teaching and research, and reflect HHMI's commitment to educating a new generation of scientists. HHMI funds undergraduate and graduate education initiatives that engage students in discovery research.

The National Math and Science Initiative

The National Math and Science Initiative (NMSI) is a not for profit organization founded in 2007 to significantly expand and improve STEM education in the United States. Visit the NMSI website at www.nms.org. NMSI's strategies include:

- Raising funds to support capacity-building in STEM education;
- Identifying and replicating successful STEM education and teacher training programs;
- Developing and managing accountability protocols to replicate the essential elements of STEM programs;
- Expanding public awareness through media and events, including coordinating national, regional and state events to bring attention to effective programs and progress in STEM education;
- Using objective metrics to document and publicize progress;
- Serving as a thought leader to influence education and corporate policies towards support of expansion and replication of successful STEM education programs; and
- Partnering with other like-minded organizations to amplify the awareness and impact of improvements to STEM education.

The UTeach Institute

The UTeach Institute was established at The University of Texas Austin to support replication of the UTeach teacher preparation program at universities across the country and to lead efforts toward continuous improvement of the UTeach program model. The singular goal of this effort is to increase the number of highly qualified science, mathematics, and computer science teachers nationwide.

The Institute's work is supported through a variety of strategic partnerships and initiatives at national, state, and local levels. The Institute partners with NMSI and the states of Texas, Tennessee, Georgia, Massachusetts, Florida, Maryland, and Arkansas to replicate UTeach at universities across the country. A complete list of strategic partners is available at http://uteach-institute.org/about/detail/partners/. For more information on the UTeach Institute, please visit http://www.uteach-institute.org.

[1] Research Universities is defined as those with a current Carnegie classification of Research High or Research Very High

UTEACH PROGRAM INFORMATION AND HISTORY

The UTeach secondary mathematics, science, and computer science teacher preparation program has been in existence since 1997 at The University of Texas at Austin (UT Austin). Recognizing that an essential condition for student achievement in mathematics and science is a teacher with strong content knowledge, Mary Ann Rankin, then Dean of the College of Natural Sciences, made teacher preparation a high college priority and initiated a partnership with the College of Education, the College of Liberal Arts, and the Austin Independent School District to improve the University's program for secondary mathematics, science, and computer science teacher preparation. The University's College of Education redesigned generic education courses to focus specifically on secondary mathematics and science teaching, the College of Liberal Arts designed a course on the philosophy and history of mathematics and science, and the College of Natural Sciences modified curricula and began aggressively recruiting mathematics and science majors to become teachers.

Hallmarks of the UTeach program include:

- 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
- Compact degree plans that allow students to graduate with both a degree and teacher certification in four years
- A focus on developing deep-level understanding of the subject material and incorporating effective approaches for 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 or the teaching and learning of mathematics and science
- Integrated professional development courses that 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, such as paid internships that offer opportunities for community outreach in education

From modest beginnings as a Natural Sciences pilot program of 28 students in the fall of 1997, UTeach has grown to an enrollment of approximately 600 students, graduating 70 to 90 certified mathematics, science, and computer science teachers a year. Since 2001, over 750 students have graduated from the UTeach program. More than 80% of UTeach graduates who enter the teaching profession are still teaching five years after graduating, and almost half of the graduates teach in high need schools.

What is UTeach Replication?

Implementation of the UTeach program model requires substantial changes over an extended period at the institutional level of a university. To promote the dual goals of fidelity to the UTeach model and long-term sustainability, the Institute has developed a comprehensive approach to replication aligned with recommendations from the research literature on fidelity of implementation and program replication and expansion (e.g., Century, Rudnick, & Freeman, 2010; Glennan, Bodilly, Galegher, & Kerr, 2004; Hall & Hord, 2010; Hill, Maucione, & Hood, 2007).

The Institute's approach emphasizes (1) clear articulation of program elements and expectations for replication, (2) comprehensive planning with qualified sites, (3) intensive implementation support, and (4) ongoing evaluation of progress.

Replication History

NMSI and the Institute have developed a replication protocol based on identifying the essential elements of a successful program and managing replication in such a way as to ensure fidelity. NMSI manages the financials of matching grants to universities, promotes the work of universities through media and events, and works with the Institute in the implementation and evaluation process. The Institute provides UTeach program and course materials, technical assistance, and evaluation services to support implementation of the UTeach Elements of Success over a 4 – 5 year period.

In March 2007, the Institute, in partnership with NMSI, released the first competitive RFP, encouraging interested universities to apply for grants to replicate the UTeach program.

In November 2007, NMSI and the Institute selected 13 universities to receive grants to replicate UTeach. A second cohort of eight universities began implementing UTeach in 2010, and a third cohort of four universities began implementation in 2011. In Fall 2012, a fourth cohort of eight universities began implementing UTeach.

Interest in UTeach continues to grow, promising to further increase the numbers of STEM teachers nationwide. As of Fall 2012, more than 6,200 students are enrolled in UTeach programs across the country. For a complete list of UTeach programs, see http://uteach-institute.org/community. Current statistics on UTeach are available here: http://uteach-institute.org/

National Attention to UTeach

NMSI's partnership with the Institute has resulted in the expansion of UTeach to 35 universities in 17 states, including UT Austin. NMSI has partnered with foundations, corporations, individuals, and the federal government to replicate UTeach across the country and has been aggressive in bringing national attention to the UTeach program. These efforts have produced national events, media coverage, policy and legislative changes, and access to public and private funding. A few examples are highlighted below:

- Three White House Presidential events highlighting UTeach
- "America's Future STEMS from Good Teachers: Are We Ready?," a National Press Club event highlighting UTeach on May 23, 2012
- The President's Council of Advisors on Science and Technology adopted the goal of producing 100,000 new STEM teachers largely through UTeach expansion
- Congress authorized adoption of the UTeach model in future STEM teacher preparation grant programs
- Five Race to the Top winner states have successfully funded UTeach replication sites to strengthen teacher preparation and meet their STEM teacher shortage needs The UTeach Institute

APPROACH TO UTEACH REPLICATION

Products and Publications

The Institute explicitly communicates the essential elements, operational details, and instructional content that make the UTeach program successful, carefully articulating these fundamental program components through products and publications that provide increasing levels of specificity to appeal to a variety of universities' interests and existing knowledge of the program.

- *UTeach Elements of Success*

The *UTeach Elements of Success* (Appendix A) outlines aspects and features of the program that contribute to its effectiveness. These elements are specific enough to allow a university interested in adopting UTeach to make informed decisions about whether the program is a good fit with the university's priorities and with local characteristics. The *UTeach Elements of Success* are also the basis for the Institute's criteria for evaluating the progress and success of program implementation at each of its university partners.

- *UTeach Operations Manual*

More specific than the *UTeach Elements of Success*, the *UTeach Operations Manual* provides program details, translated into specific practices, to make implementation a straightforward and achievable task. The manual provides detailed information related to operational and instructional aspects of the program. Topics include obtaining institutional commitment, planning for program growth, establishing partnerships with local school districts, recruiting students, planning the budget, staffing, planning space requirements, purchasing equipment and supplies, and supporting students. The *UTeach Operations Manual* is made available through a members-only Website.

- *UTeach Program Curriculum*

One of the most significant challenges for universities implementing UTeach programs is developing a streamlined curriculum that replaces generic education courses with those that successfully integrate mathematics and science content and pedagogy. To facilitate this instructional transition, the Institute provides nine fully developed UTeach courses with extensive supporting resources, including instructor notes, rationales, lessons learned, recorded interviews and discussions, videotaped activities, and samples of student work. These materials are accessible via a members-only Website. UTeach course descriptions are provided in the publication entitled *The UTeach Instructional Program* available at http://uteach-institute.org/rfp.

