MEDICAL TECHNOLOGY

College of Human Medicine

College of Osteopathic Medicine

201. Medical Technology
Fall. 1(1-0) Approval of school.
Relationship of medical technology to medicine and research, and the necessary interaction with other paramedical sciences.

401. Seminar in Medical Technology
Spring. 1 credit. Juniors.
Acquaints students with the operation and administration of a hospital, the philosophy and understanding of the entire profession of medical technology.

495. Independent Study
Fall, Winter, Spring. Summer. 1 to 5 credits. May reenroll for a maximum of 10 credits. Approval of department. Independent study including assigned reading and reviews of appropriate scientific periodicals.

MEDICINE

MED

College of Human Medicine

512. Infectious Diseases
Fall. 4(3-0) MPH 511, or approval of department. Interdepartmental with and administered by the Department of Microbiology and Public Health.
Infectious diseases of man, including biology of the causative microorganism, epidemiology, pathogenesis, host-parasite relationships, clinical and laboratory diagnosis, and clinical management.

590. Special Problems in Medicine
Fall, Winter, Spring. Summer. 1 to 6 credits. May reenroll for a maximum of 12 credits. Human Medicine students or approval of department.
Each student will work under direction of a staff member on an experimental, theoretical or applied problem.

608. Senior Medical Clerkship
Fall, Winter, Spring. Summer. 1 to 17 credits. May reenroll for a maximum of 43 credits. Primary clerkship, third year Human Medicine students.
Based in community hospitals, this clerkship will stress interviewing skills, history, physical examination, along with problem solving and therapy, and care of the whole patient leading to independence in patient management.

609. Hematology Clerkship
Fall, Winter, Spring. Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. MED 608.
Development of skills in data collection, problem solving and management related to common hematologic disorders of children and adults.

610. Oncology Clerkship
Fall, Winter, Spring. Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. MED 608.
Development of skills in data collection, problem solving and management of the more prevalent cancers in children and adults.

611. Cardiology Clerkship
Fall, Winter, Spring. Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. MED 602.
A clinical clerkship in which students evaluate in depth patients with cardiac diseases. This includes experiences with special diagnostic procedures including cardiac catheterization, phonocardiography, echocardiography and electrocardiography.

612. Nephrology/Urology Clerkship
Fall, Winter, Spring. Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. MED 602.

613. Dermatology Clerkship
Fall, Winter, Spring. Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. MED 602.
Office based experience with a dermatologist to learn clinical skills in dermatology and develop observational and diagnostic skills in skin disease.

614. Medical Chest Clerkship
Fall, Winter, Spring. Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. MED 602.
A clerkship covering four aspects of chest diseases: tuberculosis, diagnosis, pulmonary function, and physiology. The student works with medical residents, utilizing outpatient and hospital facilities.

615. Gastroenterology Clerkship
Fall, Winter, Spring. Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. MED 602.
Referred patients with gastrointestinal problems are seen as either inpatients or outpatients. Many long term problems are followed. Patients with psychosocial problems are seen conjointly with Social Service.

616. Allergy Clerkship
Fall, Winter, Spring. Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. MED 608 and H M 602 or H D 608.
Office and hospital based experience to learn and develop diagnostic skills in allergy with a review of basic therapeutics as they relate to allergic diseases.

617. Neurology Clerkship
Fall, Winter, Spring. Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. MED 602.
A combined office and in-patient experience that will provide the student with an opportunity to learn the concepts of evaluation and management of neurological disease.

618. Infectious Disease Clerkship
Fall, Winter, Spring. Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. MED 602 and MED 608 or H D 608. Interdepartmental with the Department of Microbiology and Public Health.
The clerkship emphasizes acquisition in depth of knowledge and skills essential in solution of clinical problems in infectious and immunologic diseases. Integrated basic science input is afforded through relevant seminars.

619. Clinical Pharmacology Clerkship
Fall, Spring. 4 credits. MED 602; MED 608 and H D 608.
Understanding and use of drugs; adverse effects; and misuse of drugs.

620. Endocrinology and Metabolism Clerkship
Fall, Winter, Spring. Summer. 4 to 8 credits. May reenroll for a maximum of 16 credits. H M 602.
Clinical and/or clinical-research clerkship to allow the student to work closely with patients having endocrine diseases, electrolyte abnormalities, endocrine hypertension or diabetes mellitus.

621. Computer Medicine Clerkship
Fall, Winter, Summer. 4 to 16 credits. May reenroll for a maximum of 16 credits. H M 602.
Learning BASIC computer language: preparing flow chart for elementary management of medical problem.

