620. **Directed Studies**
Fall, Winter, Spring, Summer. 1 to 6 credits. May reenroll for a maximum of 24 credits. Approval of department. Individual or group work on special problems related to biomechanics, neuromusculoskeletal system primarily.

800. **Special Topics**
Fall, Winter, Spring, Summer. 1 to 4 credits. May reenroll for a maximum of 9 credits. Approval of department. Independent study in topics of biomechanics.

810. **Bicinematics**
Fall. 3(3-0) Approval of department. Motion of the human body including detailed studies of body joint and linkage motion.

811. **Bicinetics**
Winter. 3(3-0) BIM 810. Application of Newtonian mechanics to problems of force transmission and related motions in the muscular skeletal system.

812. **Theory of Tissue Mechanics**
Spring. 3(3-0) Approval of department. Introduces the concepts of stress and strain in tissue and the dependency of mechanical parameters on biological factors.

850. **Research Seminar**
Fall, Winter, Spring. 1(1-0) May reenroll for a maximum of 3 credits. Approval of department. Discussion of current research topics in biomechanics with strong clinical application.

890. **Independent Study**
Fall, Winter, Spring, Summer. 1 to 8 credits. May reenroll for a maximum of 32 credits. Approval of department. Individual or group work related to biomechanics and/or neuromusculoskeletal system.

899. **Master's Thesis Research**
Fall, Winter, Spring, Summer. Variable credit. May reenroll for a maximum of 12 credits. Approval of department. Conduct research for master's thesis.

411. **Electric Theory of Nerves**

414. **Clinical Instrumentation**

424. **Materials in Biomedical Engineering**
Winter. 3(3-0) PSL 240 or PSL 431 or approval of department. Basics of materials science. Biocompatibility of metals, polymers and ceramics. Internal and external prosthetic materials.

425. **Clinical Instrumentation**
Spring. 3(2-0) MTH 315. Mechanisms which govern transport or momentum, heat and mass. Application to mathematical description of transport processes in biological systems and to solution of biomedical problems.

481. **Tissue Biomechanics**
Fall. 3(0-0) ANT 316 or approval of department. Fundamentals of continuum mechanics in relation to morphological classification of tissue. Mechanical properties of connective and muscle tissue.

499. **Independent Study**
Fall, Winter, Spring, Summer. 1 to 4 credits. May reenroll for a maximum of 9 credits. Approval of instructor. Individual reading and research under the supervision of a member of the Biomedical Engineering Committee.

**BIOPHYSICS**

**BPY**

**BIOMEDICAL ENGINEERING**

**BME**

**College of Engineering**

410. **Electronic Instrumentation in Biology and Medicine**
Fall. 4(4-0) MTH 112, PHY 238 or approval of instructor. Electronic components and circuits. Physiological measurements. Transduction of physiological events to electrical signals. Detection of physiological events by electrical impedance measurements. Ultrasonic techniques in biomedical systems. Biomedical applications of lasers.

609. **Master's Thesis Research**
Fall, Winter, Spring, Summer. Variable credit. Approval of department. Approved through Summer 1985.

980. **Biophysics Seminar**
Fall, Winter, Spring. 1 credit. May reenroll for a maximum of 3 credits. Approval of department. Approved through Summer 1985.

999. **Doctoral Dissertation Research**
Fall, Winter, Spring, Summer. Variable credit. Approval of department. Approved through Summer 1985.