Fidelity of Implementation

The resources detailed above outline a set of operational and curricular structures, some of which should be replicated with fidelity and some that may be appropriately modified. Operational fidelity is generally expected to be high in the early stages of replication to ensure successful start-up without unnecessary delays. Over time, based on acquired understanding of how any changes may affect the operation and performance of the program, faculty and staff at universities replicating UTeach are expected to adapt operational aspects of the model to suit the specific needs of the local context.

Instructional fidelity is likewise expected to be as high as possible initially, taking into account the unique needs of each site's state and local certification standards and student characteristics. However, even when following a standard syllabus or text, faculty members draw upon their own experiences, insights, and areas of expertise. Indeed, UTeach faculty members at UT Austin continuously refine and adapt the UTeach curriculum based both on current research on effective teaching practices and their experiences teaching the UTeach courses. This level of adaptation of the UTeach curriculum is expected to occur at universities replicating UTeach as well.

Site Selection and Planning

Universities interested in adopting the UTeach model must engage in an intensive proposal development process. The Institute carefully weighs the environment and capabilities of each applicant against the conditions necessary for successful implementation and long-term sustainability of a UTeach program. These conditions include the number of science, technology, engineering, and mathematics (STEM) majors, qualifications of the faculty and staff who will operate the program, strength of the institution's relationships with local school districts, and institutional support for the program at all levels.

The Institute places a high priority on the development of long-term funding capacity for each local program. A UTeach grant of $1.45 million provides significant start-up funding but is not expected to fully fund a university's cumulative expenses over the five-year grant period. Universities are required to adopt a funding model where grant funds decrease as a percentage of the total program budget each year. Proposals must demonstrate commitment and ability on the part of university administration to contribute program funding and support during the grant period and to, over time, create a perpetual income resource such as an endowment.

Once universities are selected to implement UTeach, the Institute provides structured program start-up assistance during a planning period, working closely with the program faculty, staff and leadership at each university to provide information and implementation support as they work to interpret the *UTeach Elements of Success* within their local context.

Operational and Instructional Support

Beyond simply replicating a program model, the Institute is committed to helping every university implement a successful UTeach program. Following the initial planning period, where foundations for successful program implementation are established, the principle role of the Institute is to provide ongoing operational and instructional support throughout the 4-year process of program implementation. To promote sustained operational efficiency and effective implementation of the UTeach instructional program, the Institute has designed a comprehensive support plan that includes the following key components.

- *Secure Resources Website*

The Institute Members Website provides access to primary resources, such as the *UTeach Operations Manual* and complete program curriculum for nine UTeach courses, and it facilitates productive interaction among peers at replication sites through electronic mailing lists devoted to particular topics and groups (e.g., master teachers) and moderated discussions related to specific course content, instructional strategies, and other topics of interest. Content contribution tools allow faculty, master teachers, and staff at other UTeach replication sites to share their unique materials and access what others have contributed.

- *In-Person and Web-Based Support Events*

Regularly scheduled operational and instructional support events range from topical Webcasts to intensive professional development workshops held at UT Austin. During these events, UTeach replication site faculty members interact directly with each other and their counterparts at UT Austin. Instructional events are also held in conjunction with the annual UTeach conference in May.

- *On-Demand Technical Assistance*

Institute site coordinators, in conjunction with consultants from UT Austin and our most experienced university partners, provide ongoing technical assistance on every aspect of UTeach program operations and instruction. Assistance is provided via email, site visits, conference calls, and meetings. More than

any other activity supporting replication, the Institute's role as a support provider encourages the cultivation of productive collegial relationships.

Ongoing Evaluation

A significant portion of the Institute's staff is dedicated to analyzing and reporting quantitative and qualitative data collected through a combination of site visits, surveys, reviews of course materials and student artifacts, and regular data submissions.

- *Site Visits*

Site visits are scheduled in the fall and spring for each partner program. Although these visits involve specific evaluation activities, they also serve to provide ongoing assistance and promote relationships among Institute and university program staff.

- *Student Surveys*

The Institute collects data on student perceptions of various aspects of its partner programs. Instruments include an entrant survey, program satisfaction survey, a program leaver survey, a graduate survey, and an alumni survey. All surveys are administered online, and results are provided to co-directors, course instructors, and others through a variety of reports.

- *Instructional Program Review*

The Institute employs a variety of instruments and protocols designed to measure the degree to which UTeach course design principles, core course components, and course objectives and evidence of student learning are reflected in course equivalents at our partner universities.

- *Progress Evaluation and Reporting System (PEARS)*

To store and sort longitudinal data from all participating universities, the Institute has invested in the development of PEARS, a sophisticated web-based data management system. Authorized users for each program provide data about their university, program, and students twice a year. These data, along with survey and site visit data, are used to develop a variety of reports for multiple stakeholders and address important questions related to program implementation, student enrollment and retention, and teacher production and retention. Universities use the information to review progress and make informed decisions about program development and improvement, while funders can track program implementation benchmarks that trigger annual grant disbursements.

- *Reporting*

Using the data collected through site visits, surveys, instructional reviews, PEARS, and other sources, the Institute prepares individual site summaries, progress reports, annual presentations of individual program and cross-site data for the programs themselves, and other formative and summative reports. In addition to documenting progress toward UTeach replication, the goal is to assist universities in using the information to assess their program's development and inform decisions about improvement. In turn, the Institute uses these data to assess its own efforts and determine which support activities should be modified or expanded to address local needs. Many of these reports are shared with funders, policy makers, and others to support funding and promote the national UTeach community.

References

Century, J., Rudnick, M., & Freeman, C. (2010). A framework for measuring fidelity of implementation: A foundation for shared language and accumulation of knowledge. *American Journal of Evaluation, 31,* 199-218.

Glennan, T. K., Bodilly, S. J., Galegher, J., & Kerr, K. (Eds.) (2004). *Expanding the reach of education reforms: Collected essays by leaders in the scale-up of educational interventions.* Santa Monica, CA: RAND.

Hall, G. E., & Hord, S. M. (2010). *Implementing change: Patterns, principles, and potholes.* Upper Saddle River, NJ: Prentice Hall.

Hill, L. G., Maucione, K., & Hood, B. K. (2007). A focused approach to assessing program fidelity. *Prevention Science, 8,* 25-34.

The Request for Proposal (RFP) Process and Criteria

Request for Proposal Timeline

Task/Milestone	Date
Request for Proposals (RFP) Issued	March 18, 2013
Webinar – Review RFP and Proposal Requirements Details for participating will be published here: http://uteach-institute.org/rfp.	April 9, 2013 1:00pm CDT
UTeach Institute Conference in Austin, TX	May 21-23, 2013
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Proposal Due	September 19, 2013
Awards Announced	December 2, 2013
Selected universities begin planning period	January 3, 2014

UTEACH SUPPORT TO APPLICANTS

A team from each applicant institution – including potential program co-directors and, if possible, deans of participating colleges, faculty members, development officers, potential master teachers, and administrative personnel whose support will be vital for the program – is encouraged to attend the annual UTeach Conference. During the conference, attendees will have multiple opportunities to ask questions and speak directly with Institute staff, UTeach administrators, faculty, and master teachers from UTeach programs across the country. A dedicated RFP session is scheduled. See http://uteach-institute.org/conference for conference information and registration.