622. Diabetes and Metabolism Clerkship
Fall, Winter, Spring. Summer. 4 credits. MED 602; MED 608 and H D 608.
Clinical experience with diabetic patients and other related endocrine disorders.
215. Solid Mechanics Laboratory
Fall, Winter, Spring. 1/0-2
MMM 311 concurrently.
Instrumentation, physical properties of materi­als, comparison of experiment and theory.

230. Introduction to Materials Science
Spring. 4/4-0 Sophomores.
A qualitative survey of metals, ceramics, and poly­mers, and the relationship of electronic, molecular, and crystal structure to the physical, mechanical, thermal, electrical and magnetic properties.

306. Mechanics II
Fall, Winter, Spring. 4/4-0
MMM 205, MTH 215.
Dynamics of particles and particle systems. Energy and momentum principles. Two and three dimensional rigid body dynamics.

341. Materials Chemistry II
Winter. 4/4-0 CEM 361 or M E 311.
An integrated treatment of the physical chemistry of metals and engineering materials is pre­sented in M MM 341 and M MM 342. Thermochemistry, solutions, phase equilibria; elec­trochemistry; corrosion; reaction kinetics in liq­uids and solids; diffusion; surface phenomena.

342. Materials Chemistry III
Spring. 4/4-0 MMM 341.
Continuation of MMM 341.

360. Physical Metallurgy I
Fall. 4/4-0 CEM 153 or approval of department.
Relationship of properties to microstructure as affected by solidification transformations in heter­ogeneous systems, cold work, recrystalliza­tion, and grain growth. Emphasis on the impor­tant commercial metals and alloys.

361. Physical Metallurgy II
Winter. 4/4-0 MMM 360.
Continuation of MMM 360.

370. Metals and Alloys I
Fall, Winter. 4/3-3
Principles of physical metallurgy applied to en­gineering metals and alloys.

371. Metals and Alloys II
Winter. 3/3-0 MMM 370.
Continuation of MMM 370.

372. Metals and Alloys III
Spring. 3/3-0 MMM 371.
Continuation of MMM 371.

375. Failure Analysis
Spring. 3/3-0 Juniors and MMM 211.
Modes and causes of failure of mechanical components. Steps in analyzing failures are illus­trated through individual projects. Field trip re­quired.

380. Physical Metallurgy Laboratory I
Fall. 1/0-3 MMM 380 or concurrently.
First of an integrated sequence of laboratory courses designed to illustrate the parallel theory courses. Introduction to metallography, pyrometry, and testing of metals.

381. Physical Metallurgy Laboratory II
Winter. 1/0-3 MMM 380, MMM 361 concurrently.
Continuation of MMM 380.

382. Physical Metallurgy Laboratory III
Spring. 1/0-3 MMM 381.
Continuation of MMM 381.

400. Special Problems
Fall, Winter, Spring. 1 to 3 credits. May reenroll for a maximum of 9 credits. Approval of department.
Individualized reading and research.

404. Dynamics of Mechanical Systems
Fall. 3/3-0 MMM 306.

411. Mechanics of Deformable Solids II
Spring. 3/3-0 MMM 211.
Continuation of MMM 211. Unsymmetrical bending, curved beams, torsion of non-circular shapes, shear center, beam columns. Introduction to energy theorems with applications to de­termine and indeterminate beams, and rings.

414. Principles and Techniques of Experimental Solid Mechanics
Spring. 3/3-0 MMM 211.
Fundamental concepts and current technology for static and dynamic measurement of strain and acceleration. Main topics discussed are resistance strain gages, photelasticity, accelerometers, brittle coatings, Moire patterns, and holography.

430. X-Ray Crystallography
Fall. 4/3-3 MMM 342 or approval of department.
Symmetry, elementary crystallography, general properties of X-rays, introduction to radiation safety, interaction of X-rays with matter, applica­tion of X-ray diffraction to materials problems.

440. Color and Appearance of Materials
Spring. 3/3-0 Approval of department.
Color in art and technology; light and its interac­tion with colored materials; light sources and illuminants; color notation and classification; colored materials.

455. Advanced Physical Metallurgy I
Winter. 3/3-0 PHY 364 or approval of department.
Atomic theory of metals and alloys. Nature of chemical and metallic bonds. Lattice vibration and specific heat theory. Relation of electron energy bands to metals to cohesion, structure, elec­trical and magnetic properties.

456. Advanced Physical Metallurgy II
Spring. 3/3-0 MMM 455.