

BIOMEDICAL ENGINEERING (BIME)

Courses

BIME 5091. Independent Study. 0.5-3 Credit Hours.

This course will be arranged through BME faculty. Topic and mode of study are agreed upon by student and instructor. Semester hours are variable and credit hours will be determined by topic. The course is offered all terms. The course may be repeated for credit when topics vary. Prerequisites: Graduate student standing and consent of instructor.

BIME 6003. Introduction To Clinical Practices. 1 Credit Hour.

This course will provide an introduction to clinical medicine for the graduate biomedical engineering students. It will provide the opportunity for the student to gain a working knowledge of engineering aspects as it relates to clinical practice. A variety of specialties will be presented. The students will also have the opportunity to observe surgery to gain additional insight. Integration with the medical industry will be made at the end. Prerequisites: open to Biomedical Engineering graduate students.

BIME 6004. Biology For Bioengineers. 3 Credit Hours.

This course provides a broad background in biological concepts with specific attention given to biological processes important in bioengineering. Topics will include biochemistry, genetics, molecular biology, cell biology, and physiology. Applications will emphasize understanding cellular processes important in bioengineering, such as gene therapy and tissue repair and regeneration. Prerequisites: permission of the instructor Open for Cross Enrollment on Space Available Basis.

BIME 6006. Human Physiology for Bioengineers. 3 Credit Hours.

The objective of this course is to introduce students to human physiology with emphasis on physical principles, guiding rules, and quantitative approaches. The course will focus on cellular function and physiological processes as applied to human systems including cardiovascular, respiratory, musculoskeletal, nervous, digestive, renal, reproductive and endocrine. An undergraduate biology course or an equivalent to it is required prior to registering for this course. Open for Cross Enrollment on Space Available Basis.

BIME 6071. Supervised Teaching. 1 Credit Hour.

Supervised teaching of undergraduate, graduate, medical/dental students, or clinical residents will be required for at least one semester. For example, students may be required to lecture at undergraduate courses at UTSA, or lecture to orthopaedic/dental residents about implants and materials at the HSC. The exact nature of the teaching will be determined based on each student's program of study. Prerequisites: admitted to candidacy and consent of the supervising professor, program director, and COGS chair.

BIME 6090. Seminar. 1 Credit Hour.

Students will have the opportunity to hear presentations from outside speakers, BME faculty, and peers. Prerequisites: Graduate (Ph.D.) student standing; required of all students during fall and spring semesters while pursuing doctoral studies.

BIME 6097. Research. 1-12 Credit Hours.

This course consists of independent, original research under the direction of a faculty advisor.

BIME 6098. Thesis. 1-12 Credit Hours.

Registration for at least one term is required of M.S. candidates. Prerequisite: admission to candidacy for Master of Science degree.

BIME 7099. Dissertation. 1-12 Credit Hours.

Registration for at least two semesters (12 SCH) after they have been admitted to candidacy for the doctoral degree is required for Ph.D. candidates. Prerequisite: admission to candidacy for Doctor of Philosophy degree in Biomedical Engineering, and consent of supervising professor, program director, and COGS chair.