UTeach Conference

Time	Location
May 21, 1:00 pm – May 23, 3:00 pr	AT&T Executive Education and Conference Center 1900 University Ave. Austin, TX 78705

Email Support and Frequently Asked Questions

Please send questions about this RFP to rfp-questions@utlists.utexas.edu.

Information that is different from or in addition to the information available in the RFP will be provided in response to written inquiries. In order to assure that all prospective applicants have equal access to information about the RFP, copies of all such inquiries and answers to inquiries will be posted on the UTeach Institute Website at http://uteach-institute.org/rfp in the Frequently Asked Questions section. These questions and their responses will be updated as needed during the RFP period.

Support Conference Calls

The Institute will offer regularly scheduled conference calls on select Tuesdays from 2:00pm – 3:00pm CST to discuss the UTeach program and RFP process with Institute staff (see specific dates below). During these conference calls, Institute staff will answer questions about the RFP, address concerns or issues, and suggest solutions when possible. Any pertinent information discussed during these calls that is helpful to other applicants will be posted on the UTeach Institute website as described above.
Conference Call Dates: Tuesdays from 2:00pm – 3:00pm Central Daylight Time:

June 11, 2013
June 25, 2013
July 9, 2013
July 23, 2013
August 6, 2013
August 20, 2013

The call in number is (800) 761-6708. Participants must enter the code 536533#.

CRITERIA FOR PROPOSAL REVIEW

Each proposal will be reviewed to determine the capacity of the applicant university to implement the *UTeach Elements of Success* (Appendix A), its commitment to implement the UTeach program with fidelity to operational and instructional components over the first four years of operation, and its potential for sustainability after grant funding ends. In reviewing the information submitted, and in recommending competitive proposals for funding, all reviewers are guided by criteria. The criteria are listed below to help applicants prioritize efforts to develop successful proposals.

1. Level of interest, need and capacity to meet need at the institution of higher education

0 – 15 of 100 points

A strong proposal demonstrates a compelling need for a new certification program based on UTeach. Profile information for the institution of higher education and partnering school districts will be reviewed to determine the potential impact of a new certification program based on UTeach. Preference will be given to universities producing insufficient numbers of mathematics and science teachers to meet local and state demands.

2. Strength of proposed co-directors, faculty, master teachers, and staff

0 – 20 of 100 points

A strong proposal identifies and describes current and potential new faculty, master teachers, and staff who are committed to implementing the UTeach program with fidelity to program structure and the published curriculum. Personal statements and CVs of proposed co-directors, staff, and faculty should describe their interest and passion for implementing UTeach with fidelity and explain how the new certification program fits within their vision for preparing mathematics and science teachers. Expectations for implementing UTeach with fidelity are articulated in the *UTeach Elements of Success* (Appendix A), *The UTeach Instructional Program*, and *UTeach Staffing* at http://uteach-institute.org/rfp.

A strong proposal also identifies faculty candidates to serve as co-directors for the new program. Ideally, one co-director should represent the College of Science/Mathematics (or its equivalent) and be actively engaged in scientific research in his or her discipline; the other should represent the College of Education (or its equivalent) and be actively engaged in research in the learning sciences. It is important to note that the role of co-directors differs significantly from that of Principal Investigator (PI) required by more

traditional grants. The roles of co-directors are described in the document titled *UTeach Staffing* available at http://uteach-institute.org/rfp.

3. Strength and capacity to implement the UTeach Elements of Success

0 – 30 of 100 points

A strong proposal demonstrates a thorough understanding of the UTeach program and the elements that make it successful. Applicants must provide a description of the future program and present plans and timelines for phasing out and replacing any existing undergraduate secondary mathematics and science certification program(s). A strong proposal clearly demonstrates potential for sustainability after grant funding ends and demonstrates the capacity to set in motion actions that will lead to a successful implementation of the UTeach certification program.

4. Strength of Institutional Support and Commitment

0 – 15 of 100 points

A strong proposal provides a compelling description of institutional support for the new UTeach program. Allocation of space, financial commitments, fundraising to secure gifts, and establishment of an endowment for the UTeach program are addressed.

A strong proposal includes convincing *letters of support* from higher education administrators, local school district administrators, and other state or local stakeholders who support and endorse the new certification program. In addition, proposals include a signed *Memorandum of Understanding* (MOU) (Appendix E) expressing commitments for ongoing support from budgets at the institution of higher education, for fundraising, and for allocating physical space for the new certification program.

5. Appropriateness of budget

0 – 20 of 100 points

A strong proposal includes a full program budget that is reasonable and in accordance with the Institute's model replication budget (see *Budgeting For a UTeach Program* and the *Interactive Budget Planning Tool* available at http://uteach-institute.org/rfp). This budget provides a guide for universities to financially plan for the growth of their programs based on local resources and constraints and serves as the template for submitting budget information in the proposal.

PROPOSAL COMPONENTS

The proposal must address the following components. The narrative (excluding the title page, table of contents, and appendices) should not exceed 20 pages, using 12-point font, one-inch margins, and single line spacing. Microsoft Word proposal templates and forms are available at http://uteach-institute.org/rfp.

I. Title Page

Proposals must include a title page with the following information:

Contacts	Name	Position	Department	Phone	Email
Co-Director (Principal Investigator)					
Co-Director (Principal Investigator)					
President or Provost (or equivalent) with authority to commit institutional resources to the proposed project					
Contracting Officer with authority to negotiate contracts for the institution					
Financial Officer with authority to produce monthly budgets and reports					
Development Officer with authority to raise funds toward an endowment					

II. Table of Contents

Proposals must include a table of contents and provide page numbers for the major headings of the proposal (delineated by roman numerals here and in the proposal word templates). Number all pages sequentially.

III. Proposal Narrative

A. Proposal Development Process

Describe your proposal development process. Identify key individuals involved, and describe the role each played in the production of the proposal.

B. Statement of Interest, Need and Capacity to Meet Need

1. Provide a general description of the institution's interest in and need for a new certification program based on the UTeach model.
2. Describe all existing routes (undergraduate, post-baccalaureate, graduate programs, alternative) for secondary STEM teacher certification at the institution, and indicate the numbers of STEM teachers that are recommended for certification each year. Refer to key statistics in profile Forms A – D (Appendix B)
3. Provide any relevant information concerning your local and state contexts related to teacher preparation.
4. Provide a general description of the project team's capacity to meet the above need. Briefly describe how the university, faculty, and student resources have the potential capacity to increase the number and quality of mathematics and science majors graduating with degrees in their majors and secondary certification to teach these subjects. Refer to the university organizational charts and key statistics included in Forms A—D (Appendix B).

C. Description of proposed co-directors, faculty, master teachers, and staff

See the document *UTeach Staffing* for descriptions of essential UTeach faculty and staff, available at http://uteach-institute.org/rfp. Using these descriptions, applicants should identify co-directors, staff, and

current or potential faculty and master teachers at their institutions who are being considered to implement the new certification program and teach the UTeach courses.

1. For each person expected to be involved in the new UTeach program, include personal statements of up to 250 words describing their personal interest and vision for the project and understanding of how UTeach replication aligns with both.
2. Submit CVs for each person identified, limited to two pages each. These should be included as Appendix D. CVs should follow the following format:
    1. Education and degrees obtained
    2. Academic work history/K-12 teaching experience
    3. 5 (maximum) publications related to this project
    4. 5 (maximum) significant publications
    5. Synergistic activities (this is an NSF term to describe the broader impact of an individual's professional and scholarly activities that focus on the integration and transfer of knowledge, as well as its creation)

D. Implementing the UTeach Program

See the document *UTeach Elements of Success* for detailed descriptions of the UTeach program Elements of success, available at http://uteach-institute.org/rfp. Applicants should describe their plans for implementing the elements of a UTeach program.

