

# *NSF Proposal Strategies and Current Opportunities for Collaboration*

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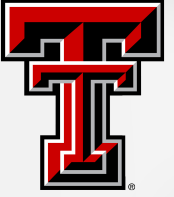


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# Sample Solicitation

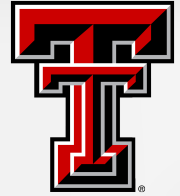


## **“Research Experiences for Teachers (RET) in Engineering and Computer Science”**

**[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=505170](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505170)**

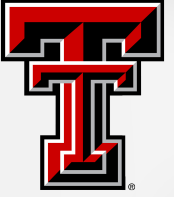
**“... supports active long-term collaborative partnerships between K-12 Science, Technology, Engineering, Computer and Information Science, and Mathematics (STEM) teachers and community college and university faculty and students to bring knowledge of engineering or computer and information science and engineering as well as technological innovation to pre-college/community college classrooms. The goal of these partnerships is to enable K-12 STEM teachers and community college faculty to translate their research experiences and new knowledge gained in university settings into their classroom activities.”**

# Overview of Today's Program



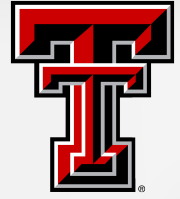
- **A. Merit Review Criteria**
  - ✓ **Intellectual Merit: Potential to Advance Knowledge**
  - ✓ **Broader Impacts: Potential Benefits to Society**
- **B. Objectives**
  - ✓ **Project Management Objectives**
  - ✓ **Outcome Objectives**
- **C. Project Evaluation**
  - ✓ **Formative and Summative Measures**
- **D. Dissemination**

# Broader Impacts : Potential Benefit to Society



- Full Participation of Women, Persons with Disabilities, and Underrepresented Minorities in STEM
- Improved STEM Education and Educator Development at Any Level
- Increased Public Scientific Literacy and Public Engagement with STEM
- Improved Well-Being of Individuals in Society;
- Development of a Diverse, Globally Competitive STEM Workforce
- Increased Partnerships Between Academia, Industry, and Others
- Improved National Security/Increased Economic Competitiveness of U.S.
- Enhanced Infrastructure for Research and Education

# Objectives



- **Project Management Objectives:**

- ✓ Completion of Project Activities
- ✓ Creation of Materials (Testing Materials/Curriculum)
- ✓ Dissemination Activities

- **Outcome Objectives**

- ✓ Cognitive: Knowledge/Skills/Problem Solving, etc.
- ✓ Affective: Motivation/ Self-Efficacy
- ✓ Cultural: Changes in Department/Institution/Profession

- **Activity 1:**

- ✓ Write Project Management and Outcome Objectives

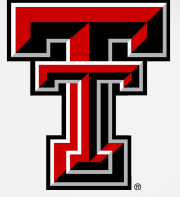
# Project Evaluation



- **Evaluation Objectives**

- ✓ Measure the progress and impacts of the project in achieving its goals, particularly **the degree to which the participants have learned and their perspectives on science, engineering, or computer science have been expanded.**
- ✓ Measure the impact on K-12 and community college **students and their curricula.**

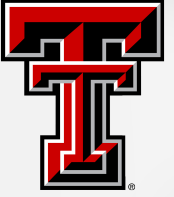
# Project Evaluation



- **Formative Measures**

- ✓ Focus Group Analysis
  - **Qualitative Assessment Tool** – measure effectiveness of the delivery of the research experience
- ✓ Curriculum Enhancement Audit
  - **Quantitative Assessment Tool** – measure the number of new curriculum activities or teaching methods adopted

# Project Evaluation

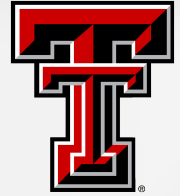


- **Summative Measures**

- ✓ Exit Survey
  - **Qualitative Assessment Tool** – measure perceived quality of the delivered program.
- ✓ Classroom Experience Audit
  - **Quantitative Assessment Tool** – measure the number of undergraduate/graduate classroom experiences.



# Dissemination



- **Special Considerations**

- ✓ Strongly encouraged
  - **National audience**
  - **Free access to educators**
  - **Teach Engineering digital library (<http://teachengineering.org>)**



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