Each summer (2017-19), the Lamar University College of Engineering will host 12 high school STEM teachers to research in advanced design and manufacturing for six weeks. The research topics may include:

1. 3D Design and Printing, Laser Engraving & Micro-Machining, Drs. Liu & Zhu, Industrial Engineering
2. LED Modeling, Simulation and Manufacturing, Dr. Fan, Mechanical Engineering
3. Design and Manufacturing for Smart Structure, Dr. Brake, Civil Engineering
4. Computational Fluid Dynamics (CFD) Simulation in Industrial Applications, Dr. Li, Mechanical Engineering
5. Synthesis and Simulation of Mechanisms in Robotics, Dr. Zhou, Mechanical Engineering

Research topics will be updated at lamar.edu/retdesign

Activities include workshops, curriculum development, seminars and field trips to local industries. The research experience will be incorporated into new high school curriculum designs that meet Texas Essential Knowledge and Skills (TEKS) standards. Each year 1 master teacher and 11 teachers will participate. Program participants will develop at least one high school course module and give a presentation at a one-day conference for high school teachers hosted by Lamar University in the spring.

**Benefits**

Each teacher will receive

- A stipend of $1,000/week* for participation in the six-week summer program
- $1,800 upon completion of the implementation and evaluation activities during the following academic year

* $1,200/week for Master Teacher

**How to Apply**

Applicants must submit the following application materials:

- Proof that an applicant currently teaches a STEM subject at a high school (e.g. syllabus)
- Application form
- Curriculum vitae
- Recommendation letter(s)
- One-to-two page essay that addresses the following topics:
  1. What are your main reasons to participate in this program?
  2. What do you hope to gain from Research Experience for Teachers (RET)?
  3. Describe professional leadership roles you have held.
  4. How would you expect to take RET experience back to faculty and students at your campus?

Forms available at engineering.lamar.edu/retdesign

Women, people from under-represented racial and ethnic groups, or people with disabilities are encouraged to apply. Please include your background information for consideration in the final selection.
**RET Program Master Teacher**

In addition to active participation, the Master Teacher will have a leadership role in the curriculum development process. The Master Teacher must have strong knowledge of TEKS and strong communication and problem solving skills with a positive attitude.

To be considered for Master Teacher, applicants must:

- Submit all application materials required in “How to Apply” section
- Submit a second, one-page essay that describes:
  1. Curriculum development experience
  2. The biggest challenges for RET participants and how the Master Teacher can help them

The Master Teacher will provide assistance to other RET participants in course module development and assessment, host Brown Bag Seminars and co-organize a one-day conference for high school teachers.

Our Team

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For more information visit engineering.lamar.edu/retdesign