Distinctive Program Identity

- Provide the proposed name and/or logo, if developed, for the new program.
- Describe the organizational structure of the new program and how it will fit within the overall structure of the university. In addition, applicants must submit an organizational chart (Appendix C) of the program showing how it fits within the university structure and with district partners.
- Discuss plans for developing a program website to provide information about the program, program courses, and other program news.

Cross-College and School District Collaboration

- Describe the proposed collaboration between colleges (equivalents of Colleges of Education College of Liberal Arts, and Colleges of science) that will be responsible for program operations. Describe the planned partnerships among participating colleges and other programs on which these colleges have collaborated previously.
- Describe the planned partnership with local districts. Identify high need districts and schools, as well as those using inquiry- or project/problem-based instruction. Submit letters of support from School District leaders (Appendix F)
- Describe, if applicable, the planned partnerships between the university and any other institutions (e.g., community colleges).

Compact and Flexible Degree Plans

- Describe plans for phasing out and replacing the existing undergraduate secondary mathematics and science teacher certification program(s), if one or more exists at your institution, and any challenges or barriers your institution may face during this process. Selected universities with existing undergraduate secondary mathematics and science teacher certification programs will have several years to phase out their program(s) and replace them with the UTeach model. Plans should include a timeline with clear dates to begin phasing out the old program(s).
- Outline the steps for revising and approving new four-year (or 120 to 126 credit hour) degree plans that incorporate the UTeach courses and field experiences. Include a timeline for obtaining state approval for the new certification program and expected dates for the

program's publication in the course catalog. See *UTeach Degree Plans* available at http://uteach-institute.org/rfp for examples.

- Identify key staff that will be responsible for coordinating the development of the new degree plans.
- Identify and describe any state policies that may present obstacles or barriers to implementing the new UTeach program at your university (e.g., state requirements for field experience hours, mandatory pre-requisite courses, etc.). Describe how your institution will work with your state's department of education to satisfy state requirements while at the same time preserving the integrity of the UTeach model during implementation.

Active Student Recruitment and Support

- Describe the proposed plan to actively recruit and attract STEM majors into the certification program. Identify staff and faculty who will be responsible for student recruitment. Identify all proposed recruitment strategies and communication events.
- Describe the proposed plan to actively support students as they progress through the program. Describe advising plans, financial incentives and any other student support activities and structures (community building, student space, internships).

Master Teacher Role and Field Experiences

- Describe the role that master teachers will play in the new program. Describe how master teachers will be involved in recruitment, advising, teaching courses, and managing student field experiences. See *UTeach Staffing* available at http://uteach-institute.org/rfp.

Rigorous, Research-Based Instruction

- Using the following table, describe the plans for rolling out the UTeach courses. Identify existing faculty who could teach each of the courses, and indicate when new hires will be sought to teach specific courses. See the sample UTeach Program Implementation Schedule in *UTeach Program Planning* available at http://uteach-institute.org/rfp for the suggested course implementation schedule.

UTeach Course	Instructor Name	Department/ College	First Semester/ Quarter Offered
Step 1: Inquiries Approaches to Teaching			
Step 2: Inquiry-Based Lesson Design			
Knowing and Learning in Mathematics and Science			
Functions and Modeling			
Classroom Interactions			
Research Methods			
Project Based Instruction			
Perspectives in Science and Mathematics			
Apprentice Teaching			

E. Institutional Support

1. Describe the institutional support for the new program. Submit letters of support (Appendix F) from the Dean of Sciences (or equivalent), Dean of Education (or equivalent), and other university administrators.
2. Describe development (fundraising) capacity, including plans for raising private dollars toward an endowment to sustain the program after the grant ends. Specify the estimated endowment goal needed to support program features like student internships, tuition rebates, mentor teacher stipends, and student scholarships following the initial grant-funded implementation period.

3. Describe current and potential physical space for the new program, including office space for instructors and staff and appropriate classroom and laboratory space for teaching program courses. Specify whether the space will be dedicated to the program or shared with other programs.

IV. Budget

A. Interactive Budget Planning Tool

Applicants must submit a budget detailing anticipated costs necessary for implementing the *UTeach Elements of Success* using the template provided in the Interactive Budget Planning Tool. Use the model budget as a guide and template (see *Budgeting For a UTeach Program* and the *Interactive Budget Planning Tool* available at http://uteach-institute.org/rfp). Proposals must include both the Model Budget Assumptions and the Model Budget Spreadsheet worksheets contained within the *Interactive Budget Planning Tool*.

1. The Model Budget Assumptions worksheet is provided to assist in the budget creation process. Applicants should modify the assumption values to reflect their local circumstances.
2. A five year model UTeach budget is created based on these Model Budget Assumptions. Applicants should further adjust these budget amounts if necessary.

B. Budget Narrative

Provide a budget narrative that includes:

1. an explanation of how applicants arrived at enrollment estimates;
2. a description of how salaries compare to similar positions in the surrounding area;
3. an explanation of tuition reimbursements, internships, or scholarship costs (if provided);
4. an explanation of Mentor Teacher payments and costs for Course Equipment and Activities, especially if they differ substantially from the model budget assumptions; and,
5. an explanation about the costs for Outreach and Recruitment.

Allowable Grant-Funded Expenses

Funds are intended to be used toward start-up costs to enable the creation of the new program and successful implementation of the *UTeach Elements of Success* (Appendix A), including (but not limited to) the hiring of master teachers, tuition stipends to recruit students, faculty release time, providing student internships, and offering mentor teachers financial compensation. While such costs are considered crucial to the start-up of programs based on the UTeach model, many of them are not typically funded through budgets at institutions of higher education. The grantees will be responsible for implementing all program elements and allocating funds appropriately. Furthermore, each grantee will need to work closely with its development office to create and implement a strategy that ensures sustainability of these program elements after grant funding ends. Grant awards cannot be used toward facilities, facilities rehabilitation or large instructional technologies with costs over $25,000.

V. Appendices

A. Elements of Success

B. Forms A—D (Appendix B)

1. Use Form A to provide profile information about the institution.
2. Use Form B to provide profile information about the College of Science (or equivalent). If the equivalent of the College of Science is split among several colleges/schools, submit one form for each college/school.

3. Use Form C to provide profile information about the university's current secondary mathematics and science teacher certifications.
4. Use Form D to provide profile information for each partnering school district.

C. Organizational Charts of the University (Appendix C)

1. Submit an organizational chart of the university that includes the equivalents of the President, CFO, Development Office, Office of Special Projects, Colleges and Schools, and the departments within each.
2. Submit the program's organizational chart. See the UTeach Austin Organizational Chart included in the publication *UTeach Staffing* available at http://uteach-institute.org/rfp for an example.

D. Curricula Vita (CVs) (Appendix D)

Submit CVs for each person identified, limited to two pages each. CVs should follow the following format:

1. Education and degrees obtained
2. Academic work history/K-12 teaching experience
3. 5 (maximum) publications related to this project
4. 5 (maximum) significant publications
5. Synergistic activities (this is an NSF term to describe the broader impact of an individual's professional and scholarly activities that focus on the integration and transfer of knowledge, as well as its creation)

E. Signed Memorandum of Understanding (Appendix E)

Submit a signed MOU with commitments to provide ongoing support from institution budgets, to fundraise, and to allocate physical space for specialized classrooms, offices, and student workspaces for the new program.

