TEXAS TECH UNIVERSITY
Edward E. Whitacre Jr. College *of* Engineering™

CONTACTS

Dr. Mary Baker
Bioengineering Program Director
mary.baker@ttu.edu

Box 43102
Lubbock, Texas 79409-3102

www.coe.ttu.edu/bioengineering

BIOENGINEERING

The college offers an interdisciplinary Master of Science in Bioengineering. The program is designed for highly-multidisciplinary graduate education and research.

Because of the highly interdisciplinary nature of the field, our approach will provide all students with an opportunity to take courses in four or five departments including mechanical engineering, electrical and computer engineering, chemical engineering, industrial engineering, and mathematics and statistics. This approach fosters a significant and in-depth exposure of students to various engineering fields with concentration on biomedical and bioengineering applications within each field.

As a result, each student is able to select courses from a variety of departments which concentrate on topics that are central to his or her area of interest.

The Master of Science in Bioengineering program has two degree options. The thesis option requires 24 hours of coursework plus 6 hours of thesis. The non-thesis option requires 36 hours of coursework.

Bioengineering is one of the fastest growing fields of engineering and future job growth prospects are very exciting. The size of the aging population and the increased focus on health issues have resulted in rising demand for better medical devices and equipment. That's where bioengineers come into play. Bioengineering jobs may be found in healthcare industries developing medical devices and implants, hospitals, medical and engineering research facilities, universities, and government regulatory agencies.

FIELDS OF SPECIALIZATION INCLUDE:

- **Bioinstrumentation** in which devices are developed for diagnosis and treatment of disease
- **Bio-materials** in which various forms of implants and engineered living tissue are produced
- **Biomechanics** in which issues related to mechanics of a biological system (for instance, heart) are studied
- **Biochemistry** in which the behavior of cells is studied
- **Biomedical imaging** which utilizes advanced imaging techniques such as magnetic resonance imaging (MRI) to diagnose diseases
- **Occupational bio-ergonomics** in which work-related injury issues are studied.

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CONTACTS

MASTER OF ENGINEERING DEGREE

Dr. Stephen Ekwaro-Osire, P.E.
Associate Dean of Research
and Graduate Programs
stephen.ekwaro-osire@ttu.edu

T 806.742.3541
F 806.742.3493

Box 43103
Lubbock, Texas 79409-3103

www.coe.ttu.edu/graduate

HEALTHCARE ENGINEERING OPTION

Dr. Ming Chyu, P.E.
Coordinator, Healthcare Engineering Option
m.chyu@ttu.edu

T 806.742.3563 x230
F 806.742.3543

Box 41021
Lubbock, Texas 79409-1021

www.coe.ttu.edu/healthcare

MASTER OF ENGINEERING

The Master of Engineering (M.Eng.) degree program is an undifferentiated (interdisciplinary), non-thesis program, designed primarily for practicing engineers that is offered on the campus of Texas Tech University and by distance.

For practicing engineers, credit for graduate course work completed in residence at another accredited graduate school may be accepted for as much as 15 hours of the 36 semester hour requirements for the M.Eng. degree. All work credited toward the degree must be completed within nine calendar years. In addition to the regulations governing admission to the Texas Tech University Graduate School, a baccalaureate degree in engineering, or its equivalent, is required for entrance to the M.Eng. program.

Students in the M.Eng. program are subject to all masters degree regulations as outlined in the Graduate Catalog. Due to its interdisciplinary nature, the M.Eng. program does not require specific major and minor subjects. However, the program does allow up to six hours of course work to be taken outside of engineering, upon the approval of the graduate advisor.

Students in the M.Eng. program do not have any language or tool-subject requirements. Every candidate for a masters degree is required to pass a final comprehensive examination. At the discretion of the advisor, the examination may be written, oral, or a combination of both.

The curriculum for the M.Eng. program consists of 36 semester credit hours of coordinated graduate level course work. No more than 15 credit hours (5 courses) can be taken from any one engineering program.

Students may elect to take engineering courses from any of the college's disciplines.

HEALTHCARE ENGINEERING OPTION

An additional option, the Healthcare Engineering Option, is also available for engineers who are interested in applying the principles of engineering, health sciences, and business administration to effectively manage the physical, technological, and supports services of healthcare facilities.

With a strong engineering college, a comprehensive health sciences center with hospital facilities, and a quality business college all on the same campus, Texas Tech University is one of the first institutions offering a degree option in Healthcare Engineering. For more information, visit www.coe.ttu.edu/healthcare