F. Letters of Support (Appendix F)

Submit letters of support from the Dean of Sciences (or equivalent), Dean of Education (or equivalent), other university administrators, and school district partners.

PROPOSAL SUBMISSION PROCEDURES

Applicants are advised of the following submission procedures:

- Three (3) printed, paper copies and one (1) compact disc (CD) containing electronic files of the proposal must be received on or before **5:00 PM (Central Standard Time) September 19, 2013.** Proposals not received by the deadline are ineligible for review.
- Proposals must be word processed on 8.5x11 inch white paper, and must be limited to 20 pages, not including title page, table of contents, and appendices. Proposals should be single-spaced and written in 12-point font type. Printed proposals should each be clipped with a binder in the top left corner.
- A CD must be submitted containing all related electronic files of the proposal. Profile forms, letters of support, CVs, and other appendices may be submitted as Word documents or PDFs. CD files should be labeled clearly with brief titles that include the institution's name. Examples of possible file names and document names include:
  - UT Austin Proposal
    - UTAustin_Proposal.doc
    - UTAustin_Proposal.pdf
  - UT Austin CVs

- UTAustin_Marder.pdf
- UTAustin_Abraham.pdf
- UTAustin_Smith.pdf

- UT Austin Appendix
  - UT Austin Letters
    - UTAustin_ProvostLetter.pdf
    - UTAustin_ScienceDeanLetter.pdf

- Proposals must be submitted in a sealed envelope or box, as appropriate, with the institution's name visible on the package. If multiple envelopes/boxes are used, the applicant should indicate on the package "*specified item # of # total items.*" Email or facsimile (FAX) transmission of proposals will not be accepted.

Submitted proposals will not be returned. The Institute and NMSI cannot assume responsibility for the confidentiality of information in submitted proposals. Therefore, proposals should not contain information that is confidential, restricted, or sensitive (e.g., social security numbers). The Institute and NMSI reserve the right to make public the proposals that receive awards, excluding those portions containing budgetary or personally identifiable information.

Proposal Submission Deadline and Contact Information

Date	Time	Address/ E-mail
September 19, 2013	5:00 PM (CST)	**Via U.S. Postal Service:** The UTeach Institute UT Austin, College of Natural Sciences 120 Inner Campus Drive Stop G2550 Austin, TX 78712-1255 **Via UPS or Fed Ex:** The UTeach Institute 103 W 24th St. PAI, Room 4.30 Austin, TX 78712-1255

Checklist of Proposal Items

___I. Title Page
___II. Table of Contents
___III. Narrative
- ___Proposal Development Process
- ___Statement of Interest, Need and Capacity to Meet Need
- ___Description of Proposed Co-Directors, Faculty, and Staff
- ___Implementing the UTeach Program
- ___Institutional Support

___IV. Budget
- ___Model Budget Assumptions
- ___Model Budget Spreadsheet
- ___Budget Narrative

___V. Appendices
- ___Forms A – D
- ___Organizational Charts (of University and Proposed Program)
- ___CVs of Proposed Faculty and Staff (limited to 2 pages each)

___Signed MOU
___Signed Letters of Support
___3 printed copies of full proposal
___CD containing electronic versions (Microsoft Word and PDFs) of all proposal documents

PROPOSAL REVIEW AND AWARD INFORMATION

Proposals received by the established deadline date and time will be reviewed by a proposal review committee consisting of Institute staff, UTeach administrators and faculty from UTeach programs nationally, and selected individuals (e.g., funding stakeholders). Review of proposals will begin as soon as practical after receipt. All components outlined in the RFP must be addressed to be considered for funding.

Proposal Review Process

The proposal review committee may conduct follow-up conference calls with selected applicants. The proposal review committee will formulate a recommendation either to support or decline each proposal. The Institute will consider the advice of the reviewers and formulate a recommendation to the National Math and Science Initiative. Announcement of the institutions selected for UTeach replication is expected to occur by **December 2, 2013**.

The grant awards will be calculated based on allowable percentages of total program costs each year (indicated above) and will be applied to the bottom line, minus the line items that are not allowable (e.g., facilities and technology costs exceeding $25,000).

Data Submission, Grant Reporting, and Payment Schedule

NMSI reviews accounting reports prepared by the University describing how funds are spent during the reporting periods, as well as estimates on future budgets, which will reflect program growth. Release of funds is contingent upon demonstrating satisfactory progress on funding milestones during each semester of program implementation.

Upon execution of the grant agreement, NMSI will award grant funds annually to selected universities. All budgets are prepared by the University though the financial data collection system provided by NMSI. In all subsequent grant years the budgets must be reviewed and approved by the CFO at NMSI before funding for that year is released. Grant funds for subsequent years will be distributed based on compliance with the previous year's activities and the completion of annual statements of work that define specific tasks and benchmarks for program implementation. Distribution of funds is split into two payments, September 15th and January 30th each year.

Universities replicating UTeach submit archival program and participant data through the Progress Evaluation and Reporting System (PEARS), a data management system that houses university and program profile information, including aggregate and individual student data (e.g., ethnicity, gender, grade point average, coursework completed).

In addition to PEARS data, universities replicating UTeach assist the Institute in gathering survey data, including:

- Entrant survey responses
- Program satisfaction survey responses
- Leaver survey responses
- Graduate survey responses
- Alumni survey responses

Data submissions occur in cycles each year. On a bi-annual basis, the Institute uses these data to prepare detailed progress reports indicating whether the site is successfully meeting benchmarks associated with implementing the *UTeach Elements of Success* over the course of the grant period and achieving desired results.

Year-to-year funding at each institution continues according to the original granting agreement as long as the Institute deems program progress satisfactory. In addition to the data analysis described above, Institute staff use information gathered from periodic site visits to determine progress and provide support. Such visits involve observations, interviews, and other data collection activities.

NMSI anticipates that up to 10 institutions will be selected to receive grant awards for up to $1.45 million for UTeach secondary STEM teacher preparation program implementation. The $1.45 million will be awarded in annual amounts ranging from $100,000 to $350,000 each year for spring 2014 (planning period), 2014 – 2015 (Year 1 implementation), 2015 – 2016 (Year 2 implementation), 2016 – 2017 (Year 3 implementation), and 2017 – 2018 (Year 4 implementation). The actual number of awards and award sizes are subject to availability of funds and the quality of proposals received. Awards will be made according to the following schedule:

Grant Year	**Period**	**% of Total Program Budget**	**Award Amounts**
5 Year Content License Fee	**Spring 2014 – Aug 2018**	NA	$50,000
Planning Period	**Spring 2014**	50%	Up to $100,000
Year 1 Operations	**2014 - 2015**	62%	Up to $250,000
Year 2 Operations	**2015 - 2016**	58%	Up to $350,000
Year 3 Operations	**2016 - 2017**	48%	Up to $350,000
Year 4 Operations	**2017 - 2018**	40%	Up to $350,000
Total Award			**Up to $1,450,000**

Appendix A. *UTeach Elements of Success*

UTeach was created expressly to attract significant numbers of diverse science, technology, engineering, and mathematics (STEM) majors and prepare them to become exemplary secondary science, mathematics, and computer science teachers. The *UTeach Elements of Success* outline aspects and features of the program that contribute to its effectiveness. As a whole, they articulate the operational structures and instructional philosophies that underlie the UTeach model at The University of Texas at Austin.

Underlying the Elements of Success is the commitment of UTeach program developers to reform STEM education by reforming STEM teacher preparation. Their enthusiasm is embraced by the UTeach Institute, the organization charged with supporting implementation of UTeach programs at universities across the United States and leading efforts toward continuous improvement of the UTeach model.

The Elements of Success are provided to assist universities in making informed decisions about whether UTeach is a good fit with their own priorities, needs, and local characteristics. They also provide criteria for the UTeach Institute's evaluation of implementation progress at universities replicating UTeach.

1. Distinctive Program Identity

UTeach has an established identity as a prestigious secondary STEM teacher preparation program that attracts high caliber students, experienced and successful master teachers, and tenure-track faculty who are interested in the reform of STEM education.

- UTeach is an academic program that functions like a department, employing its own co-directors, program support staff, student advisors, master teachers, and tenure-track faculty.
- UTeach is name-branded and actively promoted through marketing materials, press releases, special announcements, and ceremonies that honor students and faculty.
- UTeach is the only undergraduate program at the university that recommends STEM majors for teaching certification.
- A UTeach Website provides a comprehensive program description and ready access to course offerings, program news and reports, and other items of significance.
- A UTeach student organization fosters camaraderie among participants, establishes a presence on campus, and promotes the program to students and within the university community.
- UTeach students are honored for choosing to become teachers through special ceremonies; opportunities to meet with university administrators, program co-directors and other supporters; and press coverage.

2. Cross-College and School District Collaboration

UTeach is a formally coordinated effort of the equivalents of the College of Education, the College of Liberal Arts, and the college(s) responsible for administering STEM degrees.

- UTeach co-directors – one representing the STEM college(s) and one representing the College of Education or its equivalent – collaborate to ensure effective program operations and a high quality teacher preparation experience for students.
- A cross-college steering committee that includes representatives from program faculty and staff meets regularly to develop program policies, monitor curriculum and instructional effectiveness, and manage student affairs and program operations.

- Master teachers and tenure-track faculty from all participating colleges are actively involved in the development and ongoing implementation of the UTeach program to ensure effective course articulation, explicit connections between mathematics and science, and an appropriate balance of STEM content and pedagogical instruction.
- Administrators, content specialists, and mentor teachers from one or more school districts work collaboratively with UTeach faculty to ensure relevant, high quality field experiences, feedback, and mentoring throughout the students' UTeach program of study.

3. Long-Term Institutional and Community Support

UTeach is a long-term institutional and community priority that is sustained through ongoing financial support from university and college administrators, as well as a broader range of stakeholders concerned with STEM education reform. UTeach is afforded a level of stability similar to other university departments and is not an outreach effort.

- The university provides a recurring instructional budget, as well as ongoing in-kind support, such as appropriate office space, well-equipped classrooms and laboratories, dedicated student advisors, and an administrative office staff to provide professional services such as purchasing and managing materials, scheduling classes, and processing payments for mentor teachers and student internships.
- UTeach co-directors proactively advocate for programmatic needs and ensure that university leadership is kept informed of program progress and growth.
- Program elements that cannot be covered by university instructional funds are supported by gifts from individuals, corporations, foundations, and other public and private sources.
- A dedicated task force made up of college development officers, business leaders, and UTeach faculty and staff works to promote the UTeach program and raise funds toward a long-term endowment goal.
- Instructors and staff apply for and administer competitive state and national grants and other awards to provide additional financial support to the program.

4. Compact and Flexible Degree Plans

UTeach offers four-year degree plans that fully integrate students' STEM content major requirements and UTeach program requirements and allow students to obtain secondary STEM teaching certification while earning degrees in science, computer science, engineering, or mathematics.

- UTeach explicitly recognizes the difficulties posed to students with limited economic means who traditionally have had to complete additional undergraduate semesters in order to earn teaching certification in addition to their STEM major degrees, as well as the importance of diversifying the current secondary STEM teaching force. As a result, UTeach degree plans allow students to earn both a degree in their major and teaching certification in the same amount of time required by equivalent undergraduate STEM degrees, usually between 120 and 126 semester credit hours, without the requirement and cost of additional undergraduate semesters.
- UTeach program degrees are equivalent in rigor to other undergraduate STEM degrees, in addition to being fully coordinated with state and national standards for teacher preparation in these disciplines.

- UTeach degree plans include a limited professional development sequence of specially designed courses in mathematics and science education as well as domain-specific mathematics and science courses that fulfill multiple university requirements.
- UTeach provides various pathways for completing required coursework such that program enrollment is open to students at any point in their undergraduate careers, allowing upperclassmen and post-baccalaureate candidates to complete the program in as few as three academic semesters under certain circumstances.

5. Active Student Recruitment and Support

UTeach actively recruits to attract the greatest possible number of STEM majors and provides significant resources and encouragement to maximize program and career retention.

- UTeach employs a variety of targeted communication strategies and recruitment events to ensure that all STEM majors, particularly incoming freshman, are invited to participate in the program and aware of its benefits.
- The first two, one-hour field-based courses allow students to try out teaching in a positive and supportive environment with no demand for commitment to continue in the program. Students are offered a financial incentive, such as a tuition rebate, for completing each of these courses.
- STEM major and UTeach program advisors actively support careers in teaching and are well informed about the wide variety of degree plans leading to certification, ensuring that UTeach pre-service teachers successfully meet all requirements for graduation.
- Students are provided a well-equipped workroom with appropriate meeting space, convenient to UTeach classrooms and master teacher and administrative offices, to build community, encourage collaboration, and develop peer support.
- Students have opportunities, facilitated and paid for by the program, to earn income and gain relevant work experience through flexible internship placements at nonprofit STEM or education-related organizations.
- UTeach graduates who enter the teaching profession receive two years of intensive, individualized induction support, including classroom visits, regularly scheduled professional development opportunities, online mentoring, and access to a lending library of materials.

6. Dedicated Master Teachers

UTeach master teachers – non-tenured clinical faculty with exemplary secondary teaching experience – are exclusively dedicated to student support and program success.

- Master teachers are widely recognized for their educational leadership and secondary mathematics, science, or computer science teaching experience; have earned at least a master's degree; and demonstrate their skill and passion for working with students and novice teachers.
- Master teachers are appointed as non-tenured clinical faculty and are paid from the university instructional budget, hired at a ratio of approximately one per 50 students in a mature program.
- Master teachers co-teach or formally support field-based courses, observing and providing written and oral feedback to evaluate and help students improve their skills throughout the program.
- Master teachers manage field experiences, working with local school district teachers and administrators to ensure appropriate field placements and productive teaching experiences for UTeach students.

- Master teachers maintain an “open door” policy, making themselves available to students on demand.
- Master teachers are active in program recruitment, manage student internships, and participate in a variety of other student support activities, including tracking students and identifying and following up with any students in danger of not completing the program.
- Master teachers are knowledgeable about what new teachers encounter and provide ongoing and on-demand career support for UTeach graduates, particularly in their first two years of induction into the profession.

7. Rigorous, Research-Based Instruction

UTeach courses are designed to develop deep understanding of content of particular importance to future secondary STEM teachers and build strong connections between mathematics and science and between educational theory and practice.

- Rigorous learning outcomes are aligned with national, state, and program standards. Evidence of student proficiency is measured throughout the program using standardized assessments, including a final portfolio of student work and a field teaching evaluation. Students are required to demonstrate competency across domains ranging from STEM content knowledge to equitable instruction and professional responsibility in order to be recommended for certification.
- UTeach faculty actively involved in STEM research teach content courses such as Functions and Modeling and Research Methods that address topics of particular importance for future STEM teachers, including the processes by which scientists and mathematicians arrive at new knowledge and methods.
- UTeach science and mathematics education faculty are active in research related to STEM teaching and learning, including how students learn mathematics and science, how to assess what students know, and how to incorporate learning technologies that enhance student learning.
- UTeach faculty actively involved in research on the history or philosophy of science or mathematics teach Perspectives on Science and Mathematics, a content course that develops students' conceptions about the historical and philosophical development of STEM disciplines.
- Pedagogical instruction throughout the program is discipline specific, focusing on research-based best practices in STEM teaching and learning and the connections between mathematics and science and among the sciences.
- Course instructors – both master teachers and tenure-track faculty – purposefully model effective STEM instruction as students learn to employ research-based pedagogical methods and strategies ranging from inquiry to direct instruction, connecting theory to practice throughout the program.
- Courses emphasize the underlying interconnections between mathematics and science and among the sciences, while making explicit what research in the learning sciences implies about the similarities and differences in how each is taught and learned. Science, mathematics, and computer science majors learn together in an inquiry fashion whenever possible.
- All UTeach courses integrate research-based themes important to STEM education, including research on and strategies to ensure equitable instruction, how to create and analyze authentic assessments, and pedagogically effective uses of a wide variety of technological tools.

8. Early and Intensive Field Experiences

In order to promote confidence and accelerate professional development, UTeach students begin a carefully scaffolded sequence of intensive teaching opportunities in their first semester of the program and continue these field experiences throughout.

- Field experiences are domain specific, tightly articulated with the UTeach curriculum, and closely supervised by course instructors – both tenure-track faculty and master teachers – to promote full integration of critical knowledge and skills.
- Students develop their own lesson plans, using research-based instructional materials and strategies, with intensive coaching and feedback from both master teachers and tenure-track faculty who are experts in STEM content and pedagogy, in order to ensure UTeach expectations for accuracy and inquiry-based practice are met.
- Students experience multiple STEM teaching opportunities in high-need and diverse elementary, middle, and high school settings to gain an understanding of current K-12 public school environments and student populations.
- Beginning in their first semester and throughout the program, students' time in classrooms is carefully structured, from focused observations of authentic teaching to clinical interviews of students regarding problem solving strategies to their own experiences teaching, receiving formative feedback, and revising and re-teaching lessons.
- Mentor teachers – host K-12 teachers who receive stipends for their collaboration – create supportive classroom environments, review lesson plans, and provide oral and written feedback to UTeach students after observing them teach.

9. Continuous Program Improvement

UTeach systematically collects and analyzes both student and program level data to make informed decisions about program development and improvement.

- UTeach systematically gathers and reports data on the characteristics of its students and graduates, including numbers of students, grade point average distributions, demographic information, graduation rates, and retention rates in teaching.
- UTeach program co-directors, master teachers, tenure-track faculty, and administrative staff regularly review data on program indicators, reflect on successes and challenges, plan for upcoming semesters, and continue to refine program components.
- The UTeach curriculum is regularly reviewed by the steering committee and/or instructional teams of faculty and refined to ensure course alignment, minimize redundancies, and update content in accordance with current research on best practices and state and national guidelines.
- Students provide formal, anonymous feedback on the UTeach program and courses through a variety of surveys and are given the opportunity to voice opinions in the presence of program decision-makers at regularly scheduled events and activities.
- UTeach program co-directors, master teachers, tenure-track faculty, and administrative staff interact regularly with colleagues from universities replicating UTeach and other institutions to share information on program development, management, and general concerns related to STEM teacher preparation and support.

Abbreviated UTeach Elements of Success

1. Distinctive Program Identity

UTeach has an established identity as a prestigious secondary STEM teacher preparation program that attracts high caliber students, experienced and successful master teachers, and tenure-track faculty who are interested in the reform of STEM education.

2. Cross-College and School District Collaboration

UTeach is a formally coordinated effort of the equivalents of the College of Education, the College of Liberal Arts, and the college(s) responsible for administering STEM degrees.

3. Long-Term Institutional and Community Support

UTeach is a long-term institutional and community priority that is sustained through ongoing financial support from university and college administrators, as well as a broader range of stakeholders concerned with STEM education reform. UTeach is afforded a level of stability similar to other university departments and is not an outreach effort.

4. Compact and Flexible Degree Plans

UTeach offers four-year degree plans that fully integrate students' STEM content major requirements and UTeach program requirements and allow students to obtain secondary STEM teaching certification while earning degrees in science, computer science, engineering, or mathematics.

5. Active Student Recruitment and Support

UTeach actively recruits to attract the greatest possible number of STEM majors and provides significant resources and encouragement to maximize program and career retention.

6. Dedicated Master Teachers

UTeach master teachers – non-tenured clinical faculty with exemplary secondary teaching experience – are exclusively dedicated to student support and program success.

7. Rigorous, Research-Based Instruction

UTeach courses are designed to develop deep understanding of content of particular importance to future secondary STEM teachers and build strong connections between mathematics and science and between educational theory and practice.

8. Early and Intensive Field Experiences

In order to promote confidence and accelerate professional development, UTeach students begin a carefully scaffolded sequence of intensive teaching opportunities in their first semester of the program and continue these field experiences throughout.

9. Continuous Program Improvement

UTeach systematically collects and analyzes both student and program level data to make informed decisions about program development and improvement.

Appendix B. University and College Profile Data Forms

Form A: University Profile Data

University Name:			
Address:			
2012 Student Demographics		Number	
Number of *undergraduate* students enrolled in the university in Fall 2012.			
Number of *undergraduate* students graduating in Spring 2012.			
Student Gender, Race/Ethnicity*		Number	Percentage
Gender of undergraduates, Fall 2012	Female		
	Male		
Race/Ethnicity of undergraduates, Fall 2012	Hispanic of any Race		
	American Indian/Alaska Native Only		
	Asian Only		
	Black/African American Only		
	Native Hawaiian or Pacific Islander Only		
	White Only		
	Two or More Races (Excludes Hispanic and Black)		
	Foreign		
	Unknown / Other		

*** Ethnic/Racial code definitions:**

White only - The category is used to report students or employees who reported their race as white only. White is defined as a person having origins in any of the original peoples of Europe, the Middle East , or North Africa.

Hispanic (any combination) - The category is used to report students or employees who reported their ethnicity as Hispanic or Latino regardless of any race they may have reported. Hispanic or Latino is defined as a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.

Black/African American only - The category is used to report students or employees who reported their race as Black or African American only. Black or African American is defined as a person having origins in any of the black racial groups of Africa.

Asian only - The category is used to report students or employees who reported their race as Asian only. Asian is defined as a person having origins in any of the original peoples of the Far East , Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

American Indian/Alaska Native only - The category is used to report students or employees who reported their race as American Indian or Alaska Native only. American Indian or Alaska Native is defined as a person having origins in any of the original peoples of North and South America (including Central America) who maintains cultural identification through tribal affiliation or community attachment.

Hawaiian/Pac. Islander only - The category is used to report students or employees who reported their race as Native Hawaiian or Other Pacific Islander only. Native Hawaiian or Other Pacific Islander is defined as a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

2 or more (excluding Hispanic/Black) - The category is used to report students or employees who selected more than one race, none of which was Black, and who did not report their ethnicity as Hispanic.

Foreign - The category is used to report students or employees who are nonresident aliens. Nonresident alien is defined as a person who is not a citizen or national of the United States and who is in this country on a visa or temporary basis and does not have the right to remain indefinitely.

Unknown - The category is used to report students or employees whose race and ethnicity are not known.

Fall 2012 Math SAT/ACT Scores for Undergraduate Students							
SAT Math	Score	Number	Percentage	ACT Math	Score	Number	Percentage
	701-800				30-36		
	601-700				20-29		
	501-600				10-19		
	200-500				0-9		
	Total		100%		Total		100%
Average Undergraduate SAT Math Score				Average Undergraduate ACT Math Score			

Fall 2012 Number of Faculty and Staff at the University	
	Number (Total)
Number of Faculty	
Number of Staff	

Form B: College of Science (or equivalent) Profile

Use Form B to provide profile information about the College of Science (or equivalent). If the equivalent of the College of Science is split among several colleges/schools, submit one form for each college/school.

Name of the College:				
Fall 2012 Demographics for Science, Math, Computer Science Undergraduate Majors				
		Computer Science	Math	Science
Number of *undergraduate* students enrolled in *each major*, Fall 2012				
Number of undergraduate students graduating from *each major*, Spring 2012				
Student Gender, Race/Ethnicity *(Please refer to race/ethic categories provided in Form A.)*			Number	Percentage
Gender of *undergraduate science, math, computer science majors* combined, Fall 2012	Female			
	Male			
Race/Ethnicity of undergraduate *science, math, computer science majors* combined, Fall 2012	Hispanic of any Race			
	American Indian/Alaska Native Only			
	Asian Only			
	Black/African American Only			
	Native Hawaiian or Pacific Islander Only			
	White Only			
	Two or More Races (Excludes Hispanic and Black)			
	Foreign			
	Unknown / Other			

Math SAT/ACT Scores for Undergraduate Science, Math, and Computer Science Majors Enrolled Fall 2012							
SAT Math	Score	Number	Percentage	**ACT Math**	Score	Number	Percentage
	701-800				30-36		
	601-700				20-29		
	501-600				10-19		
	200-500				0-9		
	Total		100%		Total		100%
Average Undergraduate SAT Math Score for Science, Math, and Computer Science Majors				Average Undergraduate ACT Math Score for Science, Math, and Computer Science Majors			

Fall 2012 Number of Faculty and Staff in the college	
	Total
Number Faculty	
Number Staff	

Form C: Secondary Math and Science Teacher Certification Information

In this section, provide information about the existing pathways at the university to certify secondary teachers in math, science, and technology.

What undergraduates degree(s) are offered for students seeking secondary math and science certification obtain?

	BA/BS degree in a math/science content (biology, chemistry, physics, geology, math)
	BA/BS degree in education
	Dual BA/BS degrees in math/science content AND education
	Other

Please list all of the approved **secondary STEM** teacher certification categories that are available in your State:

_____
_____
_____
_____

[NOTE: Modify certification type/ grade level for a specific state]

University Teacher Production of Secondary Math and Science Teachers				
	Number of *Undergraduates* Certified in Secondary Math and Science Each Academic Year		Number of Postbacs Certified in Secondary Math and Science Each Academic Year	
Certification type/ Grade level	2010-2011	2011-2012	2010-2011	2011-2012
Mathematics 7-12				
Biology 7-12				
Chemistry 7-12				
Physics 7-12				
Earth Science 7-12				
TOTAL Secondary Science (Combined)				
Technology Engineering Education 5-12				
Other Secondary Math/Science (e.g., math/physics/engineering certification)				
TOTAL Undergraduate Secondary Math and Science Certifications				

Please indicate if the following certification programs are available at your university for students seeking science, mathematics, and computer science certification (edit grade level and certification name and add additional rows as needed). For each certification program, please indicate how many credit hours are required to complete the major with certification.

Certification and Credit Hours				
Certification name	Is certification offered? Yes (Y) No (N)	Number of credit hours in math or science	Number of credit hours of teacher education (pedagogy) courses	Total credit hours to complete major with certification
7 – 12 Mathematics				
7 – 12 Biology/Life Science				
7 – 12 Chemistry				
7 – 12 Physics				
7 – 12 Geology/Earth Science				
7 – 12 Computer Science				
5 – 12 Engineering				
General STEM/ Composite (e.g., math/physics/etc.)				
Other (*Add rows as needed*)				

Field Experience Hours		
Number of field experience hours required for certification	University	State
Prior to student (apprentice) teaching		
During student (apprentice) teaching		
TOTAL		

Form D: Partnering School District Profile Information

Submit the following information for each partner school district

Name of the School District:				
Address:				
Was this school district (as a whole) identified as a "High Needs School District" in Fall 2012?			Yes _____ No _____	
	Elementary	Middle	High School	Other Campuses
Number of Schools (campuses)				
How many *schools* were Identified as High Needs in Fall 2012?				

2011-2012 School District Student Demographics			
Number of Students	Elementary	Middle	High School
Hispanic of any Race			
American Indian/Alaska Native Only			
Asian Only			
Black/African American Only			
Native Hawaiian or Pacific Islander Only			
White Only			
Two or More Races (Excludes Hispanic and Black)			
Foreign			
Unknown / Other			

Appendix E. Memorandum of Understanding between (University), The National Math and Science Initiative and the UTeach Institute at The University of Texas at Austin

UTeach Elements of Success and Program Curriculum
It is understood that success of the (Program Title) program depends on careful attention to the UTeach Elements of Success and program curriculum. Every effort will be made to ensure that the program is implemented with fidelity to the *UTeach Elements of Success* and program curriculum.

University Contribution to Funding
It is understood that the funding provided is for getting the (Program Title) program off the ground. By accepting these funds, (University) understands it is obligated to provide recurring institutional funding as detailed in the attached budget proposal. The National Math and Science Initiative reserves the right to discontinue grant awards if (University) fails to make adequate progress in implementing the *UTeach Elements of Success*.

National Math and Science Initiative Contract with UTeach Institute
The National Math and Science Initiative will, on behalf of the (University), contract with the UTeach Institute to provide data collection, evaluation, and reporting services; and technical assistance for program implementation.

Faculty and Staff Lines
Courses and activities will be offered by tenured and tenure-track faculty, master teachers, and staff at (University). By the end of the funding period, the university will ensure that sufficient personnel are on permanent budget in each of these categories to guarantee the continued success of the program.

It is understood that faculty responsible for the program will be actively engaged in research in mathematics or science or in the teaching and learning of mathematics or science. This may necessitate new faculty hires including provision of adequate start-up packages and sufficient release time for course development.

Physical Space
(University) will provide adequate, preferably contiguous and located within a department of mathematics or science, space for the support and administration of (Program Title). The space will include offices for permanent personnel as well as suitable classroom, laboratory, and storage space for instructional purposes. These allocations will be reviewed and adjusted as program needs expand.

Recommendation for Certification
(University) will ensure that students who satisfactorily complete (Program Title) will be recommended by (University) for state educator/teacher certification in accordance with state and local regulations.

Reports and Data Submissions
It is understood that (University) will provide program-level and student-level data via the UTeach Institute's Progress Evaluation and Reporting System and responses to other requests.

Development Efforts
It is understood that the sustainability of (Program Title) will depend on recurring institutional funding. Depending on available institutional resources, every effort will be made to ensure sustainability through a well-focused fund-raising program to secure a permanent endowment to support (Program Title).

Signatures

_____

Co-Director at (University)

_____

Co-Director at (University)

_____

Dean of Science or equivalent at (University)

_____

Dean of Education or equivalent at (University)

_____

Chief Academic Officer at (University)

_____

UTeach Institute Representative

_____

National Math and Science Initiative Representative